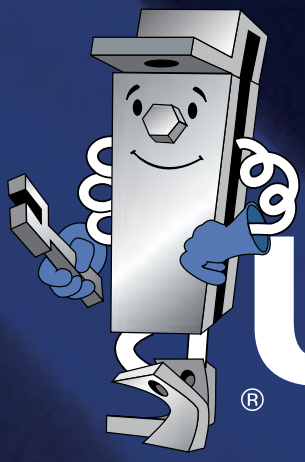
ELECTRICAL AND MECHANICAL SUPPORT SYSTEMS

METAL FRAMING • PIPE SUPPORTS • FITTINGS, NUTS & HARDWARE
CABLE TRAYS & CABLE LADDERS

CATALOGUE – VOLUME 20

UNISTRUT®

A PART OF atkore INTERNATIONAL



UNISTRUT®

A PART OF atkore INTERNATIONAL

Unistrut® is the original metal framing system, featuring a unique weldless connection. The Unistrut® system eliminates welding and drilling, and is easily adjustable and reusable for infinite configurations. Since 1924, our brand has evolved from a simple connection concept to a comprehensive engineered building and support system featuring a robust line of channels, fittings, fasteners, hangers, pipe clamps, cable trays and cable ladders. Backed by our worldwide network of engineering and distribution centres, we provide customers with total-resource capability, making Unistrut® the brand everyone asks for by name.

UNISTRUT®

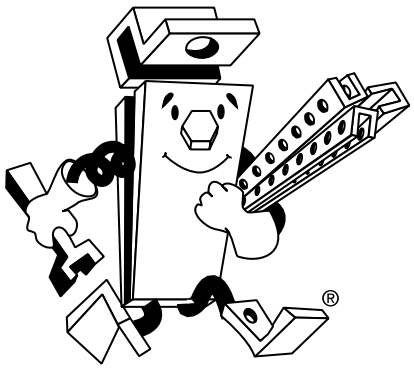
THE UNISTRUT® WORLD OF SUPPORT STARTS WITH OUR NETWORK OF UNISTRUT® SERVICE CENTRES ACROSS THE NATION.

The Unistrut® World of Support starts with our network of Unistrut® Service Centres across Australia. They go far beyond providing local product inventories, by offering complete application solutions, based on experience gained from thousands of projects worldwide.

It's the kind of knowledgeable assistance that can help save time and cost now, and simplify change in the future.

Technical help? No one knows the engineering side of Unistrut® support systems like your local Unistrut® team. If it's special fabrication, cutting or custom finishing you want, the pros at your local Unistrut® Service Centre will make it happen - quickly, efficiently, economically.

So when it's help you need, call your Unistrut® Service Centre – the quickest way to unlock Unistrut's World of Support.



UNISTRUT®

90
YEARS OF
INNOVATION

UNISTRUT® AUSTRALIA

Unistrut® has been the leading supplier of metal framing systems for over 90 years. We specialise in Metal Framing, Cable Management and our products and services are synonymous with engineering excellence and reliability worldwide.

OVER NINETY YEARS OF INNOVATION

Unistrut® began developing and manufacturing products during the 1920s, producing the original Unistrut® Metal Framing System.

Our extensive product portfolio now includes a variety of cable management solutions and advanced metal framing systems.

SHARING OUR EXPERIENCE, KNOWLEDGE AND EXPERTISE

We continue to make investments in our people, products and services. Our ability to share our experience and knowledge with our customers is the key to our success in a wide range of industry sectors.

PROVEN DELIVERY PROCESSES

Unistrut® has proven procedures that guarantee the delivery of orders.

PART OF THE ATKORE INTERNATIONAL® FAMILY

Atkore is a major manufacturer and innovator with a unique focus on steel frame, pipe and electrical products. As part of the Atkore family, we can draw on a variety of technologies, products and experience from Atkore companies throughout the world.

atkore
INTERNATIONAL

APPROVED
UNISTRUT®
NO SUBSTITUTIONS

WIDE RANGE OF FITTINGS FOR THE MINE & GAS INDUSTRY

UNISTRUT®

Unistrut® can supply a wide variety of standard structural fittings in zinc plated hot dipped galvanised, aluminium and 316 stainless steel. Unistrut® engineers can also design specialised fittings for individual project needs.

With resources across the Asia Pacific region, including manufacturing sites in Australia and Asia totaling over 400,000m² in floor space accredited to ISO9001.

Unistrut® owned facilities have automated welding, over 30 metal pressing machines, from 16 to over 300 tonnes, and roll forming machinery. Services from both our Unistrut® fully owned operations and our JV partner facilities can fully label pack and ship to your individual specifications. Marshalling and packaging is done in-house and from our manufacturing facility fully undercover.

PROJECTS IN THE REGION SUCCESSFULLY SUPPLIED INCLUDE

- **Tropicana Gold WA:** AUD $1m supplied directly into the centre of Western Australia
- **NCIG Coal Loader:** New South Wales Australia
- **Pluto Liquid Natural Gas Plant Woodside:** Western Australia
- **North - South By Pass Tunnel:** Brisbane Australia
- **Queensland Curtis Island Liquidfied Natural Gas**
- **Yamal LNG Energy:** Russia
- **Hidden Valley Gold Mine:** Papua New Guinea
- **Goro Nickel Mine:** New Caledonia

ATKORE INTERNATIONAL® OVERVIEW

- Revenue of $1.8B
- 3,100+ employees
- 27 manufacturing and service locations in North America, EMEA and Asia Pacific
- Strong brands that are well known by customers and respected in the industry
- Purchase & process close to one million tonne of steel per year – approximately 50,000 truckloads
- Produce enough electrical cable each year to circle the earth 7 times
- Electrical Raceway and Mechanical Products solutions

UNISTRUT®

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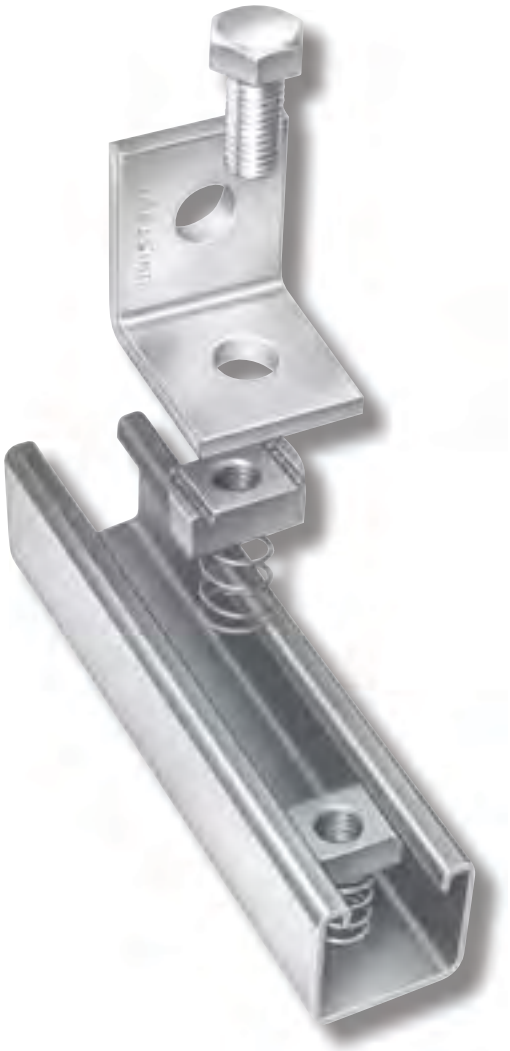
THE MOST COMPLETE METAL FRAMING SYSTEM

UNISTRUT®

THE ORIGINAL STRUT SYSTEM

ADJUSTABLE, DEMOUNTABLE, REUSABLE



LOOK FOR THESE FEATURES:

Large chamfer in the nut eases starting of bolt.

Special shaped inturned edges and tapered, serrated grooves produce strong vice-like grip between channel and nut.

Strut edges and nut's tapered grooves act as guides to provide positive alignment of connection.

- Nut teeth grip the Strut's inturned edges, tying the channel sides together in a "box" configuration for added strength.
- Longitudinal movement of nut is resisted as hardened teeth bite into the inturned edges.
- Spring allows precision placement anywhere along Strut length, then holds nut in position while connection is completed - the installer's "third hand".

Spring nut is inserted anywhere along continuous slot. Rounded nut ends permit easy insertion.

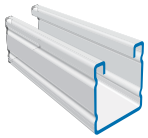
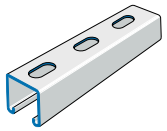
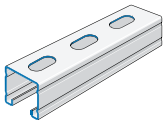
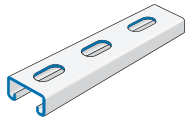
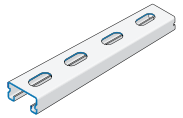
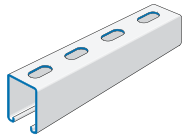
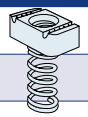
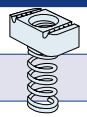
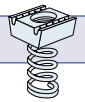
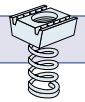
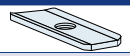
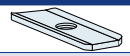
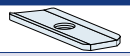
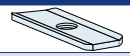
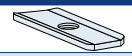
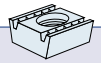
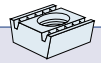
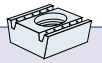
A 90° turn positions the serrated grooves in the nut with the inturned edges of the Strut.

Fittings may be placed anywhere along Strut slot permitting complete freedom of adjustment. The need for drilling holes is eliminated.

The fitting makes the connection between any framing Strut or as means for other attachments.

A turn of a spanner locks the serrated teeth of the nut into the inturned edges of the Strut to make the strong, vice-like connection.

STRUT SELECTION CHART

STRUT SIZE	41 X 41	41 X 41	41 X 22	41 X 21	41 X 62
MATERIAL THICKNESS	2.5mm	1.6mm	2.5mm	1.6mm	2.5mm
Strut	P1000® 	P2000 	P3300 	P4000 	P5500 
Strut - SLOTTED	P1000T 	P2000T 	P3300T 	P4000T 	P5500T 
Strut - BACK TO BACK	P1001 	P2001 	P3301 	P4001 	P5501 
STRUT NUTS - WITH SPRING	P1000®	P2000	P3300	P4000	P5500
6mm	P1006 	P1006 	P4006 	P4006 	
8mm	P1007	P1007	P4007	P4007	
10mm	P1008	P1008	P4008	P4008	P5508
12mm	P1010 	P1010 	P4010 	P4010 	P5510
16mm	P1012S	P1012S	P4012S	P4012S	
STRUT NUTS - WITHOUT SPRING	P1000®	P2000	P3300	P4000	P5500
6mm	P3016 	P3016 	P3016 	P3016 	P3016 
6mm	P3006	P3006	P3006	P3006	P3006
8mm	P3007 	P3007 	P3007 	P3007 	P3007 
10mm	P3008	P3008	P3008	P3008	P3008
12mm	P3010 	P3010 	P3013 	P3013 	P3010 
16mm	P1012	P1012	P4012	P4012	P1012

Standard Strut Length: 6 metres Material Finishes: Strut: Plain, Galvabond, Hot Dipped Galvanised, Stainless Steel. Strut Nuts: Zinc Plated, Hot Dipped Galvanised, Stainless Steel

UNISTRUT®

STRUT - GENERAL SPECIFICATIONS

FRAMING MEMBERS

Strut and continuous inserts are accurately and carefully cold formed to size from low carbon strip steel. The Strut has a continuous slot with inturned edges. Secure attachments may be made to the framing member with the use of hardened, toothed, grooved nuts which engage the inturned edges.

FITTINGS

The fittings, unless noted otherwise, are punch press formed from low carbon steel plates or strip.

STRUT NUTS

The Unistrut® nuts are produced from steel bars and after all manufacturing operations are completed, zinc plated nuts are case hardened. They are rectangular with the ends so shaped as to permit a quarter turn crosswise in the framing member after inserting through the slotted opening in the Strut and to prevent any further turning of the nut. Two serrated grooves in the top of the nut engage the inturned edges of the Strut and after bolting operations are completed, will prevent any longitudinal movement of the bolt and nut within the framing member. All bolts and nuts have ISO metric coarse screw threads.

MASSES AND DIMENSIONS

Masses given for all material are approximate shipping weights. All dimensions subject to commercial tolerance variations.

Material

All single Unistrut® Strut members are accurately and carefully rolled from strip steel to AS1594 and AS1365. Spot-welded combination members are welded 75mm (maximum) on centre. Some members may require fillet welding.

Standard Lengths

Standard lengths of the above Strut are 6m. Facilities are available to cut standard lengths into any special lengths for a small cutting charge. Custom lengths and custom products are non-returnable and non-refundable.

Section Shape

The roll forming process used by Unistrut® Australia produces a consistent Strut within the manufacturing tolerance allowed . The process includes stresses within the section itself which we are released when the Strut is cut. This creates a common condition known as “Bellmouth” where the section deforms slightly for a small distance in from the end.

FINISHES

All Strut are available in Plain, Hot Dipped Galvanised, Galvabond, Zinc Plated and Polyester finishes.

Plain - Plain finish on Unistrut® Strut is an oiled finish that is applied to the raw material by the steel mill. The cold rolling process used to form Unistrut® Strut removes the excess of this oil and the residue provides a modicum of protection for the channel in storage. The plain finish on Unistrut® fittings is that of the commercial bar stock input material. No surface treatment is applied to plain finish fittings.

Galvabond Strut - Input material is supplied by the steel mill generally in accordance with AS1397 having a coating class of Z275. The material is slit to width and roll formed to shape.

Powder Coated - Strut and parts are carefully cleaned and phosphated. Immediately after phosphating, a uniform coat of thermosetting polyester powder is electrostatically applied then baked. Minimum coating thickness to exterior surfaces is 50 microns. The polyester coating is ultra-violet stabilised.

Hot Dipped Galvanised - Coatings are applied generally in accordance with AS/NZS4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly. It may be necessary to remove excess build-up prior to use.

Zinc Plated - Strut, fittings and components are electroplated generally in accordance with AS1789. Fasteners are electroplated generally in accordance with AS1897 Service Condition 1.

Stainless Steel - Unistrut® stainless steel Strut is manufactured from Grade 316 stainless steel. The material is slit to width and roll formed to shape. Grade 316 stainless steel has excellent corrosion resistance and has advantages over grade 304 stainless steel,
such as:

- Resistance to pitting and crevice corrosion in chloride environments.
- Superior resistance to ordinary rusting in most applications.
- Regularly used in aggressive coastal and marine environments.
- Highly recommended for food processing environments where it can be easily cleaned and has a greater resistance to organic and inorganic chemical substances.

Aluminium - Unistrut® aluminium Struts are manufactured from high strength alloy 6106-T6 for all extruded components and 5005 for sheet or plate components. These alloys are suitable for marine applications and offer excellent all round corrosion resistance.

Specific Coating - When specific applications require other commercially available finishes, they can be supplied according to specification. Custom products are non-returnable and non-refundable.

STRUT - GENERAL ENGINEERING DATA

BEAMS & COLUMNS LOADS

Notes to Table

Note 1: Loads are governed by shear or web crippling.
Note 2: For uniform beam working loads asymmetric sections are required to be adequately braced to prevent rotation and twist.

Beam Loads

The loads and deflections shown are based on simply supported beams uniformly loaded.

NOTES ON DERIVATION OF STRUCTURAL DATA

1. Section Properties

Section properties have been derived from 'as formed' shapes and are based on nominal dimensions and nominal base steel thickness. Nominal masses are calculated from the tabulated areas based on a steel density of 7850 kg per cu.m. For dead load calculations the tabulated masses should be increased by 10% to allow for rolling tolerances, and the result multiplied by 0.0098 to give corresponding dead load (self weight) in kN per m. run of section. Also note the beam and column loads do not make allowance for self weight of the section. When designing a structure in which the section forms an integral part, the self weight should be determined using the method described above and subtracted from the tabulated load.

2. Beam and Column Load Tables

Ultimate load values have been calculated from the section properties as permitted by AS/NZS 4600 Cold Formed Steel Structures code. The guaranteed minimum yield stress Fy has been taken as 264 MPa for plain Struts, and the increase allowed resulting from cold forming has been determined in accordance with the code. The listed working loads have been derived from the ultimate load divided by 1.5.

2.1 Span or Column Length

Listed value is to be taken as the distance between centres of supports.

2.2 Beam Load at Maximum Permissible Stresses

In order to establish the table of working loads that can be carried by the corresponding section, the ultimate limit state loads that could be permitted by the code were first determined. These were divided by 1.5 to provide 'conservative' working loads. The load is considered to be uniformly distributed along the span and orientated with respect to the section, as defined by the diagrams to cause bending about X-X axis only. The webs of the beams are assumed to be unstiffened and have been checked for end bearing in accordance with clause 3.3.6 of AS/NZS4600:2005. Where this is critical the working loads have been appropriately reduced. This assessment has been based on a rigid support with the beam bearing on each support for a length equal to at least the straight length of web-depth of the basic section.

2.3 Deflection

Deflections are calculated for the corresponding beam working load, using standard formulae. Deflections or uniformly distributed loads for conditions other than those tabulated may be calculated from the following:-

$$\delta_2 = (W2 / W1) \times (L2 / L1)^3 \times \delta_1$$

W1 = tabulated load in kN
δ_1 = corresponding tabulated deflection in mm
L1 = corresponding tabulated length in mm
W2 = new load in kN
L2 = new length in mm
δ_2 = deflection corresponding to new length and new load

It is recommended that beam deflections generally be limited to the smaller of span/180 or 10mm and loads restricted accordingly. These limitations are based on 'visual straightness' with the latter value subject to variation to suit particular visual or other physical requirements.

2.4 Maximum Column Load

Listed values of column load capacity are derived on the basis of a concentric axial load applied to the section, acting as a column with an effective length corresponding to the listed value, i.e. translational and torsional restraint available at the centres of supports. For other conditions of loading and/or restraint, reference should be made to the appropriate sections of AS/NZS 4600 Cold Formed Steel Structures.

3. Recommended Bearing & Connection Loads

Listed values are based on extensive testing of components by Unistrut® Australia Pty Limited using a factor of safety of 2.5 against failure of the connection.

4. Point Loads

For point loads at midspan, the allowable loads are half the values shown in the tables. The deflection for the point load is obtained from: $\delta_2 = 0.80\ \delta_1$ where δ_1 is the deflection for a uniform load which is double the value of the point load.

ABBREVIATIONS:

A = Area of Section
I = Moment of Inertia
z = Section of Modulus
r = Radius of Gyration

FINISHES:

AL	Aluminium
GB	Galvabond
HG	Hot Dipped Galvanised
MG	Mechanically Galvanised
PL	Plain
PVC	Plastic
SS	Stainless Steel
ZP	Zinc Plated
ZA	Zinc Plated - Yellow Iridescence

MEASUREMENT:

m	Metre
mm	Millimetre
kg	Kilogram

UNISTRUT®

UNISTRUT® PICTORIAL INDEX

UNISTRUT® PICTORIAL INDEX

STRUT NUTS AND HARDWARE

STRUT FITTINGS

UNISTRUT®

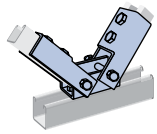
UNISTRUT® PICTORIAL INDEX

STRUT FITTINGS (CONT.)

CANTILEVER BRACKETS AND ADJUSTABLE BRACES

UNISTRUT® PICTORIAL INDEX

CANTILEVER BRACKETS AND ADJUSTABLE BRACES (CONT.)



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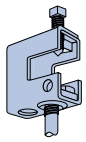
BEAM CLAMPS



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P2676 - SWIVEL NUT
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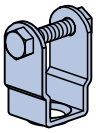

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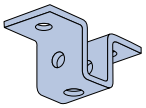

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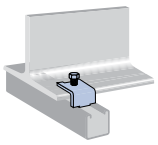

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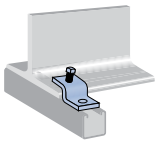

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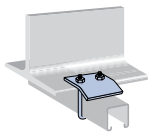

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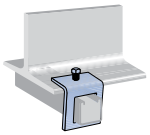
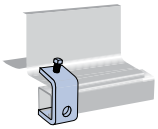
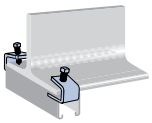


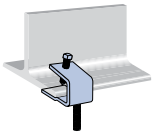
P1796
PG. 44



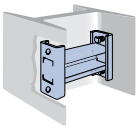
P1271
PG. 44



P1272
PG. 44



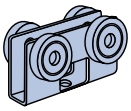
P1270
PG. 44



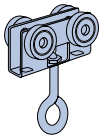
P3087
PG. 44

TROLLEY ASSEMBLIES

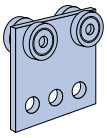
P2749 / P2749N
PG. 45



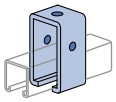
P2750 / P2750N
PG. 45



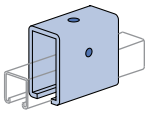
P2751 / P2751N
PG. 45



P2950
PG. 45

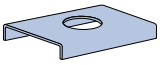


P1834 - TROLLEY SUPPORT
PG. 45

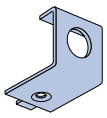


P1834A - TROLLEY SUPPORT
PG. 45

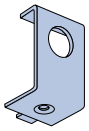
ELECTRICAL AND FLUORESCENT FITTINGS



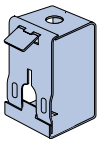
P2541
SPACER CLEVIS
PG. 46



P2521
CONDUIT END CONNECTOR
PG. 46

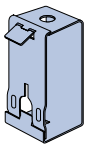


P5521
CONDUIT END CONNECTOR
PG. 46



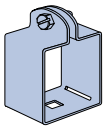
P2855

PG. 46

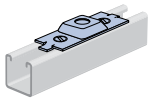


P2755

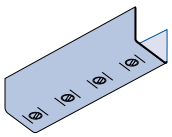
PG. 46



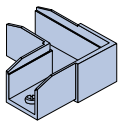
P2539
FIXTURE HANGER FITTING
PG. 46



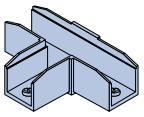
P2535
CONDUIT HANGER FITTING
PG. 46



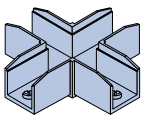
P2377 - SPLICE FITTING
PG. 47



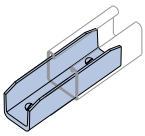
P2902 - TWO WAY
PG. 47



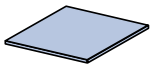
P2901 - THREE WAY
PG. 47



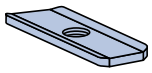
P2903 - FOUR WAY
PG. 47



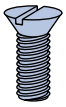
P2900 - ONE WAY
PG. 47



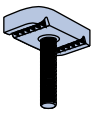
P2552
WIRE RETAINER [FIBRE]
PG. 47



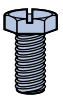
P3016
TRUNKING NUTS
PG. 48



CKS0615
COUNTERSUNK HEAD SCREW
PG. 48



P3116
FIXTURE STUD NUT
PG. 48



SHS0620
SLOTTED HEX HEAD SCREW
PG. 48

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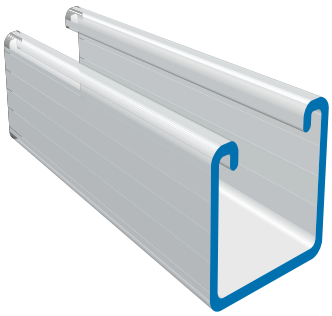
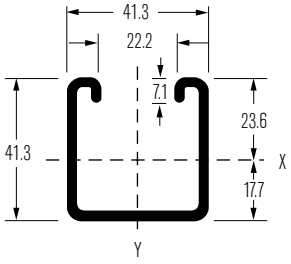
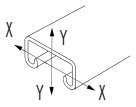
P1000®

P1000® PL/GB/HG/TG/SS





Mass: 2.59kg/m



A - 330mm²
kg/m - 2.59kg/m
I x-x = 0.069 10^6mm⁴
Z x-x = 2.920 10^3mm³
r x-x = 14.5mm
I y-y = 0.092 10^6mm⁴
Z y-y = 4.451 10^3mm³
r y-y = 16.7mm

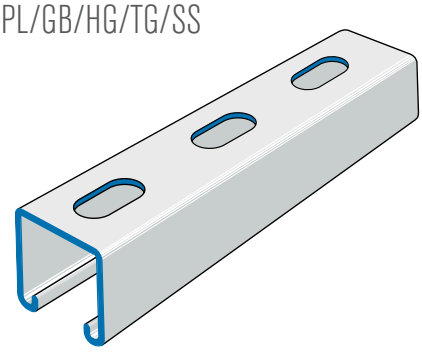
L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	14.83		0.22	45.51
500	7.42		0.87	36.84
750	4.94		1.97	28.22
1000	3.71		3.50	21.44
1250	2.97		5.46	16.42
1500	2.47		7.87	13.20
1750	2.12 (2)		10.71	11.00
2000	1.85 (2)		13.99	9.35
2250	1.65 (2))		17.70	8.05
2500	1.48 (2)		21.85	7.01
2750	1.35 (2)		26.44	6.14
3000	1.24 (2)		31.47	-

Part No.	Material Thickness	Length
P1000-PL	2.5mm	6m
P10003-PL	2.5mm	3m
P1000-GB	2.5mm	6m
P10003-GB	2.5mm	3m
P1000-HG	2.5mm	6m
P10003-HG	2.5mm	3m

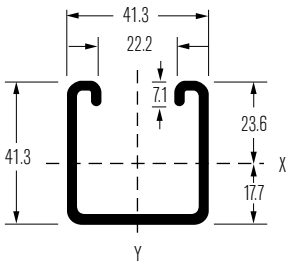
Standard Length: 6m

(2) See Note 2 Page 9

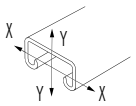
P1000T PL/GB/HG/TG/SS



Slots 14 wide x 28 long at 50mm centres (approx.)



Mass: 2.32kg/m



A - 295mm²
kg/m - 2.32kg/m
I x-x = 0.059 10^6mm⁴
Z x-x = 2.698 10^3mm³
r x-x = 14.1mm
I y-y = 0.091 10^6mm⁴
Z y-y = 4.423 10^3mm³
r y-y = 17.6mm

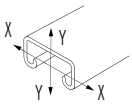
L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	13.35		0.20	40.96
500	6.68		0.78	33.16
750	4.49		1.77	25.40
1000	3.34		3.15	19.30
1250	2.67		4.91	14.78
1500	2.22		7.08	11.88
1750	1.91 (2)		9.64	9.90
2000	1.66 (2)		12.59	8.41
2250	1.48 (2)		15.93	7.24
2500	1.33 (2)		19.66	6.31
2750	1.21 (2)		23.80	5.53
3000	1.12 (2)		28.32	-

Part No.	Material Thickness	Length
P1000T-PL	2.5mm	6m
P10003T-PL	2.5mm	6m
P1000T-GB	2.5mm	6m
P10003T-GB	2.5mm	3m
P1000T-HG	2.5mm	6m
P10003T-HG	2.5mm	3m

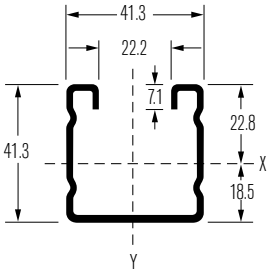
Standard Length: 6m

(2) See Note 2 Page 9

P2000

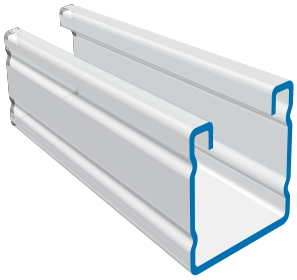


A - 228mm²
kg/m - 1.79 kg/m
I x-x = 0.052 10^6mm⁴
Z x-x = 2.297 10^3mm³
r x-x = 15.2mm
I y-y = 0.065 10^6mm⁴
Z y-y = 3.143 10^3mm³
r y-y = 16.9mm



Mass: 1.79kg/m

PL/GB/HG/TG/SS P2000

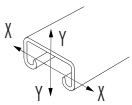


Part No.	Material Thickness	Length
P2000-PL	1.6mm	6m
P20003-PL	1.6mm	3m
P2000-GB	1.6mm	6m
P20003-GB	1.6mm	3m
P2000-HG	1.6mm	6m
P20003-HG	1.6mm	3m

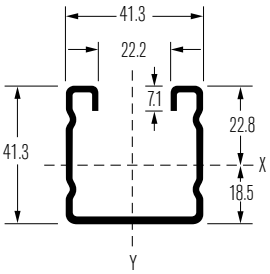
Standard Length: 6m

(2) See Note 2 Page 9

L(mm)	Fmax(kN)	F / f fmax(mm)	F(kN)
250	10.30	0.20	32.92
500	6.06	0.94	26.55
750	4.04	2.12	19.21
1000	3.03	3.77	12.91
1250	2.42	5.89	9.03
1500	2.02	8.48	6.89
1750	1.73 (2)	11.54	5.56
2000	1.54 (2)	15.32	4.66
2250	1.35 (2)	19.07	4.02
2500	1.21 (2)	23.55	3.53
2750	1.10 (2)	28.49	3.14
3000	1.01 (2)	33.91	2.82



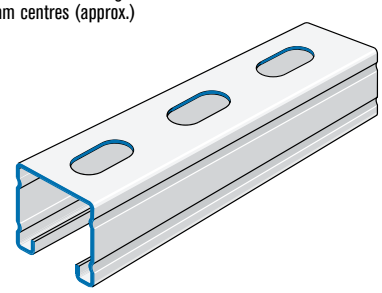
A - 206mm²
kg/m - 1.62kg/m
I x-x = 0.045 10^6mm⁴
Z x-x = 2.136 10^3mm³
r x-x = 14.7mm
I y-y = 0.065 10^6mm⁴
Z y-y = 3.125 10^3mm³
r y-y = 17.7mm



Mass: 1.62kg/m

PL/GB/HG/TG/SS P2000T

Slots 11 wide x 28 long at 50mm centres (approx.)



Part No.	Material Thickness	Length
P2000T-PL	1.6mm	6m
P20003T-PL	1.6mm	3m
P2000T-GB	1.6mm	6m
P20003T-GB	1.6mm	3m
P2000T-HG	1.6mm	6m
P20003T-HG	1.6mm	3m

Standard Length: 6m

(2) See Note 2 Page 9

L(mm)	Fmax(kN)	F / f fmax(mm)	F(kN)
250	9.27	0.18	29.63
500	5.45	0.85	23.90
750	3.64	1.91	17.29
1000	2.73	3.39	11.62
1250	2.18	5.30	8.13
1500	1.82	7.63	6.20
1750	1.56 (2)	10.39	5.00
2000	1.38 (2)	16.12	4.02
2250	1.22 (2)	17.16	3.62
2500	1.09 (2)	21.20	3.18
2750	0.99 (2)	25.64	2.83
3000	0.91 (2)	30.52	2.54

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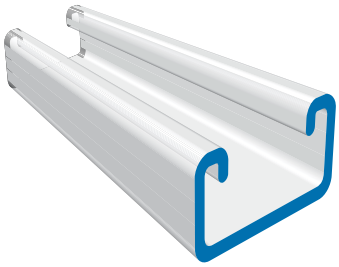
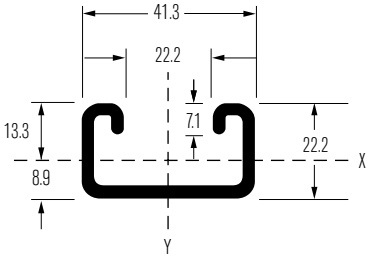
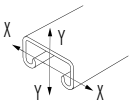
P3300

P3300 PL/GB/HG/TG/SS







A - 232mm²
kg/m - 1.82 kg/m
I x-x = 0.013 10^6mm⁴
Z x-x = 0.999 10^3mm³
r x-x = 7.6mm
I y-y = 0.055 10^6mm⁴
Z y-y = 2.661 10^3mm³
r y-y = 15.4mm

Mass: 1.82kg/m

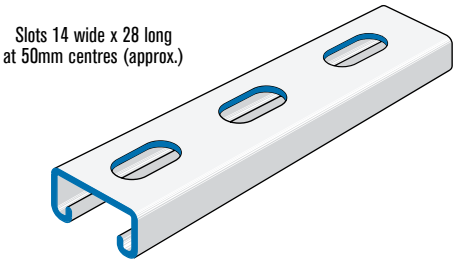
L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	5.52		0.42	34.88
500	2.76		1.68	27.76
750	1.84		3.79	19.42
1000	1.38		6.74	12.08
1250	1.10		10.53	7.90
1500	0.92		15.16	5.56
1750	0.79 (2)		20.63	-
2000	0.69 (2)		26.95	-
2250	0.61 (2)		34.11	-
2500	0.55 (2)		42.11	-
2750	0.50 (2)		50.95	-
3000	0.46 (2)		60.63	-

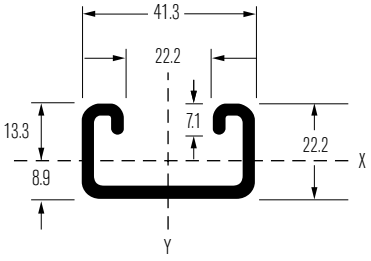
Part No.	Material Thickness	Length
P3300-PL	2.5mm	6m
P33003-PL	2.5mm	3m
P3300-GB	2.5mm	6m
P33003-GB	2.5mm	3m
P3300-HG	2.5mm	6m
P33003-HG	2.5mm	3m

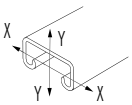
Standard Length: 6m

(2) See Note 2 Page 9

P3300T PL/GB/HG/TG/SS







A - 197mm²
kg/m - 1.55kg/m
I x-x = 0.011 10^6mm⁴
Z x-x = 0.912 10^3mm³
r x-x = 7.5mm
I y-y = 0.054 10^6mm⁴
Z y-y = 2.634 10^3mm³
r y-y = 16.6mm

Mass: 1.55kg/m

L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	4.97		0.38	31.39
500	2.48		1.51	24.98
750	1.66		3.41	17.48
1000	1.24		6.07	10.87
1250	0.99		9.48	7.11
1500	0.83		13.64	5.00
1750	0.71 (2)		18.57	-
2000	0.62 (2)		24.26	-
2250	0.55 (2)		30.70	-
2500	0.50 (2)		37.90	-
2750	0.45 (2)		45.86	-
3000	0.41 (2)		54.57	-

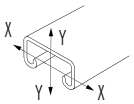
Part No.	Material Thickness	Length
P3300T-PL	2.5mm	6m
P33003T-PL	2.5mm	3m
P3300T-GB	2.5mm	6m
P33003T-GB	2.5mm	3m
P3300T-HG	2.5mm	6m
P33003T-HG	2.5mm	3m

Standard Length: 6m

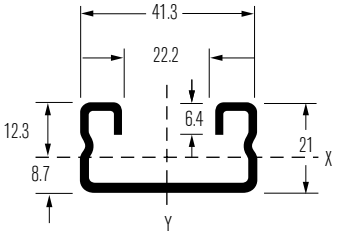
(2) See Note 2 Page 9

P4000

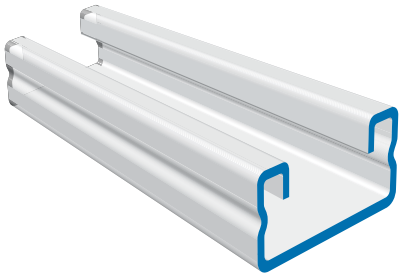
PL/GB/HG/TG/SS P4000



A - 160mm²
kg/m - 1.26kg/m
I x-x = 0.010 10⁶mm⁴
Z x-x = 0.786 10³mm³
r x-x = 7.8mm
I y-y = 0.039 10⁶mm⁴
Z y-y = 1.880 10³mm³
r y-y = 15.6mm



Mass: 1.26kg/m



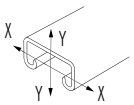
Part No.	Material Thickness	Length
P4000-PL	1.6mm	6m
P40003-PL	1.6mm	3m
P4000-GB	1.6mm	6m
P40003-GB	1.6mm	3m
P4000-HG	1.6mm	6m
P40003-HG	1.6mm	3m

Standard Length: 6m

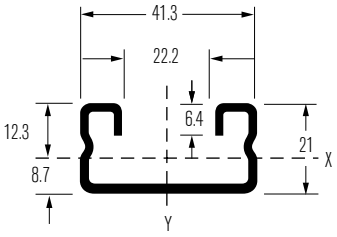
L(mm)	F Fmax(kN)	f fmax(mm)	F(kN)
250	4.20	0.44	22.36
500	2.10	1.77	16.30
750	1.40	3.98	10.46
1000	1.05	7.08	6.54
1250	0.84	11.07	4.54
1500	0.70 (2)	15.94	3.35
1750	0.60 (2)	21.69	-
2000	0.52 (2)	28.33	-
2250	0.47 (2)	35.86	-
2500	0.42 (2)	44.27	-
2750	0.38 (2)	53.57	-
3000	0.35 (2)	63.57	-

(2) See Note 2 Page 9

PL/GB/HG/TG/SS P4000T

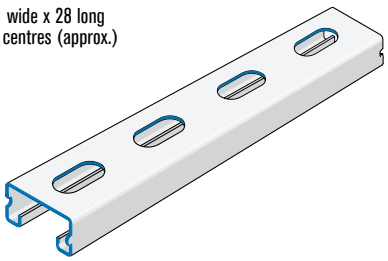


A - 138mm²
kg/m - 1.08kg/m
I x-x = 0.008 10⁶mm⁴
Z x-x = 0.729 10³mm³
r x-x = 7.6mm
I y-y = 0.038 10⁶mm⁴
Z y-y = 1.862 10³mm³
r y-y = 16.7mm



Mass: 1.08kg/m

Slots 11 wide x 28 long at 50mm centres (approx.)



Part No.	Material Thickness	Length
P4000T-PL	1.6mm	6m
P40003T-PL	1.6mm	3m
P4000T-GB	1.6mm	6m
P40003T-GB	1.6mm	3m
P4000T-HG	1.6mm	6m
P40003T-HG	1.6mm	3m

Standard Length: 6m

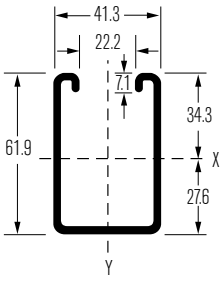
L(mm)	F Fmax(kN)	f fmax(mm)	F(kN)
250	3.78	0.40	20.12
500	1.89	1.59	14.67
750	1.26	3.58	9.41
1000	0.95	6.37	5.89
1250	0.76	9.96	4.09
1500	0.63 (2)	14.35	3.02
1750	0.54 (2)	19.52	-
2000	0.47 (2)	25.50	-
2250	0.42 (2)	32.27	-
2500	0.38 (2)	39.84	-
2750	0.34 (2)	48.21	-
3000	0.32 (2)	57.21	-

(2) See Note 2 Page 9

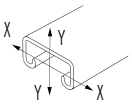
UNISTRUT®

P5500

P5500 PL/GB/HG/TG/SS



Mass: 3.40kg/m



A	-	433mm^2
kg/m	-	3.40 kg/m
I x-x	=	0.197 10^6mm^4
Z x-x	=	5.730 10^3mm^3
r x-x	=	21.3mm
I y-y	=	0.131 10^6mm^4
Z y-y	=	6.328 10^3mm^3
r y-y	=	17.4mm

L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	27.04		0.14	57.03
500	13.84		0.57	45.91
750	9.23		1.29	33.78
1000	6.92		2.29	23.85
1250	5.54		3.58	17.38
1500	4.61		5.15	13.76
1750	3.95 (2)		7.01	11.48
2000	3.46 (2)		9.16	9.98
2250	3.08 (2)		11.59	8.72
2500	2.77 (2)		14.31	7.81
2750	2.52 (2)		17.31	7.06
3000	2.31 (2)		20.61	6.43

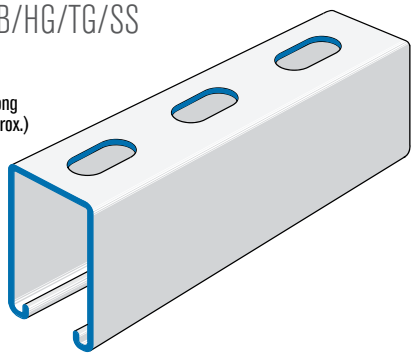
Part No.	Material Thickness	Length
P5500-PL	2.5mm	6m
P55003-PL	2.5mm	3m
P5500-GB	2.5mm	6m
P55003-GB	2.5mm	3m
P5500-HG	2.5mm	6m
P55003-HG	2.5mm	3m

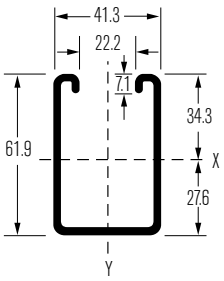
Standard Length: 6m

(2) See Note 2 Page 9

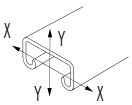
P5500T PL/GB/HG/TG/SS

Slots 14 wide x 28 long at 50mm centres (approx.)





Mass: 3.12kg/m



A	-	398mm^2
kg/m	-	3.12kg/m
I x-x	=	0.170 10^6mm^4
Z x-x	=	5.322 10^3mm^3
r x-x	=	20.7mm
I y-y	=	0.130 10^6mm^4
Z y-y	=	6.300 10^3mm^3
r y-y	=	18.1mm

L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	24.34		0.13	51.33
500	12.46		0.51	41.32
750	8.31		1.16	30.40
1000	6.23		2.06	21.47
1250	4.99		3.22	15.64
1500	4.15		4.64	12.38
1750	3.56 (2)		6.31	10.33
2000	3.11 (2)		8.24	8.90
2250	2.77 (2)		10.43	7.85
2500	2.49 (2)		12.88	7.03
2750	2.27 (2)		15.58	6.35
3000	2.08 (2)		18.55	5.79

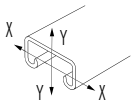
Part No.	Material Thickness	Length
P5500T-PL	2.5mm	6m
P55003T-PL	2.5mm	3m
P5500T-GB	2.5mm	6m
P55003T-GB	2.5mm	3m
P5500T-HG	2.5mm	6m
P55003T-HG	2.5mm	3m

Standard Length: 6m

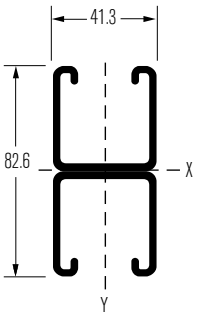
(2) See Note 2 Page 9

COMBINATION STRUTS

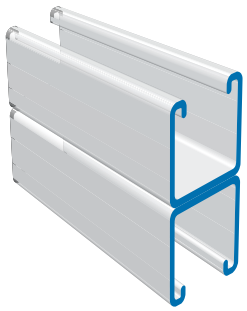
P1001 PL/GB/HG



A - 660mm²
kg/m - 5.18kg/m
I x-x = 0.318 10^6mm⁴
Z x-x = 7.711 10^3mm³
r x-x = 22.0mm
I y-y = 0.184 10^6mm⁴
Z y-y = 8.902 10^3mm³
r y-y = 16.7mm



Mass: 5.18kg/m

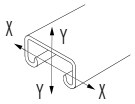


Part No.	Material Thickness	Length
P1001-PL	2.5mm	6m
P1001-GB	2.5mm	6m
P1001-HG	2.5mm	6m

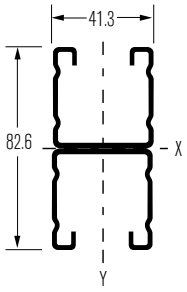
L(mm)	F Fmax(kN)	f fmax(mm)	F(kN)
250	25.64 (1)	0.08	97.71
500	19.58	0.50	94.09
750	13.06*	1.13	88.35
1000	9.79	2.00	80.90
1250	7.83	3.13	72.23
1500	6.53	4.50	62.89
1750	5.60 (2)	6.13	53.40
2000	4.90 (2)	8.01	44.21
2250	4.35 (2)	10.13	35.62
2500	3.92 (2)	12.51	28.85
2750	3.56 (2)	15.14	23.85
3000	3.26 (2)	18.02	20.04

*Limited by weldshear
(1) See Note 1 Page 9
(2) See Note 2 Page 9

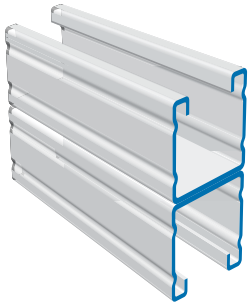
P2001 PL/GB/HG



A - 462mm²
kg/m - 3.58 kg/m
I x-x = 0.261 10^6mm⁴
Z x-x = 6.321 10^3mm³
r x-x = 23.8mm
I y-y = 0.131 10^6mm⁴
Z y-y = 6.367 10^3mm³
r y-y = 16.9mm



Mass: 3.58kg/m



Part No.	Material Thickness	Length
P2001-PL	1.6mm	6m
P2001-GB	1.6mm	6m
P2001-HG	1.6mm	6m

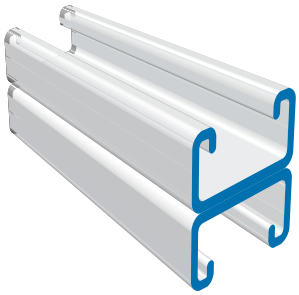
L(mm)	F Fmax(kN)	f fmax(mm)	F(kN)
250	11.78 (1)	0.05	70.84
500	11.78	0.37	68.18
750	11.09	1.17	63.96
1000	8.32	2.07	58.50
1250	6.65	3.24	52.15
1500	5.54	4.67	45.32
1750	4.75 (2)	6.35	38.39
2000	3.48 (2)	4.63	31.77
2250	3.70 (2)	10.50	25.48
2500	3.33 (2)	12.96	20.64
2750	3.02 (2)	15.68	17.06
3000	2.77 (2)	18.66	14.33

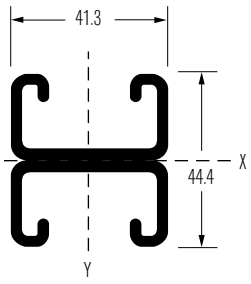
(1) See Note 1 Page 9
(2) See Note 2 Page 9

UNISTRUT®

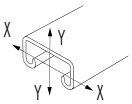
COMBINATION STRUTS

P3301 PL/GB/HG





Mass: 3.64kg/m



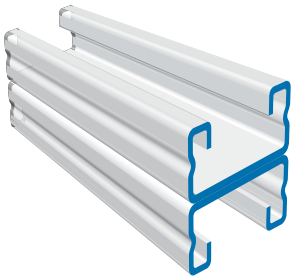
A	-	465mm^2
kg/m	-	3.64kg/m
I x-x	=	0.063 10^6mm^4
Z x-x	=	2.841 10^3mm^3
r x-x	=	11.6mm
I y-y	=	0.110 10^6mm^4
Z y-y	=	5.329 10^3mm^3
r y-y	=	15.4mm

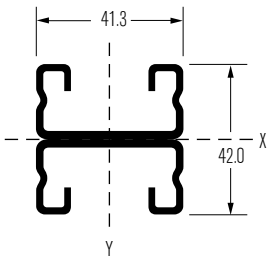
L(mm)	Fmax(kN)	fmax(mm)	F(kN)
250	15.58	0.25	73.20
500	7.79	1.01	67.32
750	5.19	2.26	58.55
1000	3.90	4.02	48.16
1250	3.12	6.28	37.47
1500	2.60	9.05	27.50
1750	2.23 (2)	12.32	20.21
2000	1.95 (2)	16.09	15.47
2250	1.73 (2)	20.36	12.22
2500	1.56 (2)	25.13	-
2750	1.42 (2)	30.41	-
3000	1.30 (2)	36.19	-

Part No.	Material Thickness	Length
P3301-PL	2.5mm	6m
P3301-GB	2.5mm	6m
P3301-HG	2.5mm	6m

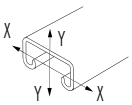
(2) See Note 2 Page 9

P4001 PL/GB/HG





Mass: 2.52kg/m



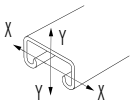
A	-	320mm^2
kg/m	-	2.52 kg/m
I x-x	=	0.044 10^6mm^4
Z x-x	=	2.082 10^3mm^3
r x-x	=	11.7mm
I y-y	=	0.078 10^6mm^4
Z y-y	=	3.764 10^3mm^3
r y-y	=	15.6mm

L(mm)	Fmax(kN)	fmax(mm)	F(kN)
250	10.39	0.24	49.05
500	5.55	1.03	45.24
750	3.70	2.33	39.54
1000	2.78	4.14	32.74
1250	2.22	6.46	25.69
1500	1.85 (2)	9.31	19.06
1750	1.59 (2)	12.67	14.00
2000	1.39 (2)	16.54	10.72
2250	1.23 (2)	20.94	8.47
2500	1.11 (2)	25.85	-
2750	1.01 (2)	31.28	-
3000	0.93 (2)	37.22	-

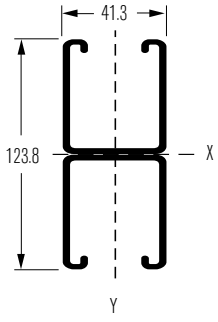
Part No.	Material Thickness	Length
P4001-PL	1.6mm	6m
P4001-GB	1.6mm	6m
P4001-HG	1.6mm	6m

(2) See Note 2 Page 9

COMBINATION STRUTS



A - 867mm²
kg/m - 6.80kg/m
I x-x = 1.052 10^6mm⁴
Z x-x = 16.990 10^3mm³
r x-x = 34.8mm
I y-y = 0.261 10^6mm⁴
Z y-y = 12.662 10^3mm³
r y-y = 17.4mm



Mass: 6.80kg/m

PL/GB/HG

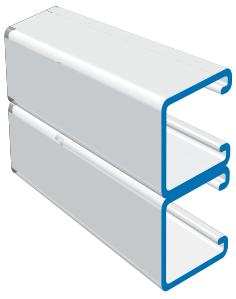
P5501

Part No.	Material Thickness	Length
P5501-PL	2.5mm	6m
P5501-GB	2.5mm	6m
P5501-HG	2.5mm	6m

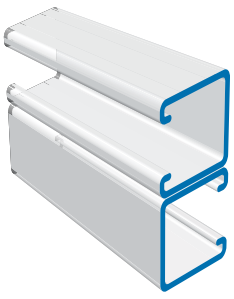
L(mm)	Fmax(kN)	f	fmax(mm)	F(kN)
250	27.04 (1)		0.03	122.16
500	27.04 (1)		0.21	118.17
750	27.04		0.71	111.82
1000	20.50		1.27	103.50
1250	16.40		1.98	93.71
1500	13.67		2.86	82.98
1750	11.72		3.89	71.88
2000	10.25		5.08	60.91
2250	9.11 (2)		6.43	50.48
2500	8.20 2)		7.93	41.04
2750	7.46 (2)		9.60	33.92
3000	6.83 (2)		11.42	28.50

(1) See Note 1 Page 9
(2) See Note 2 Page 9

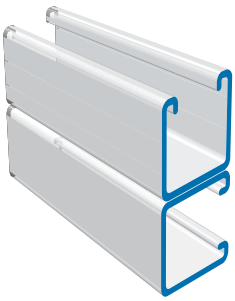
OPTIONAL COMBINATIONS



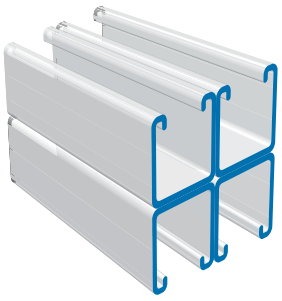
P1001A



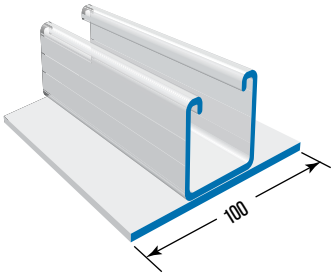
P1001B



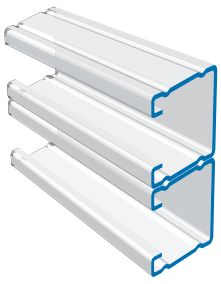
P1001C



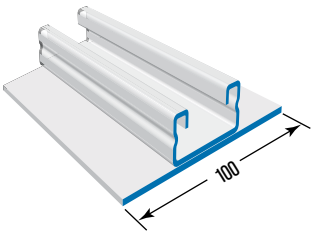
P1001C 41



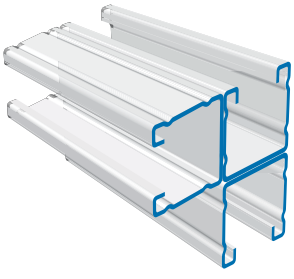
P1003



P2001A



P4002-1

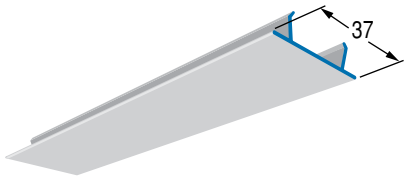


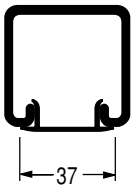
P2001C3

UNISTRUT®

STRUT ACCESSORIES

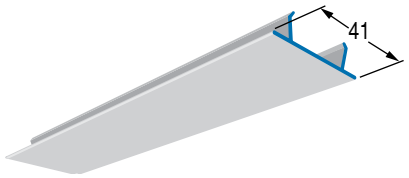
P1184 – PLASTIC CLOSURE STRIP (UV STABILISED)

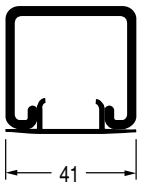




Standard Length: 3m
Mass: 0.11kg/m

P1184A – ALUMINUM CLOSURE STRIP





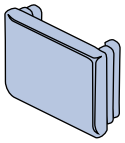
Standard Length: 3m
Mass: 0.18kg/m

STRUT END CAPS – PLASTIC, UV STABILISED

P2240

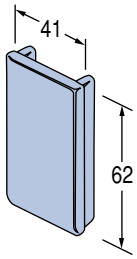
For P1000® & P2000 Strut
Mass: 0.70kg/100

P4240

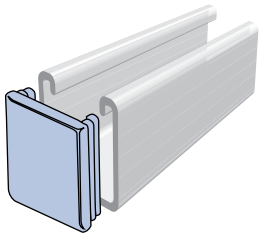


For P3300 & P4000 Strut
Mass: 0.40kg/100

P5580

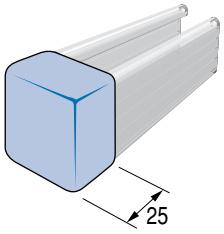


For P5500 Strut
Mass: 1.2kg/100



Typical Installation

P2860-10 – STRUT END CAPS – PLASTIC



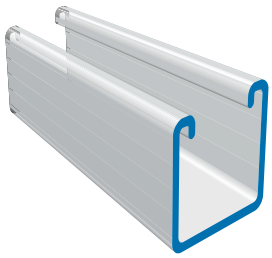
Fits P1000® & P2000 Strut
Mass: 1.54kg/100

Note: Caps struts provide a protective covering on protruding Struts to guard against personal injury or damage to clothing. They slip easily over the ends of strut. Available: White or black only.

STRUT - SPECIAL METALS

STAINLESS 316 STRUT

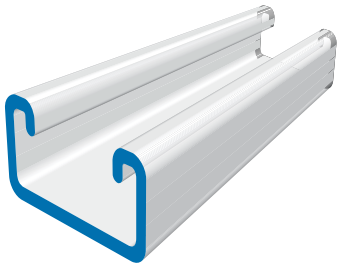
P1000-SS



P1000®
41.3 x 41.3
2.5mm thick

Part No.	Material Length	Material Thickness	Mass kg/m
P1000-SS	6m	2.5mm	2.76
P3300-SS	6m	2.5mm	1.96

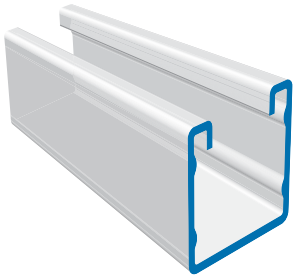
P3300-SS



P3300
41.3 x 22.2
2.5mm thick

ALUMINIUM STRUT

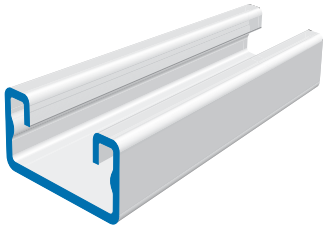
P2000-AL



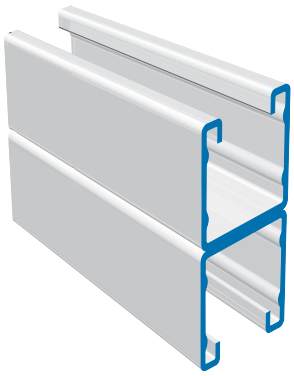
P2000
41.3 x 41.3

Part No.	Material Length	Mass kg/m
P2000-AL	6m	0.77mm
P4000-AL	6m	0.58mm

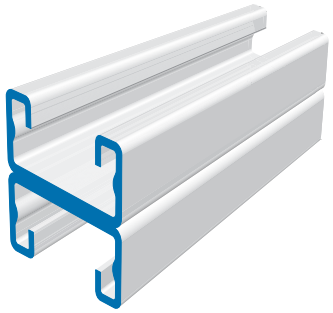
P4000-AL



P4000
41.3 x 20.6



P2001
41.3 x 82.6



P4001
41.3 x 41.3

LOADING DATA

Approximate beam load capacities for Strut sections may be obtained from the engineering data sections in this catalogue. Multiply data by the following percentages:

Material	Load Factor
Extruded Aluminium	33%

Nut pullout strength and resistance to slip for sections may be obtained from the engineering data sections in this catalogue. Multiply data by the following percentages:

Material	Slip Percentage Factor	Pullout Percentage Factor
Extruded Aluminium	75%	50%

UNISTRUT® FITTINGS: Some fittings, as shown in this catalogue can be supplied in aluminium on special order.

UNISTRUT®

BEAM AND COLUMN LOADS

Notes to Table
Note 1: Loads are governed by shear or web crippling.
Note 2: For uniform beam working loads asymmetric sections are required to be adequately braced to prevent rotation and twist.
The table should be read in conjunction with 'Notes on derivation of Structural Data' page 9, and 'How to use Load Tables' pages 53-54.

BEAMS & COLUMNS - P1000® STRUT & COMBINATION

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
250	P1000	14.83	0.22	45.51
	P1001	25.64 (1)	0.08	97.71
	P1001C41	25.64 (1)	0.04	195.70
	P1003	17.46	0.15	78.01
500	P1000	7.42	0.87	36.84
	P1001	19.58	0.50	94.09
	P1001C41	25.64	0.30	188.76
	P1003	8.73	0.59	74.48
750	P1000	4.94	1.97	28.22
	P1001	13.06	1.13	88.35
	P1001C41	25.64	1.02	178.34
	P1003	5.82	1.33	68.94
1000	P1000	3.71	3.50	21.44
	P1001	9.79	2.00	80.90
	P1001C41	21.16	2.00	165.65
	P1003	4.36	2.37	61.87
1250	P1000	2.97	5.46	16.42
	P1001	7.83	3.13	72.23
	P1001C41	16.93	3.13	151.78
	P1003	3.49	3.70	53.84
1500	P1000	2.47	7.87	13.20
	P1001	6.53	4.50	62.89
	P1001C41	14.11	4.50	137.52
	P1003	2.91	5.33	45.43

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
1750	P1000	2.12 (2)	10.71	11.00
	P1001	5.60 (2)	6.13	53.40
	P1001C41	12.09	6.13	123.36
	P1003	2.49	7.25	37.16
2000	P1000	1.85 (2)	13.99	9.35
	P1001	4.90 (2)	8.01	44.21
	P1001C41	10.58	8.01	109.59
	P1003	2.18	9.48	29.41
2250	P1000	1.65 (2)	17.70	8.05
	P1001	4.35 (2)	10.13	35.62
	P1001C41	9.41	10.13	96.41
	P1003	1.94	11.99	23.24
2500	P1000	1.48 (2)	21.85	7.01
	P1001	3.92 (2)	12.51	28.85
	P1001C41	8.47 (2)	12.51	83.93
	P1003	1.75	14.81	18.82
2750	P1000	1.35 (2)	26.44	6.14
	P1001	3.56 (2)	15.14	23.85
	P1001C41	7.70 (2)	15.13	72.11
	P1003	3.56	15.14	23.85
3000	P1000	1.24 (2)	31.47	0.00
	P1001	3.26 (2)	18.02	20.04
	P1001C41	7.05 (2)	18.01	62.18
	P1003	1.45 (2)	21.32	0.00

ELEMENTS OF SECTION - P1000® STRUT & COMBINATION

Part No.	Mass kg/m	Area of Section mm^2	Axis XX			Axis YY		
			I $10^6 mm^4$	Z $10^3 mm^3$	r mm	I $10^6 mm^4$	Z $10^3 mm^3$	r mm
P1000	2.59	330	0.069	2.920	14.5	0.092	4.451	16.7
P1001	5.18	660	0.318	7.711	22.0	0.184	8.902	16.7
P1001C41	10.36	1322	0.688	16.670	22.8	0.931	22.546	26.5
P1003	4.50	580	0.120	3.771	14.4	0.300	6.007	22.8

Note:
I - Moment of Inertia
Z - Section Modulus
r - Radius of Gyration
For Slip and Pullout Performance details refer to this Tab Section. (page 49)

BEAM AND COLUMN LOADS

BEAM & COLUMN - P2000 STRUT & COMBINATION

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
250	P2000	10.30	0.20	32.92
	P2001	11.78 (1)	0.05	70.84
	P2001C3	11.77 (1)	0.03	106.31
500	P2000	6.06	0.94	26.55
	P2001	11.78	0.37	68.18
	P2001C3	11.77 (1)	0.24	101.69
750	P2000	4.04	2.12	19.21
	P2001	11.09	1.17	63.96
	P2001C3	11.77 (2)	0.24	94.74
1000	P2000	3.03	3.77	12.91
	P2001	8.32	2.07	58.50
	P2001C3	10.91	1.80	86.31
1250	P2000	2.42	5.89	9.03
	P2001	6.65	3.24	52.15
	P2001C3	8.73 (2)	2.82	77.21
1500	P2000	2.02	8.48	6.89
	P2001	5.54	4.67	45.32
	P2001C3	7.28 (2)	4.06	68.03

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
1750	P2000	1.73 (2)	11.54	5.56
	P2001	4.75 (2)	6.35	38.39
	P2001C3	6.24 (2)	5.53	59.16
2000	P2000	1.27 (2)	8.41	4.66
	P2001	3.48 (2)	4.63	31.77
	P2001C3	4.01 (2)	3.97	58.18
2250	P2000	1.35 (2)	19.07	4.02
	P2001	3.70 (2)	10.50	25.48
	P2001C3	4.85 (2)	9.13	43.10
2500	P2000	1.21 (2)	23.55	3.53
	P2001	3.33 (2)	12.96	20.64
	P2001C3	4.37 (2)	11.28	36.13
2750	P2000	1.10 (2)	28.49	3.14
	P2001	3.02 (2)	15.68	17.06
	P2001C3	3.97 (2)	13.64	30.72
3000	P2000	1.01 (2)	33.91	2.82
	P2001	2.77 (2)	18.66	14.33
	P2001C3	3.64 (2)	16.24	26.44

Note:

The table should be read in conjunction with 'Notes on Derivation of Structural Data' (page 9) and 'How to use Load Tables' (pages 53-54) in this Tab Section.

ELEMENTS OF SECTION - P2000 STRUT & COMBINATION

Part No.	Mass kg/m	Area of Section mm2	Axis XX			Axis YY		
			I 106mm^4	Z 103mm^3	r mm	I 106mm^4	Z 103mm^3	r mm
P2000	1.79	228	0.052	2.297	15.2	0.065	3.143	16.9
P2001	3.58	462	0.261	6.321	23.8	0.131	6.367	16.9
P2001C3	5.37	695	0.394	8.302	23.8	0.418	8.410	24.5

Note:

I - Moment of Inertia

Z - Section Modulus

r - Radius of Gyration

For Slip and Pullout Performance details refer to this Tab Section. (page 49)

UNISTRUT®

BEAM AND COLUMN LOADS

BEAMS & COLUMNS - P3300 STRUT & COMBINATION

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
250	P3300	5.52	0.42	34.88
	P3301	15.58	0.25	73.20
500	P3300	2.76	1.68	27.76
	P3301	7.79	1.01	67.32
750	P3300	1.84	3.79	19.42
	P3301	5.19	2.26	58.55
1000	P3300	1.38	6.74	12.08
	P3301	3.90	4.02	48.16
1250	P3300	1.10	10.53	7.90
	P3301	3.12	6.28	37.47
1500	P3300	0.92	15.16	5.56
	P3301	2.60	9.05	27.50

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
1750	P3300	0.79 (2)	20.63	0.00
	P3301	2.23 (2)	12.32	20.21
2000	P3300	0.69 (2)	26.95	0.00
	P3301	1.95 (2)	16.09	15.47
2250	P3300	0.61 (2)	34.11	0.00
	P3301	1.73 (2)	20.36	12.22
2500	P3300	0.55 (2)	42.11	0.00
	P3301	1.56 (2)	25.13	0.00
2750	P3300	0.50 (2)	50.95	0.00
	P3301	1.42 (2)	30.41	0.00
3000	P3300	0.46 (2)	60.63	0.00
	P3301	1.30 (2)	36.19	0.00

Note:

The table should be read in conjunction with 'Notes on Derivation of Structural Data' (page 9) and 'How to use Load Tables' (pages 53-54) in this Tab Section.

ELEMENTS OF SECTION - P3300 STRUT & COMBINATION

Part No.	Mass kg/m	Area of Section mm^2	Axis XX			Axis YY		
			I $106mm^4$	Z $103mm^3$	r mm	I $106mm^4$	Z $103mm^3$	r mm
P3300	1.82	232	0.013	0.999	7.6	0.055	2.661	15.4
P3301	3.64	465	0.063	2.841	11.6	0.110	5.329	15.4

Note:

I - Moment of Inertia

Z - Section Modulus

r - Radius of Gyration

For Slip and Pullout Performance details refer to this Tab Section. (page 49)

BEAM AND COLUMN LOADS

BEAM & COLUMN - P4000 STRUT & COMBINATION

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
250	P4000	4.20	0.44	22.36
	P4001	10.39	0.24	49.05
	P4003	11.16 (1)	0.06	73.53
	P4002-1	4.71	0.25	51.41
500	P4000	2.10	1.77	16.30
	P4001	5.55	1.03	45.24
	P4003	11.16	0.51	68.80
	P4002-1	2.35	0.99	42.12
750	P4000	1.40	3.98	10.46
	P4001	3.70	2.33	39.54
	P4003	10.02	1.53	62.23
	P4002-1	2.35	0.99	42.12
1000	P4000	1.05	7.08	6.54
	P4001	2.78	4.14	32.74
	P4003	7.52	2.73	53.62
	P4002-1	1.18	3.95	18.99
1250	P4000	0.84	11.07	4.54
	P4001	2.22	6.46	25.69
	P4003	6.01	4.26	44.23
	P4002-1	0.94	6.18	12.16
1500	P4000	0.70 (2)	15.94	3.35
	P4001	1.85 (2)	9.31	19.06
	P4003	5.01	6.13	34.96
	P4002-1	0.78	8.89	0.00

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
1750	P4000	0.60 (2)	21.69	0.00
	P4001	1.59 (2)	12.67	14.00
	P4003	4.30 (2)	8.35	26.45
	P4002-1	0.67	12.10	0.00
2000	P4000	0.52 (2)	28.33	0.00
	P4001	1.39 (2)	16.54	10.72
	P4003	3.76 (2)	10.90	20.25
	P4002-1	0.59	15.81	0.00
2250	P4000	0.47 (2)	35.86	0.00
	P4001	1.23 (2)	20.94	8.47
	P4003	3.34 (2)	13.80	16.01
	P4002-1	0.52	20.01	0.00
2500	P4000	0.42 (2)	44.27	0.00
	P4001	1.11 (2)	25.85	0.00
	P4003	3.01 (2)	17.04	12.97
	P4002-1	0.47	24.70	0.00
2750	P4000	0.38 (2)	53.57	0.00
	P4001	1.01 (2)	31.28	0.00
	P4003	2.73 (2)	20.61	0.00
	P4002-1	0.43	29.89	0.00
3000	P4000	0.35 (2)	63.57	0.00
	P4001	0.93 (2)	37.22	0.00
	P4003	2.51 (2)	24.53	0.00
	P4002-1	0.39	35.57	0.00

Note:

The table should be read in conjunction with 'Notes on Derivation of Structural Data' (page 9) and 'How to use Load Tables' (pages 53-54) in this Tab Section.

ELEMENTS OF SECTION - P4000 STRUT & COMBINATION

Part No.	Mass kg/m	Area of Section mm2	Axis XX			Axis YY		
			I $106mm^4$	Z $103mm^3$	r mm	I $106mm^4$	Z $103mm^3$	r mm
P4000	1.26	160	0.010	0.786	7.8	0.039	1.880	15.6
P4001	2.52	320	0.044	2.082	11.7	0.078	3.764	15.6
P4002-1	3.22	410	0.019	1.036	6.9	0.247	4.946	24.6
P4003	3.78	480	0.180	5.636	19.3	0.083	4.002	13.1

Note:

I - Moment of Inertia

Z - Section Modulus

r - Radius of Gyration

For Slip and Pullout Performance details refer to this Tab Section. (page 49)

UNISTRUT®

BEAM AND COLUMN LOADS

BEAM & COLUMN - P5500 STRUT & COMBINATION

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
250	P5500	27.04	0.14	57.03
	P5501	27.04 (1)	0.03	122.16
500	P5500	13.84	0.57	45.91
	P5501	27.04 (1)	0.21	118.17
750	P5500	9.23	1.29	33.78
	P5501	27.04	0.71	111.82
1000	P5500	6.92	2.29	23.85
	P5501	20.50	1.27	103.50
1250	P5500	5.54	3.58	17.38
	P5501	16.40	1.98	93.71
1500	P5500	4.61	5.15	13.76
	P5501	13.67	2.86	82.98
1750	P5500	3.95 (2)	7.01	11.48
	P5501	11.72	3.89	71.88
2000	P5500	3.46 (2)	9.16	9.89
	P5501	10.25	5.08	60.91

Beam Span or Column Unsupported Height mm	Section Number	Uniform Beam Working Load kN	Deflection at Uniform Working Load mm	Max. Loading of Column kN
2250	P5500	3.08 (2)	11.59	8.72
	P5501	9.11 (2)	6.43	50.48
2500	P5500	2.77 (2)	14.31	7.81
	P5501	8.20 (2)	7.93	41.04
2750	P5500	2.52 (2)	17.31	7.06
	P5501	7.46 (2)	9.60	33.92
3000	P5500	2.31 (2)	20.61	6.43
	P5501	6.83 (2)	11.42	28.50
3250	P5500	2.13 (2)	24.18	5.89
	P5501	6.31 (2)	13.41	24.28
3500	P5500	1.98 (2)	28.05	0.00
	P5501	5.86 (2)	15.55	0.00
3750	P5500	1.85 (2)	32.20	0.00
	P5501	5.47 (2)	17.85	0.00
4000	P5500	1.73 (2)	36.63	0.00
	P5501	5.13 (2)	20.31	0.00

Note:

The table should be read in conjunction with 'Notes on Derivation of Structural Data' (page 9) and 'How to use Load Tables' (pages 53-54) in this Tab Section.

ELEMENTS OF SECTION - P5500 STRUT & COMBINATION

Part No.	Mass kg/m	Area of Section mm^2	Axis XX			Axis YY		
			I $106mm^4$	Z $103mm^3$	r mm	I $106mm^4$	Z $103mm^3$	r mm
P5500	3.43	232	0.197	5.730	21.3	0.131	2.661	17.4
P5501	6.86	465	1.052	16.990	34.8	0.261	5.329	17.4

Note:

I - Moment of Inertia

Z - Section Modulus

r - Radius of Gyration

For Slip and Pullout Performance details refer to this Tab Section. (page 49)

CONCRETE INSERTS

Concrete Inserts are manufactured from standard Unistrut® Strut sections. They may be installed in floors, walls or concealed for the support of all kinds of piping, conduit, cable and other industrial equipment. Unistrut® nuts can be inserted anywhere along the insert providing a means of attaching fittings or hanger rods.

FIXING METHODS

Note: The lug protruding from the back of the insert are designed to provide positive anchorage in the concrete. Distortion of the lugs is not recommended as it will severely reduce the performance of the insert.

Form Ply: Unistrut® P1000CI Concrete Inserts are placed face down on the form at the required location and fixed up using 2.8mm x 75mm long flat head nails through holes provided.

The point of the nail should be bent over to prevent lifting should the vibrator make contact.

Note: For P3300CI Concrete Insert, a 50mm long nail is recommended.

Steel Forms: Concrete Inserts are either track welded or wired to reinforcement.

FILLER METHODS

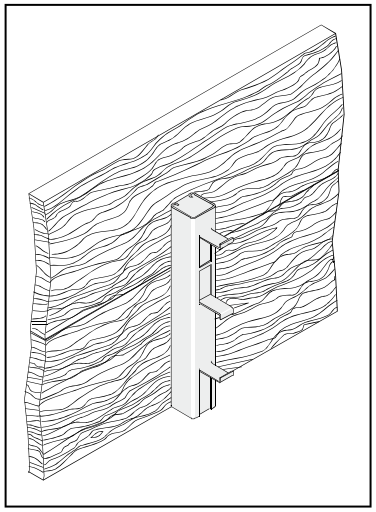
Unistrut® Concrete Inserts are supplied foam filled to prevent the ingress of grout and cement.

FINISHES

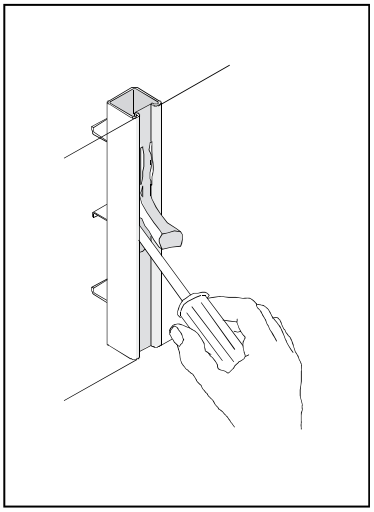
Unistrut® Concrete Inserts are available in the following styles and finishes - P1000® & P3300 in Hot Dipped Galvinised.

Note: Test results are available on request.

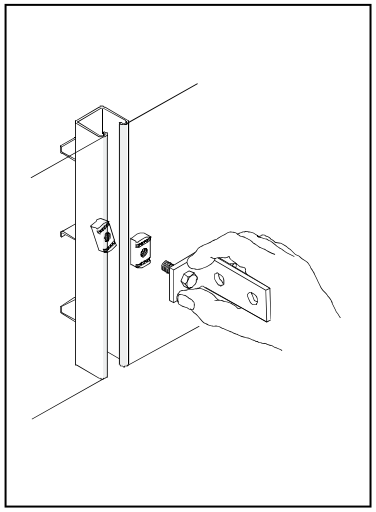
INSTALLING



1. INSTALL CONCRETE INSERT.



2. SCRAPE OUT FILLER.



3. INSERT STRUT NUT AND ATTACH FITTING.

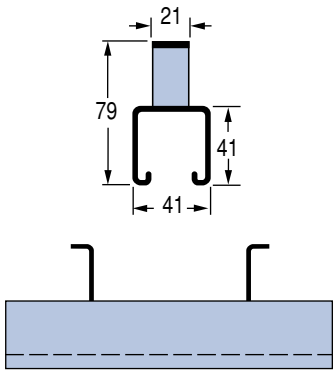
The Unistrut® concrete insert is firmly fixed to the concrete side of the form before pouring. When the forms are removed, the insert is ready for use. Brackets and other components can be attached at any point of the continuous entry Strut.

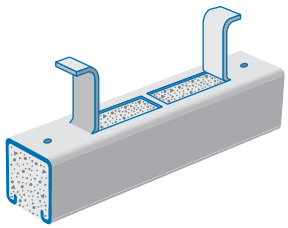
UNISTRUT®

CONCRETE INSERTS

P1000CI

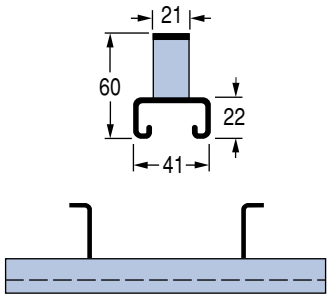
Standard Length: 3m or 6m
Mass: 2.80kg/m
Finish: Hot Dipped Galvanised.
Loading Data: The support capacity of any concrete insert depends largely on the strength of the concrete used. Therefore, Atkore and Unistrut® can not guarantee any particular load.
Recommended Pullout Loading*: Inserts 300mm and over 8.83kN per 300mm.
Factor of Safety: Approximately 3
Design load based on 34mpa concrete
NOTE: Exercise care during installation - Do not bend lugs.
Lugs at 100mm centres

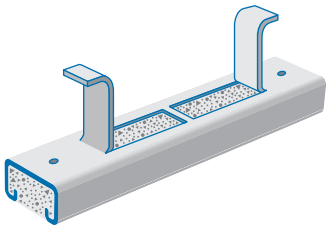




P3300CI

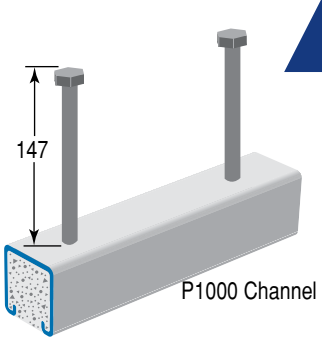
Standard Length: 3m or 6m
Mass: 1.94kg/m
Finish: Hot Dipped Galvanised.
Loading Data: The support capacity of any concrete insert depends largely on the strength of the concrete used. Therefore, Atkore and Unistrut® can not guarantee any particular load.
Recommended Pullout Loading*: Inserts 300mm and over 6.37kN per 300mm.
Factor of Safety: Approximately 3
Design load based on 34mpa concrete
NOTE: Exercise care during installation - Do not bend lugs.
Lugs at 100mm centres





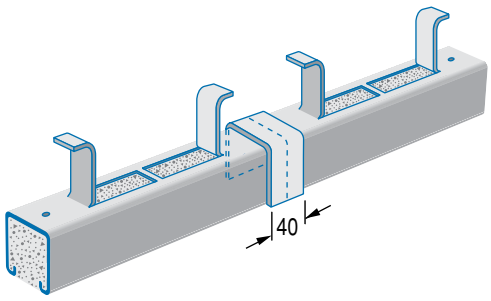
P3753 HEAVY DUTY INSERT

Standard Length: 300mm
Finish: Hot Dipped Galvanised.
Loading Data: Because the support capacity of any Concrete Insert depends largely on the strength of the concrete used, Atkore and Unistrut® can not guarantee any particular load.
Recommended Pullout Loading*: 22kN per 300mm.
Recommended Loading*: The recommended design load is based on using two P1010 nuts at no less than 75mm O.C. and no closer than 50mm to either end of the insert. The distance between the insert centerline and the concrete edge must be a minimum of 75mm.



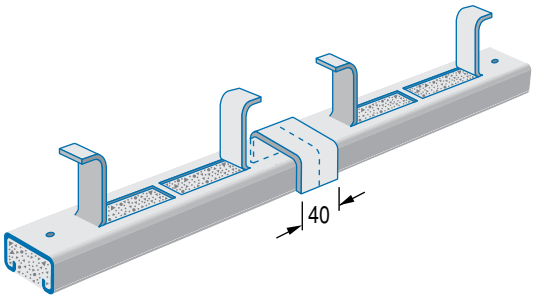
P1663 CI JOINT COVER

Mass: 4.5kg/100



P4663 CI JOINT COVER

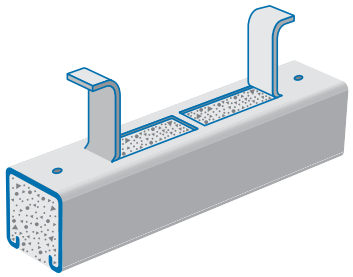
Mass: 2.7kg/100



CONCRETE INSERTS

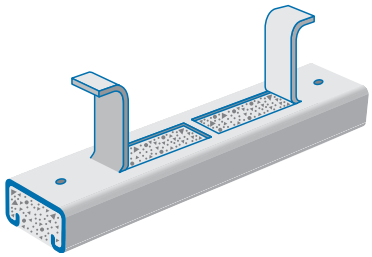
P1000CI® INSERTS 41MM X 41MM

Material	Part Number	Insert Length mm	Maximum Allowable Point Load kN	Minimum Spacing of Point Loads mm	Maximum Allowable Uniform Load kN
4001235	PIC200	200	5.34	-	5.34
4001236	PIC300	300	8.83	-	8.83
4001237	PIC400	400	8.83	300	1766
4002261	PIC500	500	8.83	300	1766
4001238	PIC600	600	8.83	300	1766
4001239	PIC800	800	8.83	300	1766
4001233	PIC1000	1000	8.83	300	3000kg/m
4010827	PIC1100	1100	8.83	300	3000kg/m
4001234	PIC1200	1200	8.83	300	3000kg/m
4010828	PIC1300	1300	8.83	300	3000kg/m
4026158	PIC1400	1400	8.83	300	3000kg/m
4016448	PIC1500	1500	8.83	300	3000kg/m
4010829	PIC1600	1600	8.83	300	3000kg/m
4026157	PIC1700	1700	8.83	300	3000kg/m
4006941	PIC1800	1800	8.83	300	3000kg/m
4004841	PIC1900	1900	8.83	300	3000kg/m
4007067	PIC2000	2000	8.83	300	3000kg/m
4016450	PIC2400	2400	8.83	300	3000kg/m
4014972	PIC3000	3000	8.83	300	3000kg/m
3000065	P1000CI-HG	6000	8.83	300	3000kg/m



P3300CI INSERTS 41MM X 22MM

Material	Part Number	Insert Length mm	Maximum Allowable Point Load kN	Minimum Spacing of Point Loads mm	Maximum Allowable Uniform Load kN
4001242	PIE200	200	4.25	-	4.25
4001243	PIE300	300	6.37	300-	6.37
4001244	PIE400	400	6.37	300	12.74
4002262	PIE500	500	6.37	300	12.74
4001245	PIE600	600	6.37	300	12.74
4002263	PIE700	700	6.37	300	12.74
4001246	PIE800	800	6.37	300	2164.50kg/m
4033607	PIE900	900	6.37	300	2164.50kg/m
4001240	PIE1000	1000	6.37	300	2164.50kg/m
4033605	PIE1100	1100	6.37	300	2164.50kg/m
4001241	PIE1200	1200	6.37	300	2164.50kg/m
4004594	PIE1400	1400	6.37	300	2164.50kg/m
4033606	PIE1500	1500	6.37	300	2164.50kg/m
4009209	PIE1600	1600	6.37	300	2164.50kg/m
4015431	PIE2000	2000	6.37	300	2164.50kg/m
4016034	PIE2100	2100	6.37	300	2164.50kg/m
4016033	PIE2200	2200	6.37	300	2164.50kg/m
4005209	PIE3000	3000	6.37	300	2164.50kg/m
3000090	P3300CI-HG	6000	6.37	300	2164.50kg/m



UNISTRUT®

STRUT NUTS

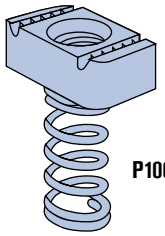
MATERIAL

Unistrut® spring nuts are manufactured from steel bars, and after machining operations are completed, zinc plated nuts are case hardened. Hardening assures positive biting action into the inturned edge of the Unistrut® Strut. Similar nuts without springs are also available. Strut nuts are manufactured by welding studs to UNISTRUT® nuts except for USB series which are drop forged. Nuts and bolts are manufactured to AS1111 & AS1112.

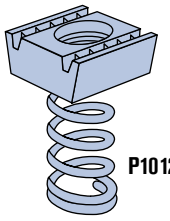
Threads: All threads on the nuts and bolts are metric coarse.
Design Bolt Torque: Refer to Engineering Data Page 49
Finishes: Nuts and bolts are zinc plated to Australian Standards AS1897, selected sizes also available in hot dipped galvanised to AS1214.
Stainless Steel: Grade 316 class 70

P1000® & P2000 STRUT NUTS, WITH SPRINGS

Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M6	P1006	P1006H	P1006SS	P1006ZA	3.2
M8	P1007	P1007H	P1007SS	P1007ZA	3.2
M10	P1008	P1008H	P1008SS	P1008ZA	4.5
M12	P1010	P1010H	P1013SS	P1010ZA	5.4
M16	P1012S	P1012SH	P1012SS	-	9.5



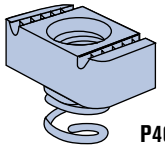
P1006/7/8/10



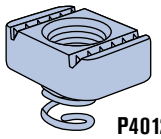
P1012S

P3300 & P4000 STRUT NUTS, WITH SPRINGS

Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M6	P4006	P4006H	P4006SS	P4006ZA	3.2
M8	P4007	P4007H	P4007SS	P4007ZA	2.7
M10	P4008	P4008H	P4008SS	P4008ZA	4.1
M12	P4010	P4010H	P4013SS	P4010ZA	3.6
M16	P4012S	P4012SH	P4012SS	-	5.1



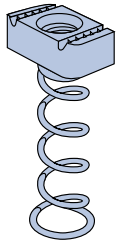
P4006/7/8/10



P4012S

FOR P5500 STRUT NUTS - WITH SPRINGS

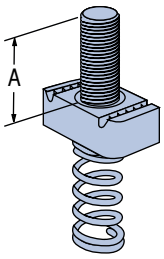
Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M10	P5508	-	-	-	4.5
M12	P5510	-	-	-	5.4



P5508/10

STUD NUT - P2378M6-1 TO P2381M12-5

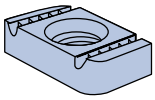
Size	DIM "A" mm	Part No. ZP	Mass Kg/100
M6	25	P2378M6-1	3.6
M6	38	P3278M6-3	4.1
M10	25	P2380M10-1	5.9
M10	45	P2380M10-4	6.8
M12	25	P2381M12-2	6.4
M12	45	P2381M12-5	8.2



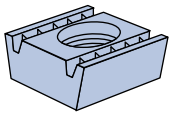
STRUT NUTS NO SPRINGS

P1000® & P2000 STRUT NUTS, NO SPRINGS

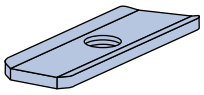
Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M6	P3016	P3016MG	P3016SS	-	1
M6	P3006	P3006H	P3006SS	-	2.7
M8	P3007	P3007H	P3007SS	P3007ZA	2.7
M10	P3008	P3008H	P3008SS	P3008ZA	4.1
M12	P3010	P3010MG	P3013SS	P3010ZA	5
M16	P1012	P1012H	-	-	9.1



P3006/7/8/13



P1012

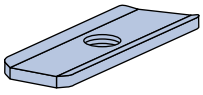


P3016

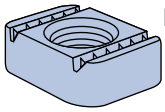
P3300 & P4000 STRUT NUTS, NO SPRINGS

Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M6	P3016	P3016MG	P3016SS	-	1
M6	P3006	P3006H	P3006SS	-	2.7
M8	P3007	P3007H	P3007SS	P3007ZA	2.7
M10	P3008	P3008H	P3008SS	P3008ZA	4.1
M12	P3013	P3013MG	P3013SS	P3013ZA	3.6
M16	P4012	P4012H	P4012SS	-	5

P3006/7/8/13



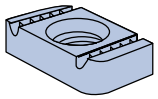
P3016



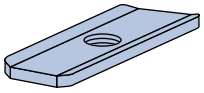
P4012

P5500 STRUT NUTS, NO SPRINGS

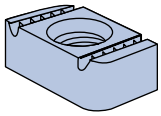
Size	Part No. ZP	Part No. HG	Part No. SS	Part No. ZA	Mass Kg/100
M6	P3016	P3016MG	P3016SS	-	1
M6	P3006	P3006H	P3006SS	-	2.7
M8	P3007	P3007H	P3007SS	P3007ZA	2.7
M10	P3008	P3008H	P3008SS	P3008ZA	4.1
M12	P3010	P3010MG	P3013SS	P3010ZA	3.6
M16	P1012	P1012H	-	-	9.1



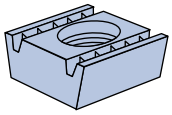
P3006/7/8



P3016



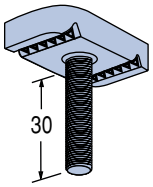
P3010



P1012

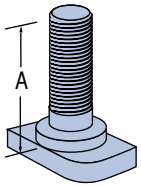
FIXTURE STUD NUT - P3116

Size	DIM "A" mm	Part No. ZP	Part No. MG	Mass Kg/100
M6	30	P3116	P3116MG	3.5



STUD BOLT - USB045 TO USB102

Size	DIM "A" mm	Part No. ZP	Mass Kg/100
M16	45	USB045	10
M16	76	USB076	14
M16	102	USB102	18

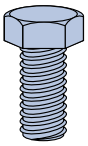


UNISTRUT®

HARDWARE

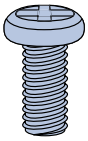
HEX HEAD SET SCREWS

Part No.	Size	Mass kg/100
HHS0620	M6 x 20	0.6
HHS0625	M6 x 25	0.7
HHS0630	M6 x 30	0.8
HHS0820	M8 x 20	1.2
HHS0825	M8 x 25	1.4
HHS0830	M8 x 30	1.5
HHS0840	M8 x 40	1.8
HHS1020	M10 x 20	1.9
HHS1025	M10 x 25	2.1
HHS1030	M10 x 30	2.5
HHS1040	M10 x 40	3.0
HHS1224	M12 x 24	4.2
HHS1230	M12 x 30	4.5
HHS1240	M12 x 40	5.1
HHS1260	M12 x 60	7.5
HHS1640	M16 x 40	9.5



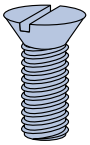
PAN HEAD SCREWS

Part No.	Size	Mass kg/100
PHS0620	M6 x 20	0.6
PHS0625	M6 x 25	0.7
PHS0630	M6 x 30	0.8
PHS0825	M8 x 25	1.3



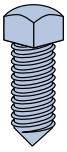
COUNTERSUNK HEAD SCREW

Part No.	Size	Mass kg/100
CKS0615	M6 x 15	0.3
CKS0620	M6 x 20	0.4
CKS0820	M8 x 20	0.8
CKS1020	M10 x 20	1.3



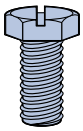
CONE POINT SET SCREW

Part No.	Size	Mass kg/100
CPS1040	M10 x 40	2.3
CPS1240	M12 x 40	3.8
CPS1250	M12 x 50	4.4



SLOTTED HEX HEAD SET SCREWS

Part No.	Size	Mass kg/100
SHS0620	M6 x 20	0.6
SHS0825	M8 x 25	1.2
SHS0830	M8 x 30	1.3



HEXAGON NUTS

Part No.	Size	Mass kg/100
HN06	M6	0.2
HN08	M8	0.5
HN10	M10	0.8
HN12	M12	1.8
HN16	M16	3.3
HN20	M20	5.6

FLAT WASHERS

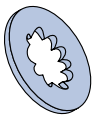
Part No.	Size	Mass kg/100
FW06	M6	0.1
FW08	M8	0.1
FW10	M10	0.3
FW12	M12	0.4
FW16	M16	0.8
FW20	M20	0.9

SPRING WASHERS

Part No.	Size	Mass kg/100
SW06	M6	0.1
SW08	M8	0.2
SW10	M10	0.3
SW12	M12	0.4
SW16	M16	0.6
SW20	M20	1.0

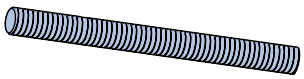
SHAKEPROOF LOCK WASHERS

Part No.	Size	Mass kg/100
LW06	M6	0.05
LW08	M8	0.06
LW10	M10	0.08
LW12	M12	0.10
LW16	M16	0.13
LW20	M20	1.20



UNIROD STEEL THREADED ROD

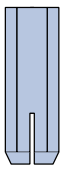
Part No.	Size	Max. Recommended Tensile Load (kN)	Mass kg/ea
UR06	M6	3.22	0.6
UR08*	M8	5.84	1.1
UR10*	M10	9.28	1.5
UR12*	M12	13.48	2.4
UR16*	M16	25.12	3.9
UR20*	M20	39.20	6.3



Standard Finish: Zinc Plated.
*Also available in Hot Dipped Galvanised.
Standard Length: 3m
Unirod Load Data: Maximum recommended tensile load is based on a safety factor of 2.5 using the appropriate stress area of thread and ultimate tensile strength of 430 MPa.

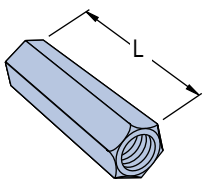
DROP IN ANCHOR

Part No.	Size	Finish	Mass kg/100
HAD06	M6 X 25	ZP	0.7
HAD08	M8 X 30	ZP	1.2
HAD10	M10 X 40	ZP	2.3
HAD12	M12 X 50	ZP	4.5



ROD COUPLERS

Part No.	Size	Length 'A'	Mass kg/100
RC06	M6	20	1.2
RC08*	M8	25	2.3
RC10*	M10	30	4.0
RC12*	M12	40	7.8
RC16*	M16	50	12.2
RC20*	M20	50	19.0



Standard Finish: Zinc Plated.
*Also available in Hot Dipped Galvanised.

FITTINGS - FLAT PLATE

MATERIAL

Unless otherwise noted, all fittings are punch press formed from plate or strip steel.

FITTING APPLICATION

All product drawings illustrate only one application of each fitting. In most cases many other applications are possible.
The members shown in the illustrations are P1000®, 41mm square, except where noted otherwise. All 14mm diameter holes use M12 x 24 hex head set screws and M12 nuts - P1010, P4010 or P5510 - depending on the Strut used. Nuts and bolts are not included with the fitting and must be ordered seperately.

DESIGN LOAD DATA

Design load data, where shown, is based on the ultimate strength of the connection with a safety factor of 2.5.

DESIGN BOLT TORQUE

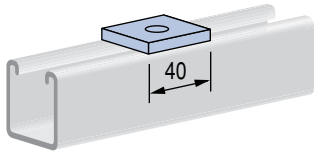
Refer to Engineering Data page 49.

FINISHES

All fittings in this section are available in zinc plated finish to Australian Standard AS1789 and Hot Dipped Galvanised to AS/NS4680.

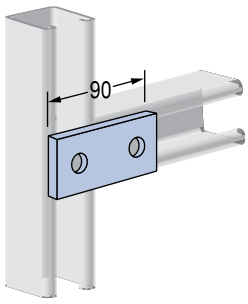
P1062 - P1964

Part No.	Bolt Size	Hole Size	Mass kg/100
P1062	8	9	5.9
P1063	10	12	5.7
P1064	12	14	5.5
P1964	16	18	5.4



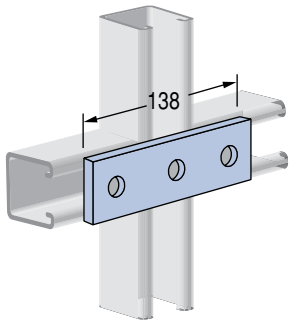
P1065

Mass: 13.4kg/100



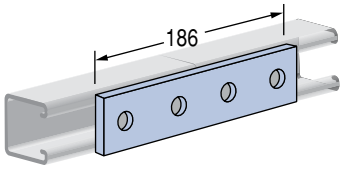
P1066

Mass: 20kg/100



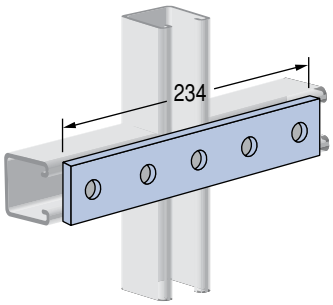
P1067

Mass: 26.7kg/100



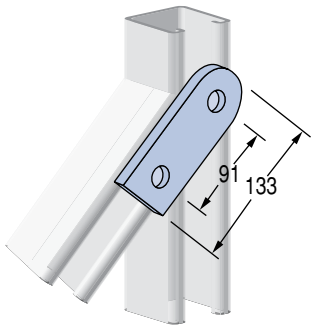
P1941

Mass: 34.2kg/100



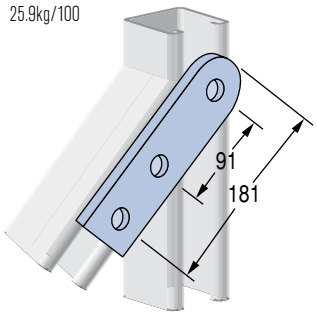
P2325

Mass: 19.2kg/100



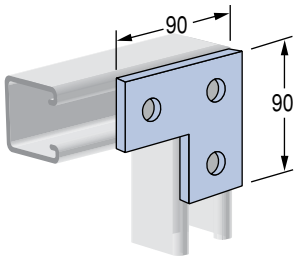
P2324

Mass: 25.9kg/100



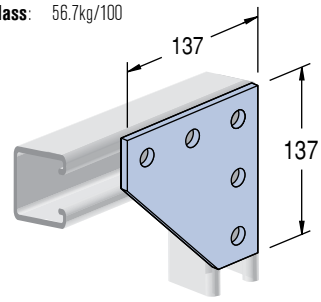
P1036

Mass: 20.9kg/100



P1873

Mass: 56.7kg/100



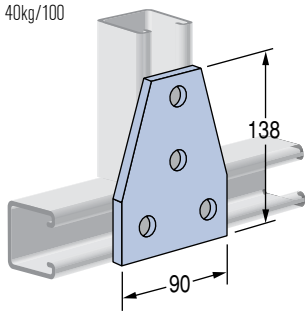
Standard Dimensions for 41mm width series Strut fittings (Unless Otherwise Shown on Drawing)
Hole Diameter: 14mm; **Hole Spacing - From End**: 21mm; **Hole Spacing - On Center**: 48mm; **Width**: 40mm

UNISTRUT®

FITTINGS - FLAT PLATE & 90° ANGLE

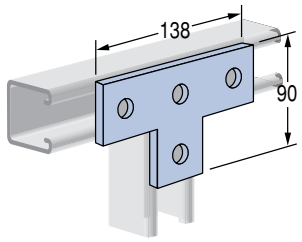
P1358

Mass: 40kg/100



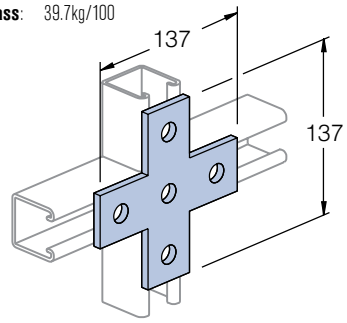
P1031

Mass: 29.2 kg/100



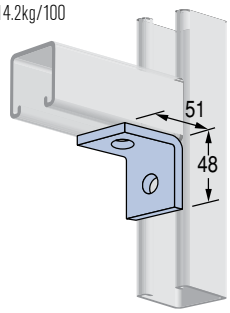
P1028

Mass: 39.7kg/100



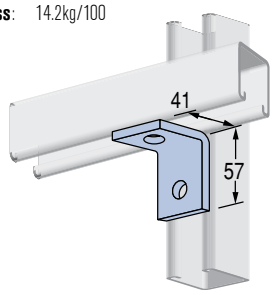
P1026

Mass: 14.2kg/100



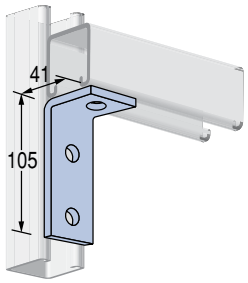
P1068

Mass: 14.2kg/100



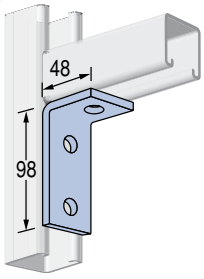
P1326

Mass: 20kg/100



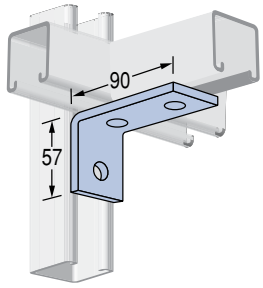
P1346

Mass: 20kg/100



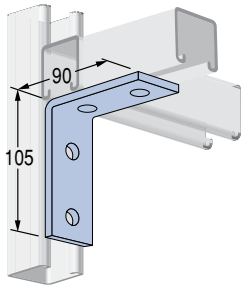
P1458

Mass: 20kg/100



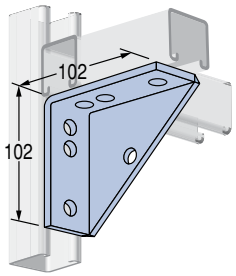
P1325

Mass: 27.5kg/100



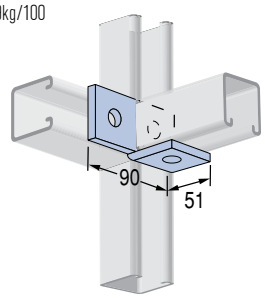
P2484

Mass: 50.9kg/100



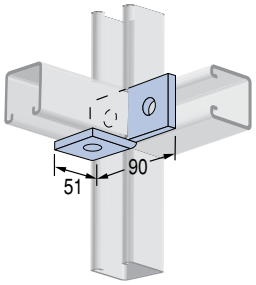
P1037

Mass: 20.9kg/100



P1038

Mass: 20.9kg/100

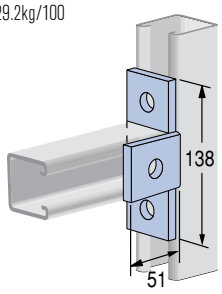


Standard Dimensions for 41mm width series Strut fittings (Unless Otherwise Shown on Drawing)
Hole Diameter: 14mm; **Hole Spacing - From End**: 21mm; **Hole Spacing - On Center**: 48mm; **Width**: 40mm

FITTINGS - 90°, ANGULAR & "Z" SHAPE

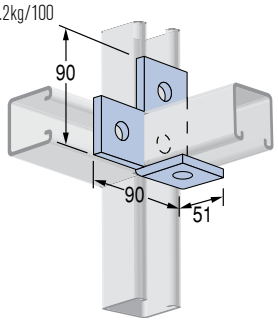
P1033

Mass: 29.2kg/100



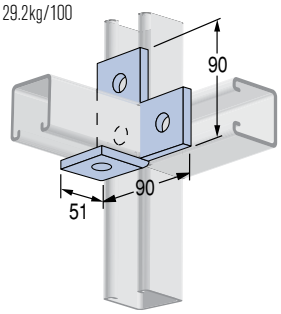
P1034

Mass: 29.2kg/100



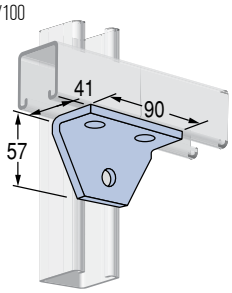
P1035

Mass: 29.2kg/100



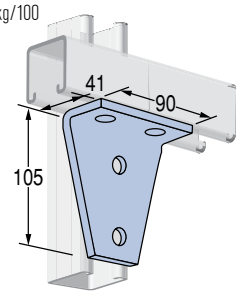
P1357

Mass: 26.7kg/100



P1359

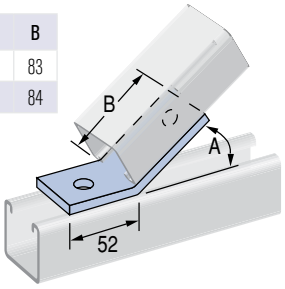
Mass: 40kg/100



P2101 & P2103

Mass: 21.7kg/100

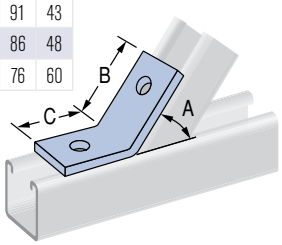
Part No.	A	B
P2101	30	83
P2103	15	84



P1546, P2095, P2097

Mass: 21.7kg/100

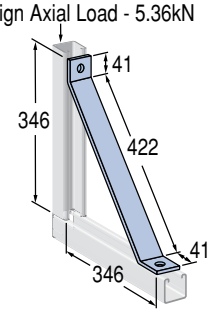
Part No.	A	B	C
P2095	75	91	43
P2097	60	86	48
P1546	45	76	60



P2452

Mass: 85.9kg/100

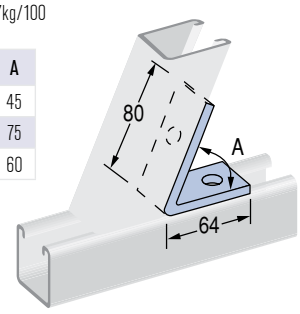
Design Axial Load - 5.36kN



P1186, P2106, P2108

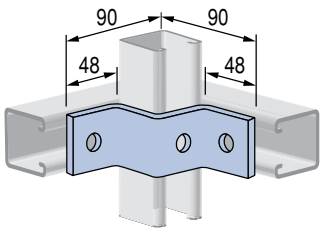
Mass: 21.7kg/100

Part No.	A
P1186	45
P2106	75
P2108	60



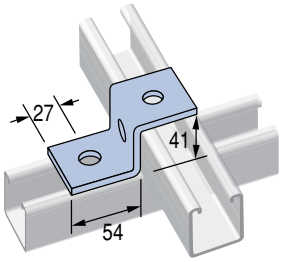
P1736

Mass: 22.5kg/100



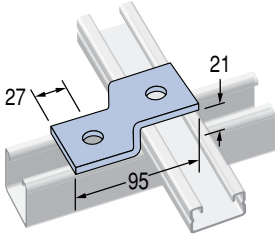
P1045

Mass: 20kg/100



P4045

Mass: 16.7kg/100



P4000 Shown

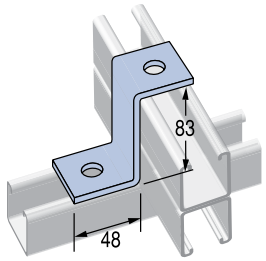
Standard Dimensions for 41mm width series Strut fittings (Unless Otherwise Shown on Drawing)
Hole Diameter: 14mm; **Hole Spacing - From End**: 21mm; **Hole Spacing - On Center**: 48mm; **Width**: 40mm

UNISTRUT®

FITTINGS - "Z", "U" AND WING SHAPE

P1453

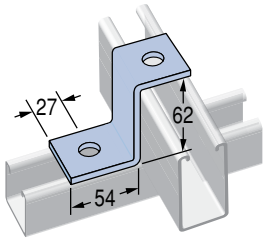
Mass: 25kg/100



P1001 Shown

P5545

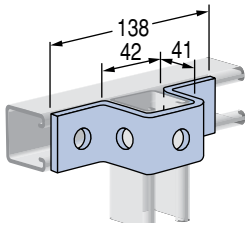
Mass: 24.2kg/100



P1000® and
P5500 Shown

P1047

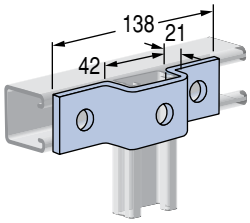
Mass: 30.9kg/100



P1000® Shown

P4047

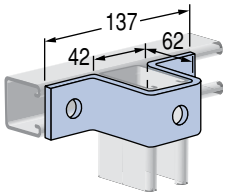
Mass: 25kg/100



P1000® and
P4000 Shown

P5547

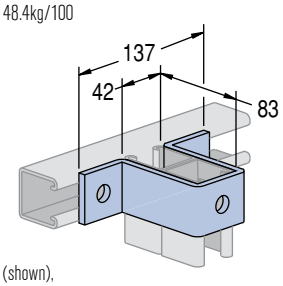
Mass: 39.2kg/100



P1000® and
P5500 Shown

P1737

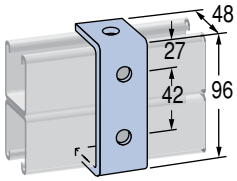
Mass: 48.4kg/100



P1000® (shown),
and P2001

P1044

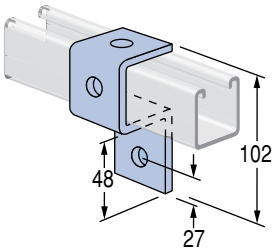
Mass: 25kg/100



P1001 Shown

P1046

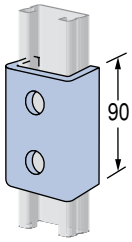
Mass: 29.2kg/100



P1000® Shown

P4376

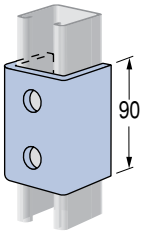
Mass: 31.7kg/100



P4000 Shown

P1376

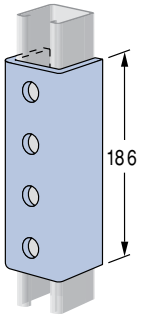
Mass: 46.7kg/100



P1000® Shown

P1377

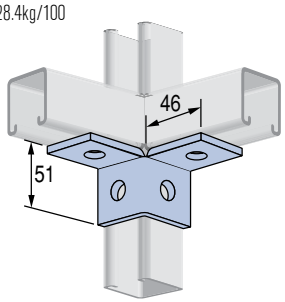
Mass: 95.9kg/100



P1000® Shown

P2223

Mass: 28.4kg/100

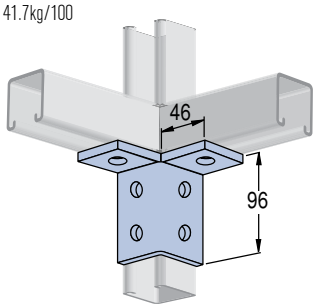


Standard Dimensions for 41mm width series Strut fittings (Unless Otherwise Shown on Drawing)
Hole Diameter: 14mm; **Hole Spacing - From End**: 21mm; **Hole Spacing - On Center**: 48mm; **Width**: 40mm

FITTINGS - WING SHAPE, POST BASES

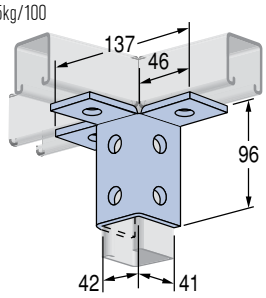
P2224

Mass: 41.7kg/100



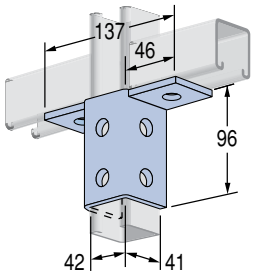
P2228

Mass: 65kg/100



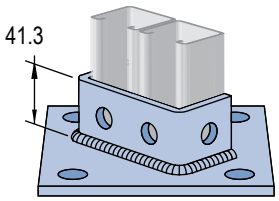
P2346

Mass: 55kg/100

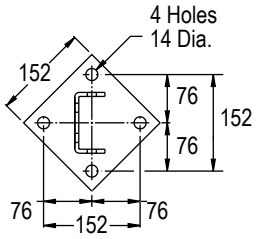


P2073/P2073SQ

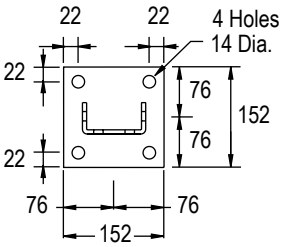
Mass: 116.7kg/100



P1001 Shown



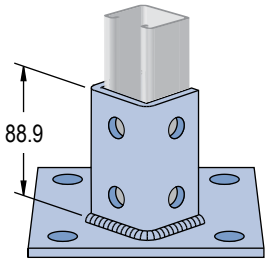
P2073



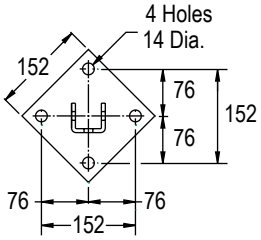
P2073SQ

P2072A/P2072ASQ

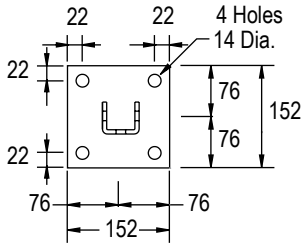
Mass: 136.7kg/100



P1000® Shown

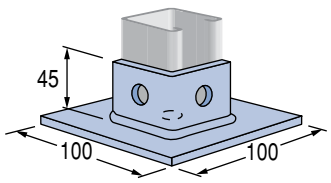


P2072A

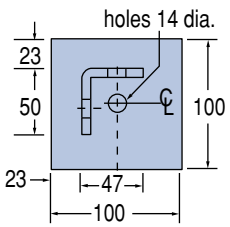


P2072ASQ

P2072S1



P1000® Shown



Standard Dimensions for 41mm width series Strut fittings (Unless Otherwise Shown on Drawing)
Hole Diameter: 14mm; **Hole Spacing - From End**: 21mm; **Hole Spacing - On Center**: 48mm; **Width**: 40mm

UNISTRUT®

CANTILEVER BRACKETS – GENERAL INFORMATION

MATERIAL

Unless otherwise noted, all fittings are punch press formed from plate or strip steel.

FITTING APPLICATION

All product drawings illustrate only one application of each fitting. In most cases many other applications are possible.

The members shown in the illustrations are P1000®, 41mm square, except where noted otherwise. All 14mm diameter holes use M12 x 24 hex head set screws and M12 nuts - P1010, P4010 or P5510 - depending on the channel used. Nuts and bolts are not included with the fitting and must be ordered separately.

DESIGN LOAD DATA

Loadings are as shown based on calculations in accordance with AS/NZS 4600 and AS 4100.

DESIGN BOLT TORQUE

Refer to Engineering Data (See Page 49).

FINISHES

All fittings in this section are Hot Dipped Galvanised to AS/NZS4680 unless otherwise shown.

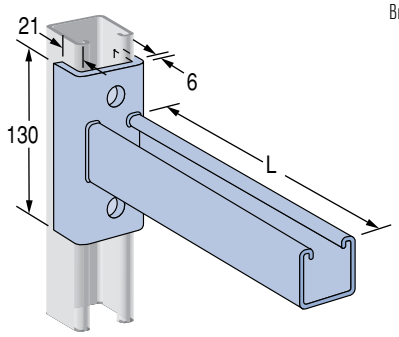
STANDARD DIMENSIONS

The following dimensions apply to all fittings except as noted on the individual part drawings:

Hole Size - 14mm diameter
Hole Spacing - 21mm from end
Hole Spacing - 48mm on centre
Width - 40mm

P2233 & P2234

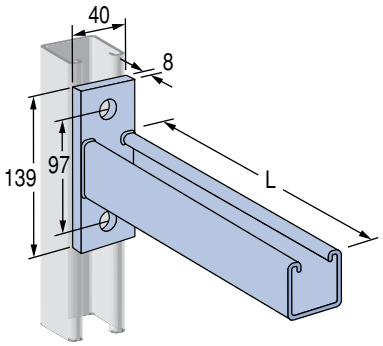
Brackets can be used inverted



Part No.	L	Design Uniform Load - kN	Mass kg/100
P2233	457	3.14	189
P2234	610	1.97	232

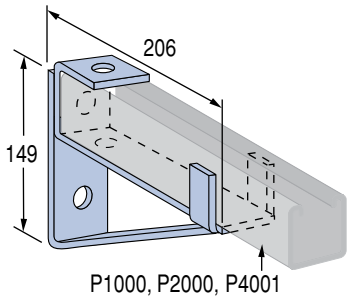
P2663 - 250 TO P2663 - 700

Brackets can be used inverted



Part No.	L	Design Uniform Load - kN	Mass kg/100
P2663-250	250	3.01	102
P2663-400	400	1.88	143
P2663-550	550	1.36	186
P2663-700	700	1.06	229

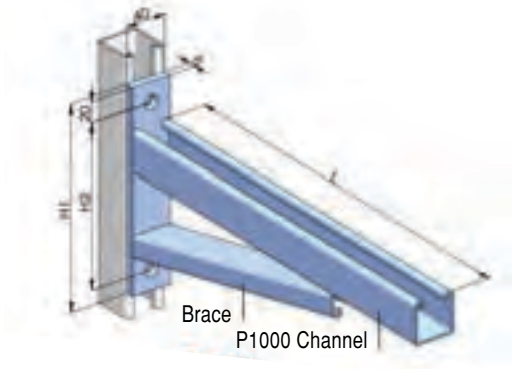
P1075 - 8



Part No.	Design Moment kN*	Mass kg/100
P1075-8	0.58	130

* Applies only to fittings and not to strength of Unistrut® arm. Designed for use with "Unistrut®" nuts, do not use through bolts.

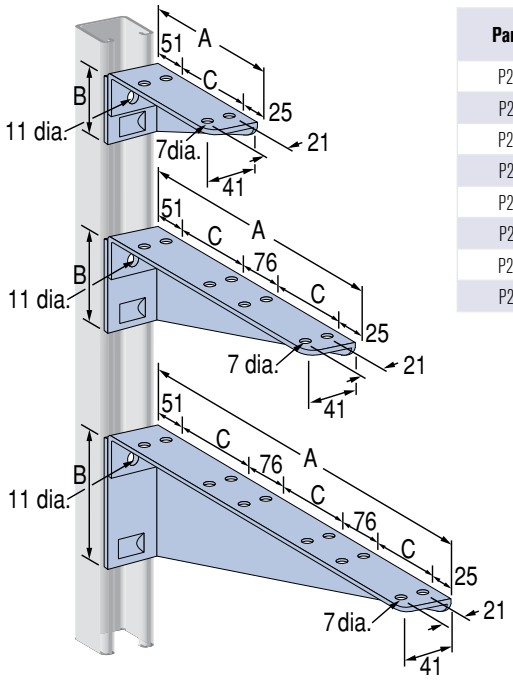
PCL150 TO PCL600



Part No.	L	H1	H2	Design Uniform Load kN	Mass kg/100
PCL150	320	200	160	4.47	179
PCL300	470	200	160	3.17	239
PCL450	635	235	195	3.33	349
PCL600	780	235	195	2.80	389

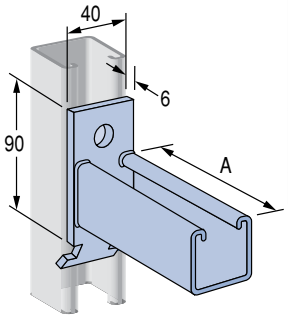
CANTILEVER BRACKETS

P2491R-L TO P2500R-L



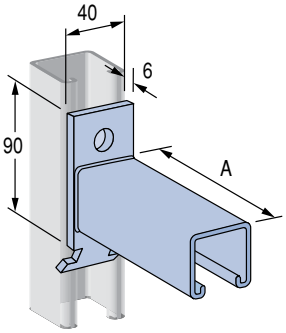
Part No.	A	B	C	Design Uniform Load kN	Mass kg/100
P2491R	152	56	76	1.57	30
P2491L	152	56	76	1.57	30
P2494R	305	87	76	1.37	69
P2494L	305	87	76	1.37	69
P2497R	457	125	152	1.01	121
P2497L	457	125	152	1.01	121
P2500R	610	164	127	0.98	182
P2500L	610	164	127	0.98	182

P2513 TO P2516



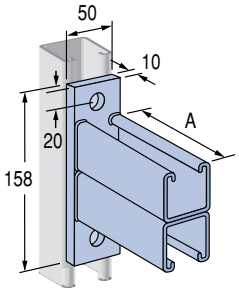
Part No.	A	Design Uniform Load kN	Mass kg/100
P2513	250	1.77	91
P2514	400	1.10	128
P2515	550	0.80	177
P2516	700	0.62	216

P2513A TO P2516A



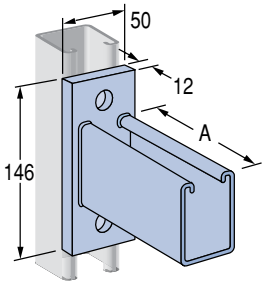
Part No.	A	Design Uniform Load kN	Mass kg/100
P2513A	250	1.77	91
P2514A	400	1.10	128
P2515A	550	0.80	177
P2516A	700	0.62	216

P2542 TO P2546



Part No.	A	Design Uniform Load kN	Mass kg/100
P2542	305	7.57	228
P2543	460	5.22	314
P2544	610	3.98	400
P2545	760	3.21	487
P2546	915	2.67	574

P5663 - 300 TO P5663 - 750

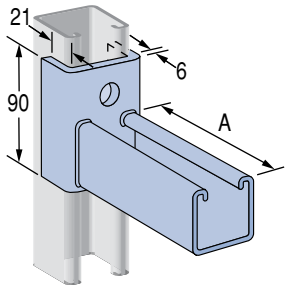


Part No.	A	Design Uniform Load kN	Mass kg/100
P5663-300	300	6.93	173
P5663-450	450	4.78	224
P5663-600	600	3.62	276
P5663-750	750	2.91	327

UNISTRUT®

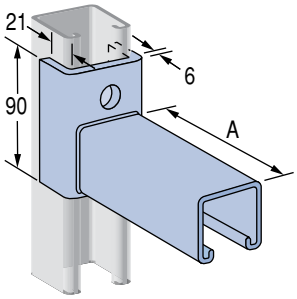
CANTILEVER BRACKETS & ADJUSTABLE BRACE FITTINGS

P2231 & P2232



Part No.	A	Design Uniform Load - kN	Mass kg/100
P2231	152	6.46	81
P2232	305	3.78	124

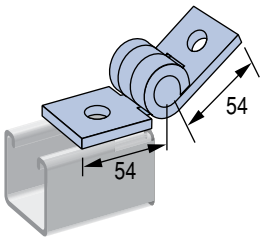
P2231A & P2232A



Part No.	A	Design Uniform Load - kN	Mass kg/100
P2231A	152	6.46	81
P2232A	305	3.78	124

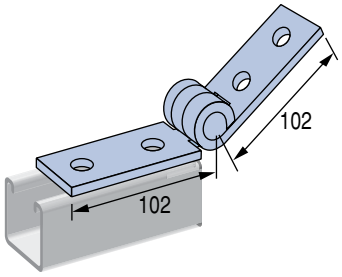
P1843

Mass: 31kg/100



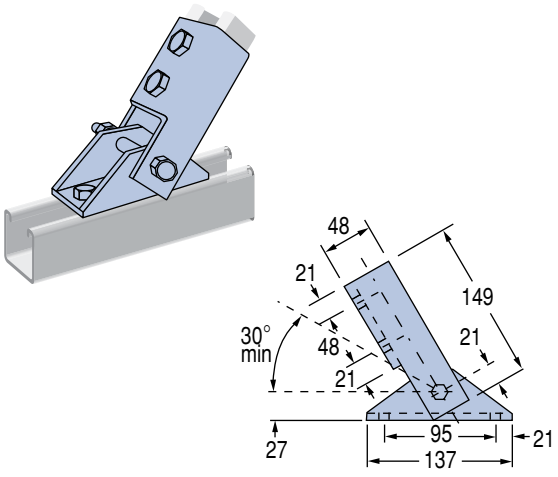
P1354

Mass: 49kg/100



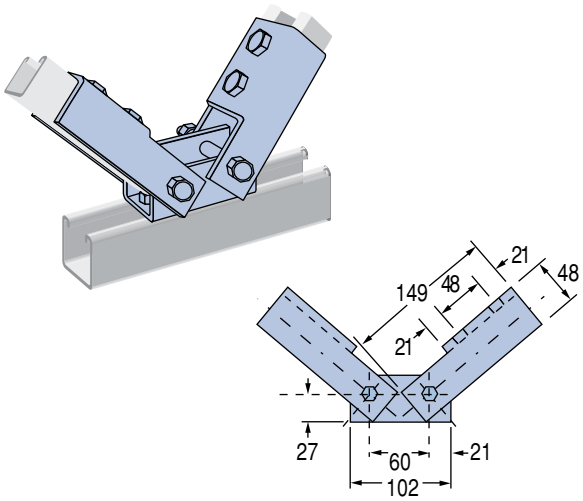
P2815

Mass: 139kg/100



P2815D

Mass: 26kg/100



BEAM CLAMPS

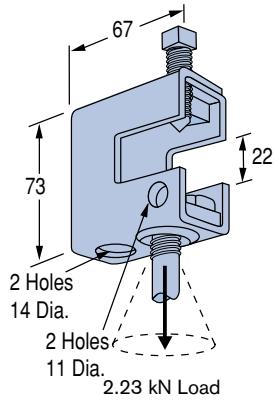
APPLICATION

Beam Clamps are designed to provide a fast easy attachment to overhead structures. They alleviate the need for drilling and welding as well as being completely adjustable.

Finishes – Standard finishes as shown.

Design Bolt Torque – Refer to Engineering Data (page 49)

P2676



Mass: 31kg/100

Beam Attachment Applications:
Clamp P2676 provides a means of rod suspension, either fixed, or where a free swing of up to 15 degrees is required. Swivel nuts to be ordered separately.

Clamp may also be used with P2677 as illustrated in application drawings.

Standard Finishes:
Z.P, H.D.G. & S.S.

M12 x 50 cone-pointed screw & nut included

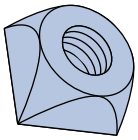
Clamp material 3mm thick

Swivel nut and lock nut not included

Rod size up to M12

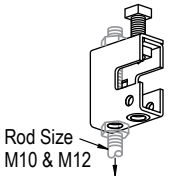
Rod swivel 15° all directions

P2676 – SWIVEL NUT



Part No.	Size	Mass kg/100
P267910	M10	1.7
P267912	M12	1.5

Note: Swivel nuts are used with P2676 and P2677. Order size as required.

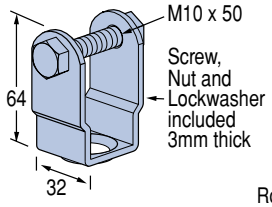


Design Load
1.33 kN

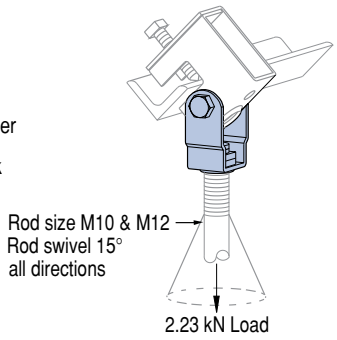
Design Load
2.23 kN

P2677

P2677



P2676 & P2677

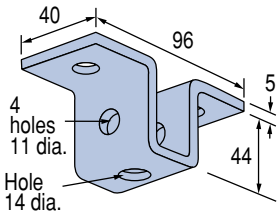


Mass: 13.6kg/100

P2677 clevis hanger to be used with P2676 to provide angle adjustment and 15 degree free swing for up to M12 rod suspension. Order P2679 series swivel nuts required.

Standard Finishes: Z.P

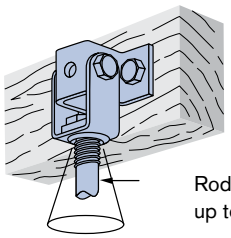
P2682



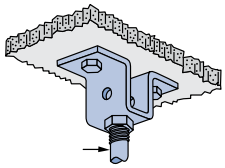
Mass: 23kg/100

Hanger clevis for up to M12 rod suspension. Suitable for wood ceilings. May also be used with P2677 as illustrated in application drawings.

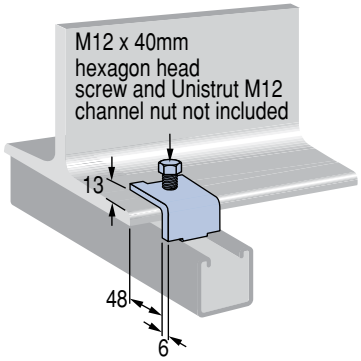
Standard Finishes: Z.P



Rod size up to M12
Rod swivel 15°
all directions



P1386



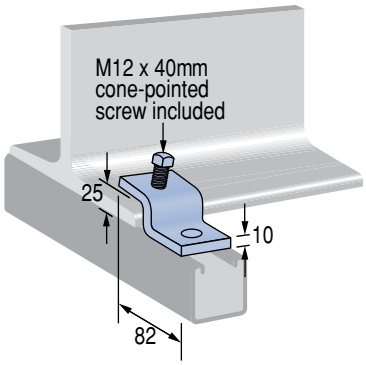
Mass: 12kg/100

Design Load each:
P1000® - 2.67kN
P2000 - 2.00kN

Standard Finishes:
Z.P. & H.D.G

Use in pairs only

P1379



Mass: 34kg/100

Design Load each:
P1000® - 2.67kN
P2000 - 2.00kN

Standard Finishes:
Z.P. & H.D.G

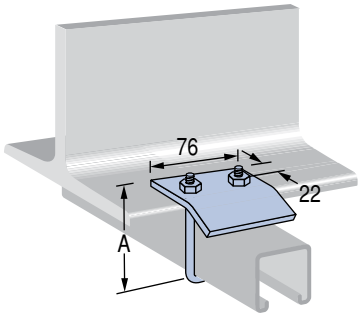
Each clamp requires:
M12 x 30 Hex Head Set Screw and M12 Channel Nut (not included)

Use in pairs only

UNISTRUT®

BEAM CLAMPS

P2785 & P2786



P2785 accepts following channels:
P1000®, P2000, P3300, P4000
A = 86 **Mass**: 38kg/100
For use with beams up to 19mm

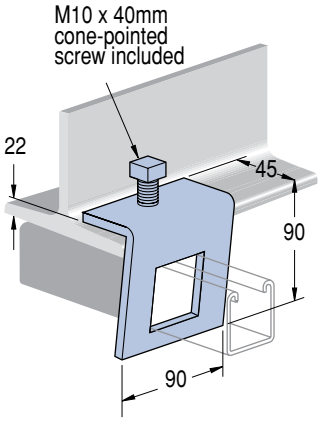
P2786 accepts following channels:
P1001, P2001, P5500
A = 127 **Mass:** 41kg/100
For use with beams up to 19mm

Design Load each:
4.45kN

Standard Finishes:
Z.P & H.D.G + SS

Use in pairs only

P1796



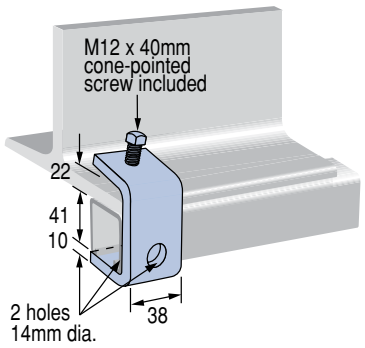
Mass: 49kg/100
Suits P1000® & P2000

Design Load each:
2.22kN

Standard Finishes:
Z.P & H.D.G.

Use in pairs only

P1271



Mass: 43kg/100

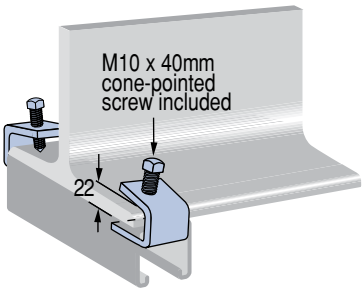
Design Load each:
2.22kN

Standard Finishes:
H.D.G.

Requires P1010 Channel nut & bolt

Use in pairs only

P1272



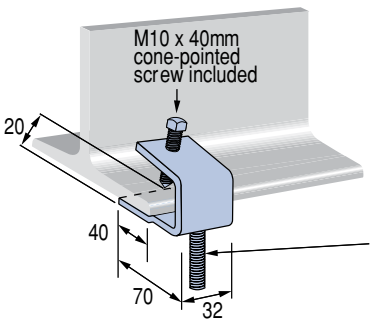
Mass: 18kg/100

Design Load Per Pair:
2.00kN

Standard Finishes:
Z.P., H.D.G., & S.S.

Use in pairs only

P1270



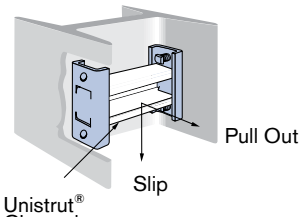
Mass: 29kg/100

Design Load each:
0.38kN

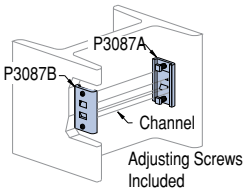
Standard Finishes:
Z.P. & H.D.G.

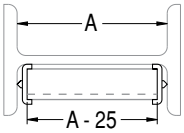
Tapped hole to accept M10 Unirod, to be secured with M10 nut (not included)

P3087



Hardened cone-point adjusting screws included





Channel Type	Design Pullout Load kN	Design Slip Load kN
P1000	4.45	3.56
P2000	2.22	1.33

Mass: 61.7kg/100

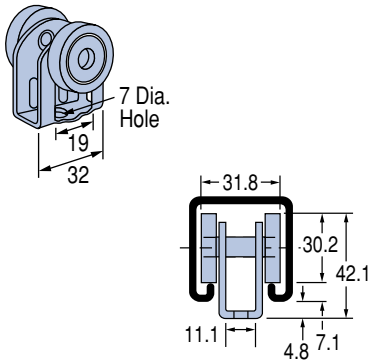
Safety Factor: 3

Standard Finishes:
Z.P. & H.D.G.

TROLLEY ASSEMBLIES

P2749/P2749N

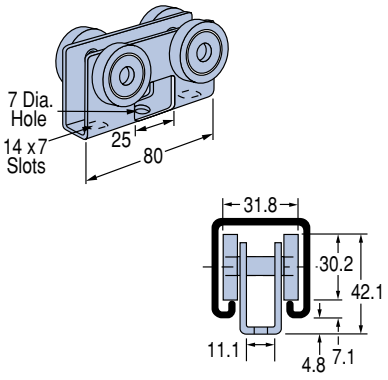
Mass: 10kg/100
Clevis 2.5mm



Note: 'N' indicates Acetal wheels

P2750/P2750N

Mass: 22kg/100



Note: 'N' indicates Acetal wheels

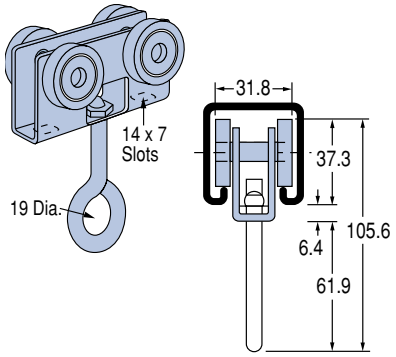
LOADS (kN)

Part No.	Wheel – Steel Ball Bearing Approx. Design Load kN
P2749	0.22
P2750	0.45
P2751	0.45

Part No.	Wheel – Acetal Approx. Design Load kN
P2749N	0.04
P2750N	0.09
P2751N	0.09

P2751/P2751N

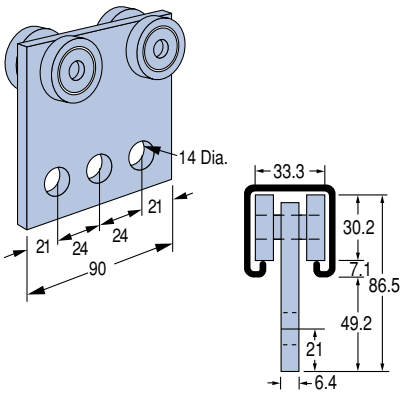
Mass: 26kg/100
Clevis 2.5mm



Note: 'N' indicates Acetal wheels

P2950

Mass: 48kg/100

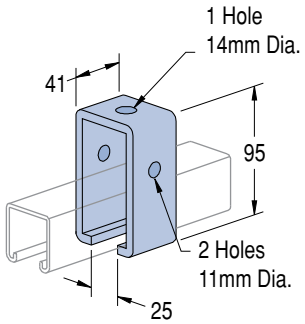


P2950 LOADS (kN)

MPM	RPM	Design Load in P1000® kN
54	600	1.33
27	300	2.00
9	100	2.67

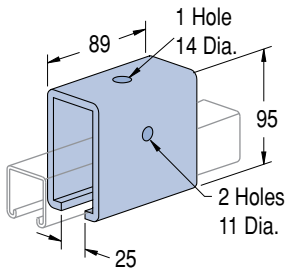
P1834 - TROLLEY SUPPORT

Mass: 46kg/100
Design Load: 5.34kN
Requires M10 x 70 Bolt & Nut. Not Included.



P1834A - TROLLEY SUPPORT

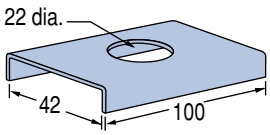
Mass: 99.8kg/100
Design Load: 11.12kN
Requires M10 x 70 Bolt & Nut. Not Included.

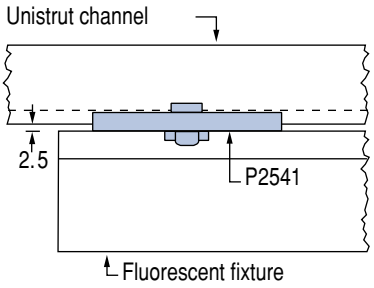


UNISTRUT®

FITTINGS - ELECTRICAL

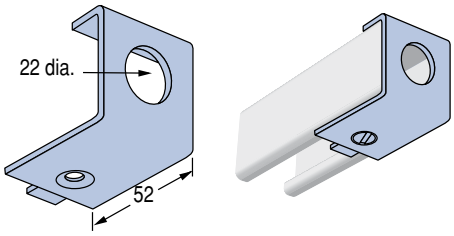
P2541 - SPACER CLEVIS





P2521 - CONDUIT END CONNECTOR

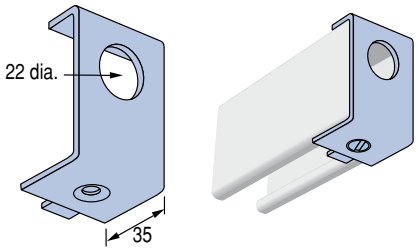
Mass: 12kg/100
Finish: Zinc Plated



Fitted to end of trunking for attachment of electrical conduit. P2521 for use with P1000® and P2000 Struts. Countersunk head screw and clamping nut included.

P5521 - CONDUIT END CONNECTOR

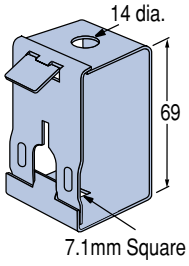
Mass: 12kg/100
Finish: Zinc Plated



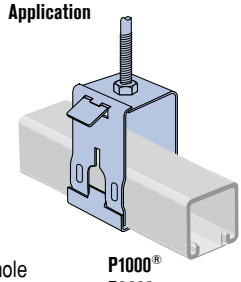
Fitted to end of trunking for attachment of electrical conduit. P5521 for use with P5500 Strut. Countersunk head screw and clamping nut included.

P2855

Mass: 14.5kg/100
Design Load: 0.5kN
Finish: Zinc Plated



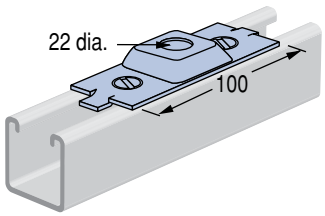
Application



P1000®
P2000
P3300

P2535 - CONDUIT HANGER FITTING

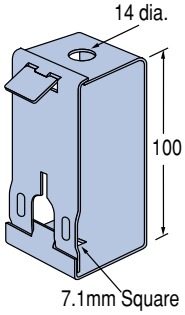
Mass: 13kg/100
Design Load: 1.78kN
Finish: Zinc Plated



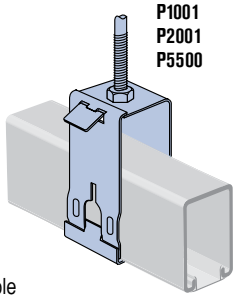
M6 x 15 Countersunk screws and P3016 nuts included
Conduit hanger fitting for rigid attachment to Unistrut® Strut.

P2755

Mass: 20kg/100
Design Load: 0.5kN
Finish: Zinc Plated



Application

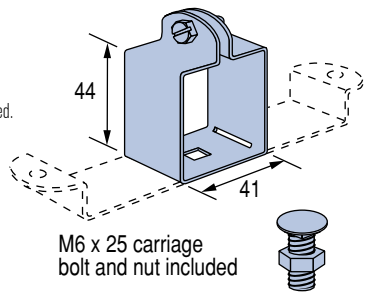


P1001
P2001
P5500

P2539 - FIXTURE HANGER FITTING

Mass: 8kg/100
Design Load: 0.5kN
Finish: Zinc Plated

M6 x 20 screw and nut included.

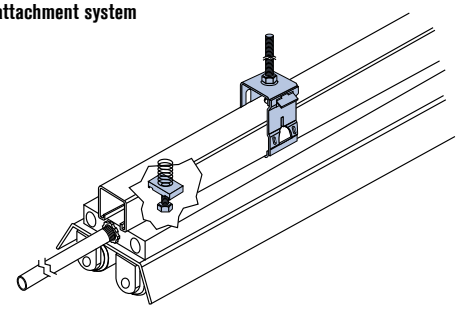


Fluorescent hanger fittings provide a means of mounting fixtures to Unistrut®. They are shipped flat and are easily bent to form around the Unistrut® Strut. For use with P1000® and P2000

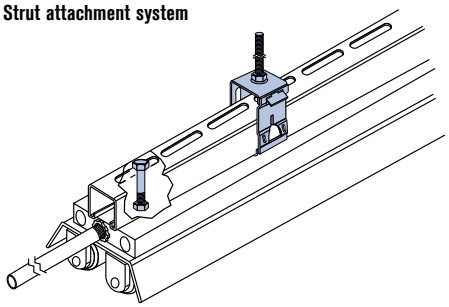
FITTINGS - FLUORESCENT

FLUORESCENT FIXTURE – SUPPORT APPLICATIONS

Spring-Nut attachment system

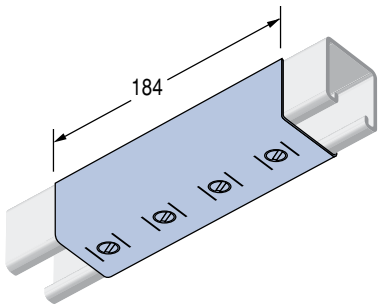


Slotted Strut attachment system



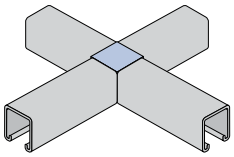
P2377 - SPLICE FITTING

Mass: 25kg/100
Finish: Zinc Plated
For joining together continuous runs of trunking Strut. P2377 external 41 deep, for use with P1000® and P2000 trunking. For P3016 (page 48) Trunking Nuts and for M6 x 15 countersunk head screws should be ordered with each fitting.



JOINER FITTINGS

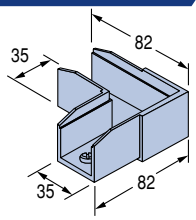
Cast aluminium fittings designed to fit inside the Strut section and provide a continuous profile on external surfaces. Fittings are secured to the Strut by a pre-installed screw and washer assembly. Closure strip can be clipped into channel and extended over the fitting to complete a neat installation.



Typical Assembly

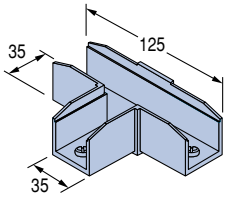
P2902 - TWO WAY

Mass: 12kg/100
Material: Cast Clevis 2.5mm.
Socket Cup Point Set Screws Included



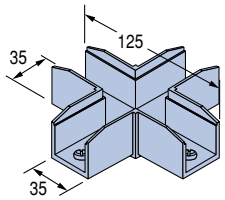
P2901 - THREE WAY

Mass: 15.9kg/100
Material: Cast aluminum.
Socket Cup Point Set Screws Included



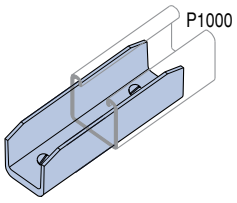
P2903 - FOUR WAY

Mass:20.4kg/100
Material: Cast aluminum.
Socket Cup Point Set Screws Included

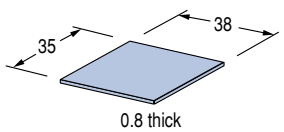


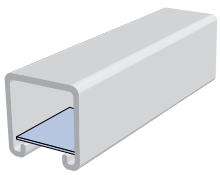
P2900 - ONE WAY

Mass: 9.1kg/100
Material: Cast aluminum.
Socket Cup Point Set Screws Included



P2552 –WIRE RETAINER [FIBRE]





Wire retainer is pushed into Unistrut Channel to support wires until the Closure Strip is installed.

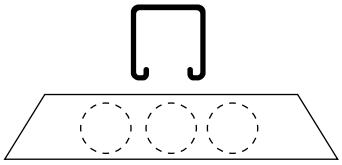
UNISTRUT®

FITTINGS - FLUORESCENT

LOADING DATA

		1 x 36W 6kg	2 x 36W 9kg	3 x 36W 12kg	4 x 36W 14kg	1 x 58W 8kg	2 x 58W 13kg
Unistrut® Strut and Spacing of 1220mm Long Fluorescent Fittings.		Hanger Rod Spacing In Metres					
	Continuous run of fittings	4.1	3.8	3.6	3.6	3.9	3.5
P1000®	Fittings 600mm apart	4.4	4.1	3.9	3.8	4.2	3.9
	Fittings 1200mm apart	4.5	4.3	4.1	4.0	4.4	4.1
	Continuous run of fittings	4.0	3.7	3.4	3.3	3.7	3.4
P2000	Fittings 600mm apart	4.2	3.9	3.7	3.6	4.0	3.7
	Fittings 1200mm apart	4.4	4.2	3.9	3.8	4.2	3.9
	Continuous run of fittings	5.2	4.9	4.6	4.5	5.0	4.6
P5500	Fittings 600mm apart	5.5	5.2	5.0	4.8	5.3	4.9
	Fittings 1200mm apart	5.6	5.4	5.2	5.1	5.5	5.1
	Continuous run of fittings	5.5	5.2	4.9	4.8	5.3	4.8
P2001	Fittings 600mm apart	5.8	5.5	5.3	5.1	5.6	5.2
	Fittings 1200mm apart	6.0	5.7	5.5	5.4	5.8	5.4
	Continuous run of fittings	5.7	5.4	5.2	5.0	5.6	5.1
P1001	Fittings 600mm apart	6.0	5.7	5.5	5.4	5.8	5.4
	Fittings 1200mm apart	6.1	5.9	5.7	5.6	6.0	5.6

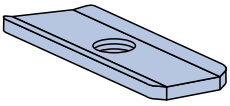
Note: Spacings have been calculated to limit section deflections between hangers to approximately 10mm, with sections considered continuous over three spans. For Single spans - multiply spacing by 0.85. For Double spans - multiply spacing by 1.07. For greater than 3 spans - use table above. Spacings have been calculated for Unistrut®. Strut opening on the underside.



JOINER FITTINGS

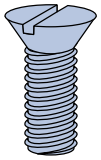
P3016 - TRUNKING NUTS

Mass: 1kg/100
For the fixing of fittings and accessories 6mm diameter



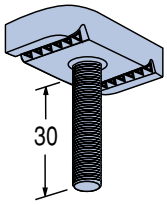
CKS0615 - COUNTERSUNK HEAD SCREW

Mass: 0.3kg/100
Size: M6 x 15



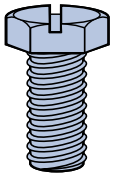
P3116 - FIXTURE STUD NUT

Mass: 3.5kg/100
Size: M6 x 30



SHS0620 - SLOTTED HEX HEAD SCREW

Mass: 0.6kg/100
Size: M6 x 20



ENGINEERING DATA (SLIP AND PULLOUT)

SLIP & PULLOUT PERFORMANCE - ZINC PLATED

Channel Type	Nut Type	Pullout (kN)	Slip (kN)	Torque (Nm)
P1000	P1006	2.67	1.33*	9
	P1007	3.56	2.22*	22
	P1008	4.45	3.56*	44
	P1010	8.9	6.67*	77
P2000	P1006	2.67	1.33*	9
	P1007	3.56	1.78*	22
	P1008	4.45	3.34*	37
	P1010	4.45	4.54*	37
P3300	P4006	2.67	1.33*	9
	P4007	3.56	2.22*	22
	P4008	4.45	3.56*	44
	P4010	6.67	6.67*	77
P4000	P4006	2.67	1.33*	9
	P4007	3.56	1.78*	22
	P4008	4.45	3.34*	37
	P4010	4.45	4.54*	37
P5500	P5508	4.45	3.56*	44
	P5510	8.9	6.67*	77

Load capacities have been calculated in accordance with the provisions of AS/NZS 4600:1996 "Cold-formed steel structures", and in particular, Section 6.2.2.7. The bolting system chosen using the data provided in the tables will perform as specified when design, fabrication and erection are carried out in accordance with Unistrut's recommendations and accepted building practice.

NOTE

To simplify the table, channel nuts with springs only shown with the exception of P3016. Unistrut® nuts without springs will have identical performance.
Nut design loads include a minimum safety factor of 3.
Figures marked with (*) in the table opposite were obtained using high strength (Grade 8.8) screws.
Figures not marked with (*) were obtained using standard strength (Grade 4.6) screws. It should be noted that unless otherwise specified, standard strength screws (Grade 4.6) are supplied.
For Slip Loads using 4.6 Grade Commercial bolts and screws, Contact your local Unistrut® Service Centre.

HOT DIPPED GALVANISED CHANNEL NUTS

- Apply Pullout Loads as listed
- For Slip Loads - refer to your local Unistrut® Service Centre.

NOTE

These figures are results obtained from a comprehensive series of tests carried out by a NATA registered laboratory.
For further technical information please contact your nearest Unistrut® Service Centre.

SLIP & PULLOUT PERFORMANCE - STAINLESS STEEL

Channel Type	Nut Type	Pullout (kN)	Slip (kN)	Torque (Nm)
P1000	P1006SS	2.45	0.2	3.5
	P1007SS	4.41	0.3	8.5
	P1008SS	6.86	0.6	17.0
	P1013SS	6.86	0.6	30.0

NOTE

Stainless steel grade 316 screws, nuts and channel used to determine loads.

SLIP & PULLOUT PERFORMANCE - ALUMINIUM LOAD DATA

Approximate beam load capacities for channel sections may be obtained from the engineering data sections in this catalogue. Multiply data by the percentage in the table below.

Nut pullout strength and resistance to slip for sections may be obtained from the engineering data sections in this catalogue. Multiply data by the percentages in the table below.

Material	Load Percentage Factor	Slip Percentage Factor	Pullout Percentage Factor
Extruded Aluminium	33%	75%	50%

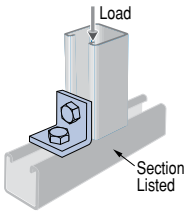
UNISTRUT®

ENGINEERING DATA [BEARING AND DESIGN LOAD]

SAFE BEARING LOADS

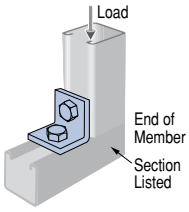
Safety Factor: 2.5

Section	Recommended Load kN
P1000	29.8
P2000	11.2
P3300	30.25
P4000	11.57



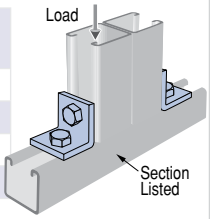
Safety Factor: 2.5

Section	Recommended Load kN
P1000	13.79
P2000	5.34
P3300	14.23
P4000	5.34



Safety Factor: 2.5

Section	Recommended Load kN
P1000	34.25
P2000	13.34
P3300	34.7
P4000	13.34

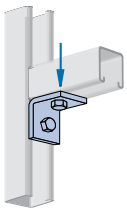


DESIGN LOAD DATA - TYPICAL STRUT CONNECTION

Safety Factor = 2.5 based on ultimate strength of connection. Load diagrams indicate up to two design loads, one for 2.5mm sections (listed as P1000), and one for 1.6mm sections (P2000). Loads are calculated using high tensile (Grade 8.8) screws.

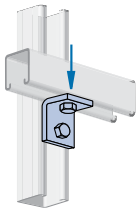
NINETY DEGREE FITTINGS - (WHEN USED IN POSITION SHOWN)

P1026



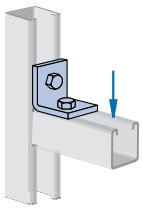
P1000®: 6.67kN
P2000: 3.34kN
Both Ends Supported

P1068



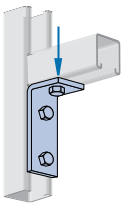
P1000®: 2.22kN
P2000: 2.22kN

P1026



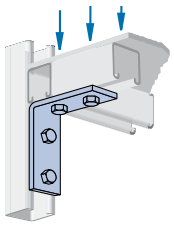
P1000®: 4.45kN
P2000: 2.22kN
Both Ends Supported

P1346



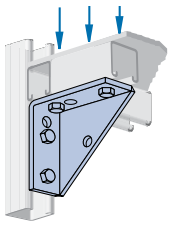
P1000®: 8.9kN
P2000: 4.0kN
Both Ends Supported

P1325



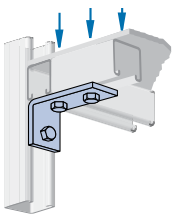
P1000®: 8.9kN
P2000: 6.67kN
Both Ends Supported

P2484



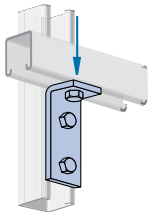
P1000®: 13.34kN
P2000: 6.67kN
Both Ends Supported

P1458



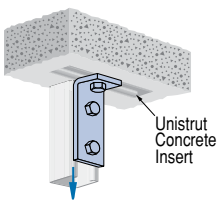
P1000®: 6.67kN
P2000: 4.45kN
Both Ends Supported

P1326



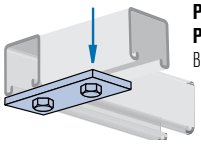
P1000®: 2.22kN
P2000: 2.22kN

P1346



P1000®: 5.34kN
P2000: 4.45kN

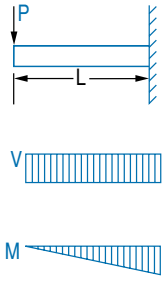
FLAT PLATE FITTING - P1065



P1000®: 4.45kN
P2000: 2.67kN
Both Ends Supported

ENGINEERING DATA [BEAM FORMULAE]

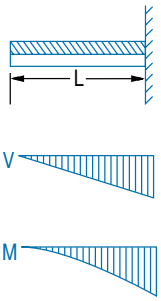
CANTILEVER BEAMS



$V_{max.} = P$

$M_{max.} = PL$

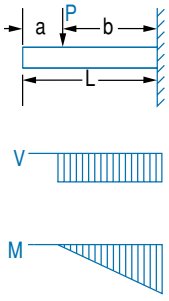
$\Delta_{max.} = \frac{PL^3}{3EI}$



$V_{max.} = W$

$M_{max.} = \frac{WL}{2}$

$\Delta_{max.} = \frac{WL^3}{8EI}$

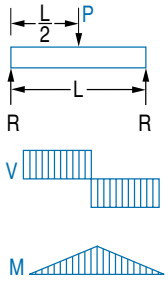


$V_{max.} = P$

$M_{max.} = Pb$

$\Delta_{max.} = \frac{Pb^2(3L-b)}{6EI}$

SIMPLE BEAMS

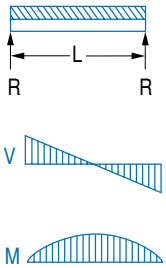


$R = \frac{P}{2}$

$V_{max.} = \frac{P}{2}$

$M_{max.} = \frac{PL}{4}$

$\Delta_{max.} = \frac{PL^3}{48EI}$

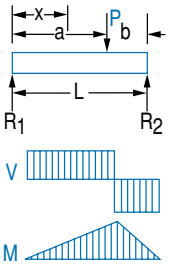


$R = \frac{W}{2}$

$V_{max.} = \frac{W}{2}$

$M_{max.} = \frac{WL}{8}$

$\Delta_{max.} = \frac{5WL^3}{384EI}$



$R_1 = \frac{Pb}{L}$

$R_2 = \frac{Pa}{L}$

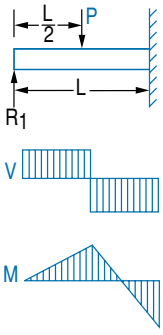
$V_{max.} = \frac{Pa}{L}$

$M_{max.} = \frac{Pab}{L}$

$\Delta_{max.}$ at $x = \sqrt{\frac{a(a+2b)}{3}}$

$\Delta_{max.} = \frac{Pab(a+2b)\sqrt{3a(a+2b)}}{27\,EIL}$

BEAMS FIXED ONE END, SUPPORTED AT OTHER



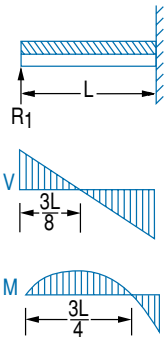
$R_1 = \frac{5P}{16}$

$V_{max.} = \frac{11P}{16}$

$M_{max.} = \frac{3PL}{16}$

$\Delta_{max.}$ at $x = 0.447L$

$\Delta_{max.} = 0.009317\,\frac{PL^3}{EI}$



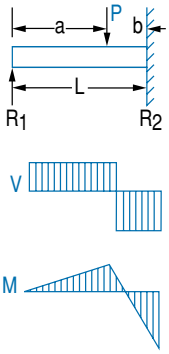
$R_1 = \frac{3W}{8}$

$V_{max.} = \frac{5W}{8}$

$M_{max.} = \frac{WL}{8}$

$\Delta_{max.}$ at $x = 0.4215L$

$\Delta_{max.} = \frac{WL^3}{185EI}$



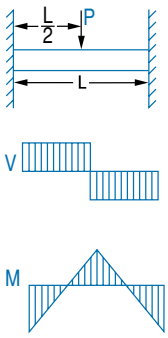
$R1 = \frac{Pb^2}{2L^3}(a + 2L)$

$R2 = \frac{Pa}{2L^3}(3L2 - a^2)$

M at point of load = R1 a

M at fixed end = $\frac{Pab}{2L^2}(a + L)$

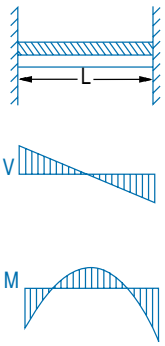
BEAMS FIXED AT BOTH ENDS



$V_{max.} = \frac{P}{2}$

$M_{max.} = \frac{PL}{8}$

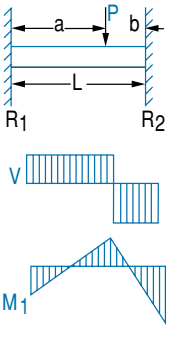
$\Delta_{max.} = \frac{PL^3}{192EI}$



$V_{max.} = \frac{W}{2}$

$M_{max.} = \frac{WL}{12}$

$\Delta_{max.} = \frac{WL^3}{384EI}$



$R1 = \frac{Pb^2}{L^3}(3a + b)$

$R2 = \frac{Pa^2}{L^3}(a + 3b)$

$M1 = \frac{Pab^2}{L^2}$

$M2 = \frac{Pa^2b}{L^2}$

R - Reaction
M - Moment (Nmm)
P - Concentrated load (N)

W - Total uniform load (N)
V - Shear
L - Length (mm)

Δ - Deflection (mm)
E - Modulus of Elasticity (MPa)
I - Moment of Inertia (mm^4)

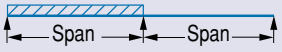
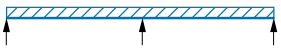
UNISTRUT®

ENGINEERING DATA [CONVERSION FACTORS]

DESIGN LOAD DATA - TYPICAL STRUT CONNECTION

Load tables in this catalogue for 41mm Strut width series are for single span beams supported at the ends. These can be used in the majority of cases. There are times when it is necessary to know what happens with other loading and support conditions. Some common arrangements are shown in Table 1. Simply multiply the loads from the Beam Load Tables by the load factors given in Table 1. Similarly, multiply the deflections from the Beam Load Tables by the deflection factor given in Table 1.

TABLE 1

	Load and Support Condition		Load Factor	Deflection Factor
1	Simple Beam - Uniform Load		1.00	1.00
2	Simple Beam Concentrated Load at Centre		0.50	0.80
3	Simple Beam -Two Equal Concentrated Loads at 1/4 Points		1.00	1.10
4	Beam Fixed at Both Ends - Uniform Load		1.50	0.30
5	Beam Fixed at Both Ends - Concentrated Load at Centre		1.00	0.40
6	Cantilever Beam - Uniform Load		0.25	2.40
7	Cantilever Beam - Concentrated Load at End		0.12	3.20
8	Continuous Beam - Two Equal Spans - Uniform Load on One Span		1.30	0.92
9	Continuous Beam - Two Equal Spans - Uniform Load on Both Ends		1.00	0.42
10	Continuous Beam - Two Equal Spans - Concentrated Load at Centre of One Span		0.62	0.71
11	Continuous Beam - Two Equal Spans - Concentrated Load at Centre of Both Spans		0.67	0.48

UNISTRUT® COLUMN LOADING

The strength of axially loaded columns or compression members is, in part, dependent on the end conditions, that is, the degree of end fixity or restraint. A column with both ends fixed will support more load than one with both ends free or pin-ended.

Column loads published for UNISTRUT® sections in this catalogue are offered as a guide and assume a partially fixed end condition as usually found in flat ended columns that are laterally tied and braced, i.e. K = 1.0.

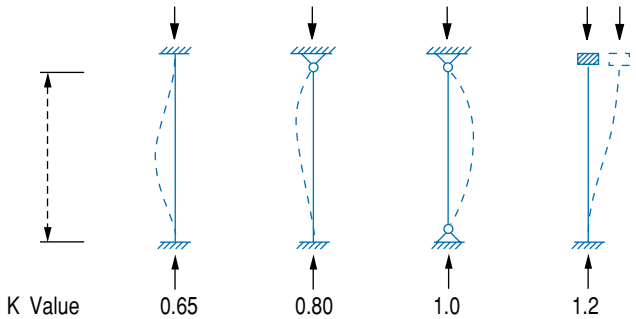
Assumed K values (effective length factors) for columns with varying end restraints are as follows:

END CONDITION CODE


Rotation fixed and translation fixed


Rotation free and translation fixed


Rotation fixed and translation free



HOW TO USE LOAD TABLES

UNISTRUT® SECTIONS AS BEAMS

The load capacity of Unistrut® members acting as a horizontal beam, between two vertical Unistrut® members acting as columns, is governed by:

a. the nature of the load.

b. the particular section to be used.

c. the span of the beam.

d. the beam-load capacity of the section for a given span.

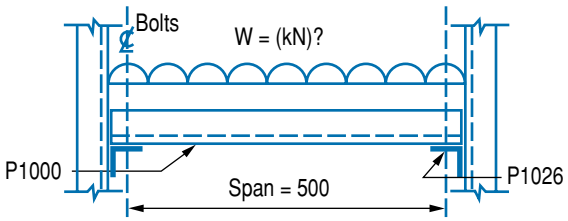
e. the load capacity of the connectors used to support the beams on the columns.

f. the load limitations, if any, resulting from special deflection considerations.

If items a), b) and c) are known, the load capacity is the smallest value of d), e), and f) as read or derived from the listed values in the appropriate tables.

EXAMPLE 1

What is the uniformly distributed load capacity of a P1000® section used as a beam to span 500mm if P1026 connectors are used to support the beam?



STEP 1

- Find beam load at maximum permissible stress.
- From P1000® Beam and Column in load table page 24, 500mm and Section P1000®, W = 7.42kN.

STEP 2

- Find load capacity of connectors.
- From Safe Bearing Loads in load table on page 50. for P1000 section supported on P1026 connectors; Support load = 6.67kN
  Beam load = 2 x support load = 2 x 6.67 = 13.34kN.

STEP 3

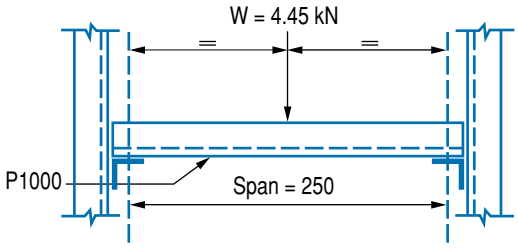
- Check deflection limitations.
- No special deflection considerations apply.

STEP 4

- Select smallest load value from Step 1 to 3.
- Smallest value is 7.42kN.
- To convert to mass units divide by 0.0098, hence load capacity W = 7.42 / 0.0098 = 757kg uniformly distributed.

EXAMPLE 2

A beam of 250mm span is to carry a central point load of 4.45kN. Check if P1000® section is a satisfactory beam and if so, what type of connector should be used for supports and what is the resultant central deflection?



STEP 1

- Convert point load to equivalent uniformly distributed load by multiplying by 2 (see note on point loads).
- Equivalent U.D.L. = 4.45 x 2 = 8.9kN.

STEP 2

- Compare with beam load capacity for P1000® section spanning 250mm. From P1000® Beam and Columns in this Tab Section. Tabulated value = 14.83kN.
- Since this is greater than load to be applied, the P1000® section is satisfactory.

STEP 3

- Determine support loads, which are each half the applied load. Support load = 2.23kN.

STEP 4

- Select appropriate connector from Safe Bearing Loads in this Tab Section.
- Recommended load for P1026 supporting P1000® = 6.67kN.
- As the P1026 connectors exceed the required support load of 2.23kN, use P1026 connectors at each end.

STEP 5

- Calculate central Deflection of beam from

$$\delta_2 = (W2 / W1) \times (L2 / L1)^3 \times \delta_1$$

(See P1000® Elements of Section, Page 24)

- From Beam load table for P1000 section with
  L1 = 250mm, W1 = 14.83kN and $\delta_1 = 0.22$mm
- From example data and step 1 above
  W2 = 8.9kN, L2 = 250mm
- Substituting values in formula
  $\delta_2 = (8.9/14.83) \times (250/250)^3 \times 0.22 = 0.14$mm

As this is the value for the equivalent uniformly applied load a correction is necessary to account for a central point load. This is done by multiplying the uniform load deflection by 0.8 (see Notes to Tables). Hence deflection under applied point load:

= 0.14 x 0.8 = 0.11mm.

UNISTRUT®

ENGINEERING DATA [EXAMPLES]

HOW TO USE LOAD TABLES

UNISTRUT® SECTIONS AS COLUMNS

The load capacity of Unistrut® Sections acting as columns depends on:

a. the particular section used.

b. the actual height of the column, measured between centres of connections to horizontal members.

c. the location of the resultant axial load with respect to the centre of gravity, CG, of the section (i.e. the intersection of the XX and YY axes as shown on the section diagrams).

d. the restraint to various kinds of movements of the column offered by the connections to horizontal members at various levels.

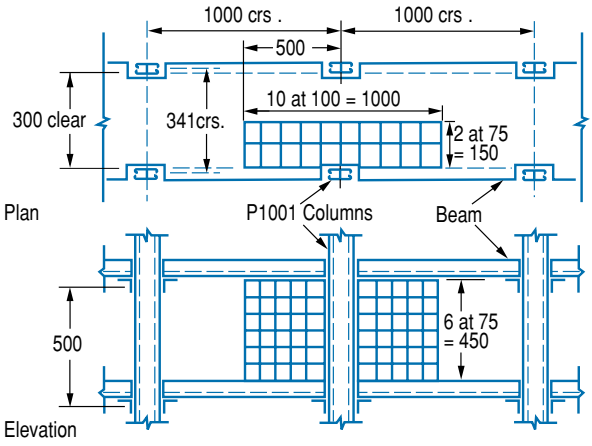
If a) and b) are known and if c) and d), for the case being considered, match the conditions in Structural Data Notes then the load capacity of the section can be read directly from the tables under 'maximum column load'.

It is emphasised that, for tabulated values to be used directly, the resultant load must be concentric (i.e. act through the C.G.) and connections at each end of a free column height must restrain those ends from both horizontal and torsional movement. If these conditions do not apply, reference should be made to the appropriate sections of AS/NZS 4600 since it is most likely that a smaller value than the listed one should be used.

EXAMPLE 3

Island-type storage shelving is to be constructed using P1001 main posts (columns) at 1000 x 341mm centres. Shelves are to be at 500mm vertical spacing starting from the floor and connected to the posts so that concentric loading and translational and torsional restraint are provided at each level under full load conditions.

If the shelves are to carry packages of bolts stacked six high per shelf and the packages measure 75 x 75 x 100mm with a mass of 6.5kg each, what is the maximum height (number) of shelving that can be used?



STEP 1

- Determine Concentric load for shelf.
- Plan area supported by each main column
  = 1000 x 150 = 150,000mm2
- This area can be packed with 20 packages
- 75 x 100mm in plan i.e. 120 packages per shelf.

Hence mass per shelf = 6.5 x 120kg
and load per shelf = 6.5 x 120 x 0.0098
= 7.64kN per column.

STEP 2

- Determine load capacity of P1001 section.
- From P1001 Beams and Columns Table on page 24 for P1001 with height 500mm.
- Maximum column load = 94.09kN.

STEP 3

- Determine number of shelves.
- Divide column load capacity by the load per shelf.
  i.e. Number of shelves = 94.09 / 7.64 = 12.31
- Hence maximum number of shelves = 12
  i.e. max. height of shelving
  = 12 x 0.5 = 6.0 metres.

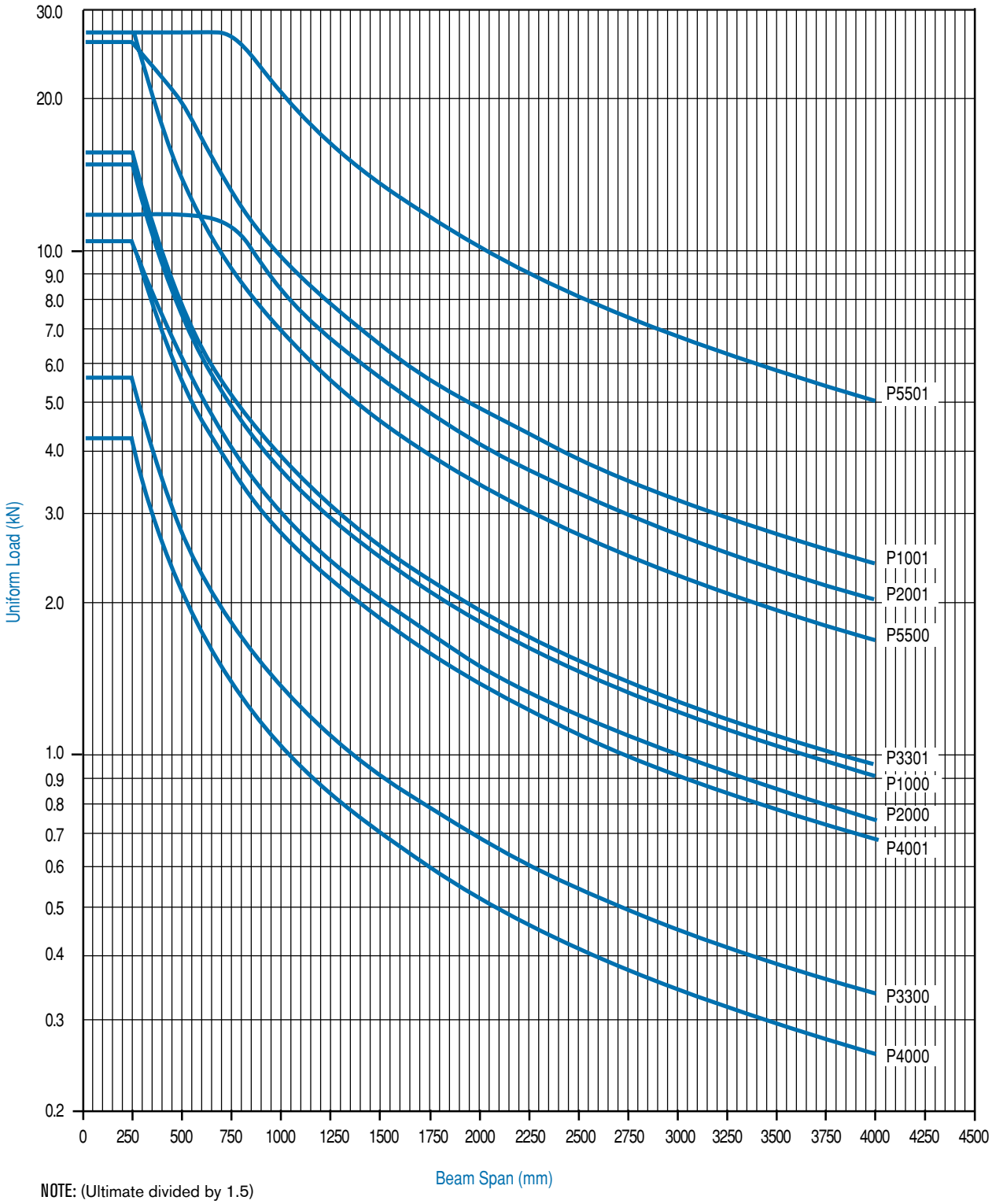
NOTE

If the bottoms of the columns bear onto P1000® bearers, which in turn are fixed to the ground, the load capacity of the column would be determined by the Recommended Bearing Load, (refer to Safe Bearing Loads in this Tab Section) of 34.25 kN.

The number of shelves would then be given by:
34.25 / 7.64 = 4.48
i.e. 4 shelves, totalling 2.0 metres high.

ENGINEERING DATA [LOAD CHART]

UNIFORM WORKING LOAD FOR SIMPLY SUPPORTED BEAMS



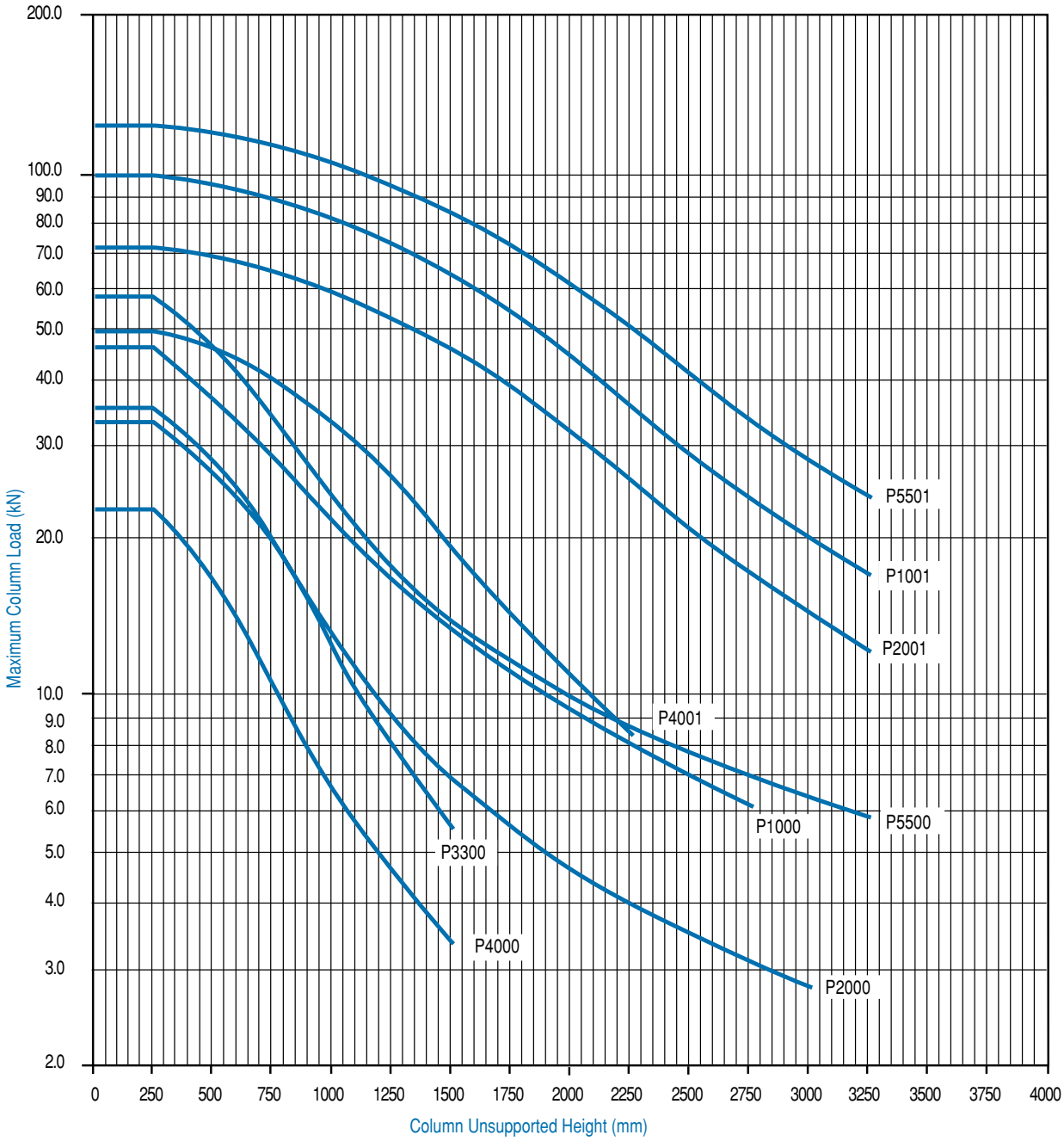
NOTE: (Ultimate divided by 1.5)

Note: (Ultimate divided by 1.5)

UNISTRUT®

ENGINEERING DATA [LOAD CHART]

UNIFORM WORKING COLUMN LOADS



NOTE: (Ultimate divided by 1.5)

Note: (Ultimate divided by 1.5)

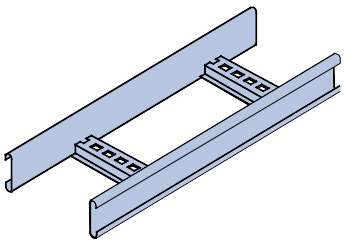
NEMA CABLE LADDER - GENERAL INFORMATION

Unistrut® also manufactures and markets the largest range of cable ladder systems for the Australasian Electrical Industry. This extensive range of cable ladder support systems includes a comprehensive range of steel and aluminium cable ladders load rated to NEMA Standard VE1. Steel cable ladders can be manufactured to side-rail in or side-rail out configuration depending on the project requirements.

In cases where extremely high corrosion resistance is required, stainless steel cable ladder systems are available by special order. All Unistrut® Cable Ladder systems are complemented with a complete range of accessories: Horizontal Bends, Internal and External Risers, Tees, Crosses, Reducers, Hinged Horizontal and Vertical Splices, Adjustable Risers, Covers, Divider Strip, Adjustable Cantilever Support Brackets and Cable Clamps.

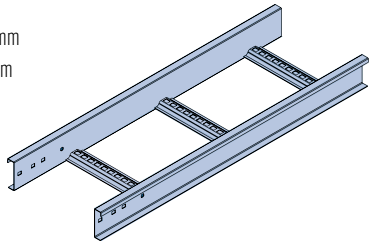
NEMA 12B - STEEL

Length: 4m / 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 44mm



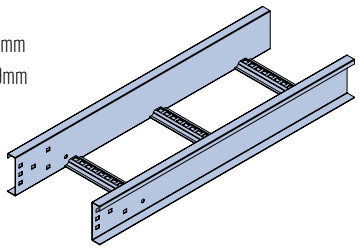
NEMA 16A - STEEL

Length 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 72mm



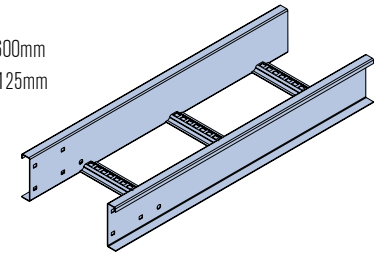
NEMA 20B - STEEL

Length: 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 109mm



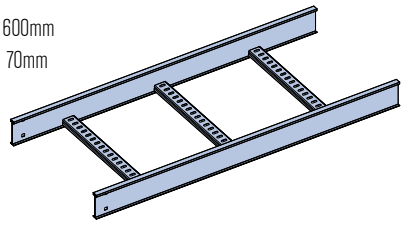
NEMA 20C - STEEL

Length 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 125mm



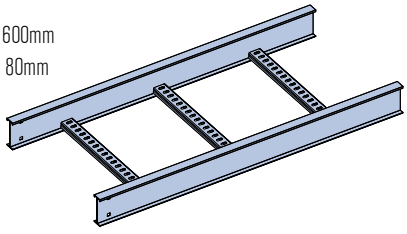
NEMA 12 - ALUMINIUM

Length: 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 70mm



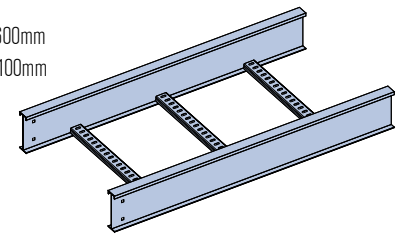
NEMA 16 - ALUMINIUM

Length: 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 80mm



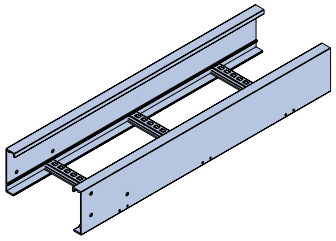
NEMA 20 - ALUMINIUM

Length: 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 100mm



NEMA 20C - ALUMINIUM

Length: 6m
Width: 150, 300, 450, 600mm
Cable Laying Depth: 125mm



UNISTRUT®

NEMA CABLE LADDER - GENERAL INFORMATION

The following notes are presented in order to assist users to achieve maximum economy and convenience with the installation of cable support systems. As each application will have its own particular conditions and requirements, it is recommended that the services of Unistrut® sales personnel and engineering team be engaged, especially in the early stages of any major project, so that the best overall result can be achieved.

STANDARD SIZES

Standard ladder widths are 150mm, 300mm, 450mm and 600mm, being the inside dimension between side-rails and is the maximum width available for carrying cables. Straight lengths are 6m long. Standard rung spacing on all systems is 300mm nominal.

Each of the Unistrut® systems includes a full range of standard accessories, with a nominal radius of 300mm, 450mm and 600mm, depending on the system load class. Non-standard ladder widths and accessory radii can be manufactured by special order. Non-standard products are non-returnable and non-refundable.

LOAD CAPACITY

a) Cable Load – Because the cable density remains fairly constant in a total installation, the widest ladders carry the most load, and each smaller width carries proportionately less load. However, the load carrying capacity of any class of ladder is independent of the width.

For details on how safe working loads are determined, refer to the NEMA VE 1 Standard and to the published load graphs for allowable loads of each ladder type.

b) Fixed Ladder Spans – It is commonly found that the building structure supporting the cable ladders will dictate the span, but it is still possible to exercise some choice. Where the cabling is heaviest, and this is not usually extensive, it is possible to use two 300mm wide ladders side by side instead of one 600mm wide, in order to select a lighter category of ladder for the total project. It is often inconvenient to use more than one ladder category in the same installation.

c) Varying the Spans – Where the structure does not dictate the ladder span, the heaviest cable runs could be supported more frequently, again enabling a lighter category of ladder to be chosen.

CABLE LAYING DEPTH

Each of the Unistrut® Cable Ladder has a different cable laying depth. It is a general rule that the shallower the ladder, the lower the cost per metre and the more frequently it needs support. It is sometimes found that the lightest, most economical ladders are excluded from consideration solely because a particular minimum cable laying depth is required and has been specified accordingly.

DEFLECTION

Cable ladders are essentially structural members designed to strength requirements only and are required to support pliable load elements. Therefore, the control of deflection is not necessary for durability or stability reasons and can probably only be justified on purely aesthetic grounds. If normally accepted deflection limits such as 1/360th of span are imposed, the resultant cable ladder will be grossly overdesigned and correspondingly expensive.

There may still be locations where the designer wishes to limit visual deflection. For example, prestige areas which may be open to public view or where the ladder is installed at eye level and deflection is accentuated. If these conditions exist, it is recommended that closer support spacings be used only in those important locations (to control visual deflection) and normal support spacings elsewhere (for economy). A maximum of 1/180th of span, when deflection is determined from the graphs published in this catalogue, should prove a satisfactory limit for visual deflection.

Otherwise, wherever overall economy is the principal consideration, no limits should be placed on deflection. This does not mean that deflection will be excessive but simply that a typically acceptable installation will result and optimum economy will be attained.

NEMA CABLE LADDER - GENERAL INFORMATION

MATERIAL SELECTION

Often the most difficult decision to be made is the selection of material, because it involves the most cost-sensitive of compromises. Material choice is directly related to service life and the longer the required life, the more expensive will be the materials. The cost of these materials also must be considered as an equation of initial investment versus maintenance costs and eventual replacement.

Because service conditions for cable ladders can vary over an enormously wide range, even within a single installation, it is impossible to write down any hard and fast rules on the subject of corrosion and expected lifespan. The following may be considered a guide as to what can be expected from the various materials and finishes currently available for cable support systems.

a) Galvanised Steel – Hot-dipped galvanised steel (after fabrication) is a common selection, as it is economical to purchase and suitable for most conditions of outdoor exposure. For indoor applications, or anywhere that is essentially free from moisture, galvanised ladders can be considered to have an indefinite life. That is, they should last as long as the plant, building, cabling or equipment which they service.

On a typical industrial or processing plant installation, exposed to weather, moisture and airborne industrial pollution, a basic life of approximately ten years can be expected. This is not to say that the ladder will be completely corroded in that time, but it is the probable life of the corrosion protection finish. Beyond that time, rapid decay can be expected and maintenance costs will increase substantially in order to keep the ladders serviceable.

The ten year life quoted here should be adjusted up or down depending on the circumstances. For example, if installed near the coast, the effect of salt laden air may shorten the expected life. Also galvanising is sensitive to some chemicals, especially sulphurous compounds, which may be intrinsic to plant operations where the ladder is installed. Correspondingly, a longer life will be expected in lighter industrial situations and if drier conditions exist.

b) Aluminium – Aluminium is also a popular choice of material for cable ladders. Most frequently it is selected because of its excellent performance in marine environments such as is found on wharves, coal loaders or similar Port Facilities where salt spray or salt laden atmosphere is present. Another reason for using aluminium is that it offers a long maintenance free life which is important in cases where access for future painting or repairs may be costly and difficult.

For any given load class or capacity, aluminium cable ladders are more expensive than their galvanised steel counterparts. Aluminium ladders can also be expected to have a greater deflection than an equivalent steel system. On the other hand, they are lighter, more readily handled and are easy to work with, resulting in faster installation and therefore lower installation cost.

Aluminium cable ladders can be expected to have a lifespan well in excess of twenty years in most industrial or marine applications. The exception would be in the case of a local concentration of chemicals which are detrimental to aluminium.

Alkaline compounds or fumes is a common example but if any doubt exists, the advice of aluminium suppliers should be sought.

c) Powder Coating or Paint Systems:

1. Coating on bare steel.

Painting over bare steel is not generally recommended for cable ladders. This comment applies to virtually all types of 'organic' or non-metallic coatings such as powder coatings, polyesters, PVC or nylon. Although these coatings are resistant to a wide variety of chemicals, their effectiveness on cable ladders can be limited. The non-sacrificial nature of paint films means that anywhere the coating is broken, corrosion is permitted to obtain a foot-hold. It is then able to spread rapidly underneath the paint, lifting it off and allowing corrosion to progress even further.

If it is decided to use a paint or powder coating on bare steel, then before commissioning, a compatible repair paint should be used to make good any places on the ladder installation that my have been damaged during erection.

2. Coating over galvanised Steel or Aluminium

Application of paint systems over either of the above materials is obviously a more expensive approach, but in some circumstances it is the only answer. If ladders are installed in close proximity to acid tanks, process vats, steam pipes or similar situations, there may be no metallic finish capable of giving satisfactory service life. This can be overcome by the application of a suitable paint or powder coating over galvanised or aluminium base materials. Naturally, in order to contain costs, the additional finish need only be applied to those sections of the work which are effectively exposed to the corrosive fumes.

d) Stainless Steel – Stainless Steel is sometimes considered as a material for cable ladders, usually where extremely high corrosion resistance, coupled with difficulty of servicing after installation and a high degree of reliability are essential requirements. An off-shore oil drilling platform may be one example where these conditions exist.

UNISTRUT®

NEMA CABLE LADDER - GENERAL INFORMATION

THE NEMA STANDARDS

NEMA STANDARD VE 1 is published by the National Electrical Manufacturers Association in the U.S.A. The Standard provides for the technical requirements of construction, performance and testing of cable ladder tray systems. It is regularly revised by the Association in order to keep pace with technology and the ever changing requirements of the manufacturers, contractors, consultants and other users throughout the electrical industry.

There is presently no Australasian Standard governing cable support systems. Despite the existence of other versions from places such as Canada and Europe, the NEMA VE 1 is by far the most widely accepted and the best known Standard for cable supports in Australia. In recognition of this situation, and in order to produce cable ladders of known quality and load capacity, Unistrut® has adopted a policy of constructing and rating its cable support products in accordance with the VE 1 Standard wherever possible. This policy is reflected in the name and various class designation numbers now used by Unistrut® which are drawn directly from the Standard.

For example NEMA Class 12B, 16A or 20B. Please note that in most cases Unistrut® ladders exceed the minimum strength requirements of each ladder class and therefore the published load graphs should be consulted in order to find the actual safe load capacity for each ladder type.

The more important aspects of the NEMA Standard VE 1 which are relevant to Unistrut® products are described as follows:

1. LOAD CAPACITY AND SAFETY FACTOR

Safe working loads are required to be determined as a result of testing a series of sample ladders. Tests must be conducted as simple spans (i.e. the worst case for loading) and over various span lengths with a safety factor of 1.5 against the collapse load of the ladder. In this way, loads are based on average performance of a number of samples and not just a single test or some calculations. The Standard does not permit working loads to be determined by calculation because it has proven to be too unreliable. Cable ladders are specialist products which are unconventional in the structural sense. That is, they have an unusual combination of slenderness, local buckling of thin material and overall lateral restraint elements which are not satisfactorily intepreted by normal design methods.

2. DEFLECTION

The NEMA Standard VE 1 does not specify any limitation on the deflection of cable support members. To do so, would inevitably result in an over-designed (and hence uneconomical) system. For further information on deflection please refer to notes under Guidelines for Ladder Selection.

3. ELECTRICAL CONTINUITY

The electrical resistance of connections is limited to a maximum of 330 micro-ohms. Representative samples of Unistrut® splice joints (both steel and aluminium) as well as the run to side-rail joint in aluminium ladders have been tested by an Independent Electrical Laboratory, and in all cases were found to comply with the NEMA Standard VE 1 specification.

EXPLANATION OF NEMA VE 1 LOAD/SPAN CLASS DESIGNATIONS

The NEMA VE 1 rating method is based on the Imperial system of measurement, as follows:

1. The numerals indicate the ladder span in feet.

8 = 8ft (2.4m)

12 = 12ft (3.6m)

16 = 16ft (4.8m)

20 = 20ft (6.0m)

2. The letter indicates the working load category.

A = 50lbs/lin.ft (75kg/m)

B = 75lbs/lin.ft (112kg/m

C = 100lbs/lin.ft (149kg/m)

Example: A 20B class ladder requires a minimum safe working load of 75lb/ft. over a 20ft.span. (ie.112kg/m over a 6.0m span)

NEMA CABLE LADDER SUPPORT SYSTEMS - PICTORIAL INDEX

STEEL CABLE LADDER

STEEL CABLE LADDER SHAPES AND ACCESSORIES

STEEL CABLE LADDER COVERS AND COVER FIXINGS

UNISTRUT®

NEMA CABLE LADDER SUPPORT SYSTEMS - PICTORIAL INDEX

ALUMINIUM CABLE LADDER

ALUMINIUM CABLE LADDER SHAPES AND ACCESSORIES

COVERS AND COVER FIXINGS

NEMA CABLE LADDER - STEEL

STEEL CABLE LADDER (SCL)

Galvanised steel cable ladders are the most popular format for cable support systems as they afford a good combination of cost, strength and service life. Unistrut® manufactures a complete range of NEMA Steel Cable Ladder systems. These systems provide a wide range of load and span combinations to suit the requirement of almost any installations.

Side-Rail Alternative - With the exception of Nema 12B, all other ladder systems are available with the side-rails turned outward (as standard), or inward to meet varying client specifications.

All ladder systems are load rated to NEMA Standard VE 1.

Stainless Steel - In cases where extremely high corrosion resistance is required, stainless steel cable ladder may be the only solution. All steel cable ladder systems are available in stainless steel on special order only. For load and deflection calculations, contact your local Unistrut® Service Centre.

SPLICE PLATES

16A, 20B and 20C Systems - Unistrut® steel splice plates are of a robust and practical design. The neat fitting flanges and bolted configuration of Unistrut® splices also reduce deflection at joints as the ladder is loaded. Unsightly dips or discontinuities along the ladder run are therefore avoided. Bolt holes in splice plates and ladder side-rails are elongated so that site misalignments as well as thermal expansion and contraction are catered for.

12B Systems - The 12B splice plate incorporates virtually all of the working features as described for the 16A, 20B and 20C ladders, but because the 12B is a lighter duty system, a simplified splice design is used.

Requiring only two fixing bolts and eliminating the need for matching holes in the side-rail, the 12B splice plate is convenient in use and extremely fast to install.

Notes

Electrical resistance across splice joints is less than the 330 micro-ohms limit specified by NEMA Standard VE 1.
To attain maximum working load of the system, the following recommendations should be adopted.

- *Do not splice single spans of ladder.*
- *Avoid splice joints in the vicinity of the end supports on continuous runs.*
- *Avoid splice joints directly over intermediate supports on continuous runs.*
- *Locate splice joints at the quarter span point between supports on continuous runs.*

If in doubt, please consult your Unistrut® Service Centre.

ACCESSORIES

All Unistrut® steel cable ladder systems are complemented by a full range of standardised fabricated accessories and fittings which are readily available. All are of a welded construction.

Built-in Splice - The principal feature of all Unistrut® cable ladder accessories is the 'built-in' splice plate. A shaped extension of the accessory side-rail permits direct connection to the straight ladder eliminating the need for a separate splice component.

The advantages of this method are:

- Minimised fixing hardware and components.
- When joining to a cut ladder, the accessory end acts as a convenient drill template for bolt holes.
- Simplifies pre-planning, quantity take-offs and ordering.
- No left-over components.
- Strong and rigid joint.
- Faster installation.

Accessories are attached with the same fasteners as used for straight splice plates.
Threaded fasteners are hot dipped galvanised.
Elongated slots allow easier fit-up and permit adjustments in alignment to be absorbed.

CONSTRUCTION

Unistrut® steel cable ladders are manufactured from steel to AS/NZS1594 "Hot-Rolled Steel Flat Products," which are cold roll formed to the desired shape. The roll forming process improves the mechanical properties of the metal whilst the special lipped strut section is designed to give the best possible combination of strength-to-weight, lateral rigidity and low deflection. The rungs are fillet welded to the side-rails which further improves the overall stability as well as strength of the finished product. The rung joint is so designed that galvanising can be effected to all areas.

Ladders, accessories and other galvanised components are hot-dipped galvanised to AS/NZS 4680 / BS EN ISO 1461 after fabrication.

UNISTRUT®

NEMA 12B CABLE LADDER - STEEL

TECHNICAL DATA

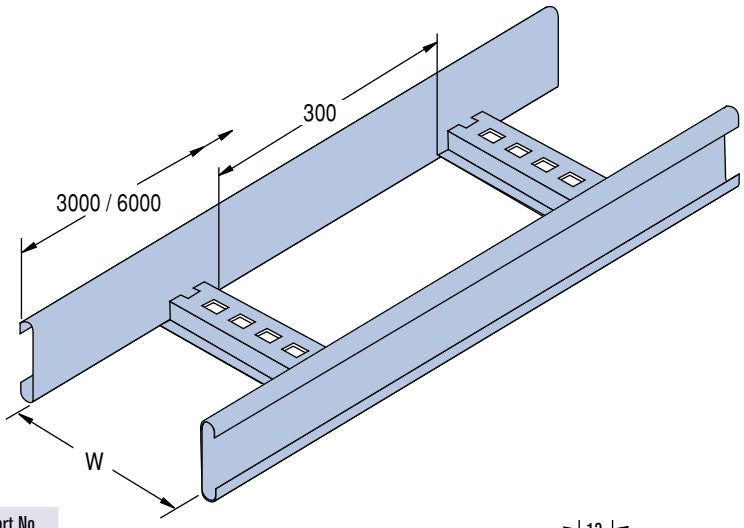
Cable Laying Depth: 44mm

Loading Data:
Basic Load Capacity
112kg/lin.m on 3.6m span

Length: 4m & 6m

Rung Spacing: 300mm nominal

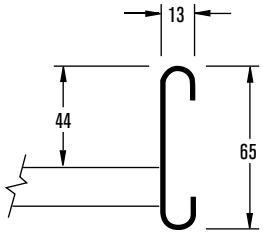
Standard Finish: Hot Dipped Galvanised
Also available in Stainless Steel
(3m length, part no. LUE)



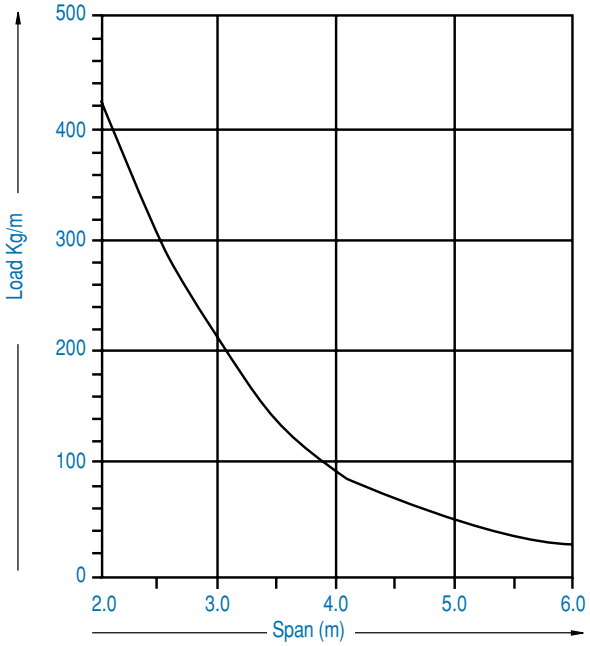
PARTS LIST

Dim "W"	Type	Part No HG 4m	Part No HG 6m	Part No 316 SS 3m	Part No 316 SS 6m
150	12B	LEE101	LEE1016	LUE1013	LUE1016
300	12B	LEE103	LEE1036	LUE1033	LUE1036
450	12B	LEE104	LEE1046	LUE1043	LUE1046
600	12B	LEE106	LEE1066	LUE1063	LUE1066

** Splice plate & fixing screws are not included (order separately).*

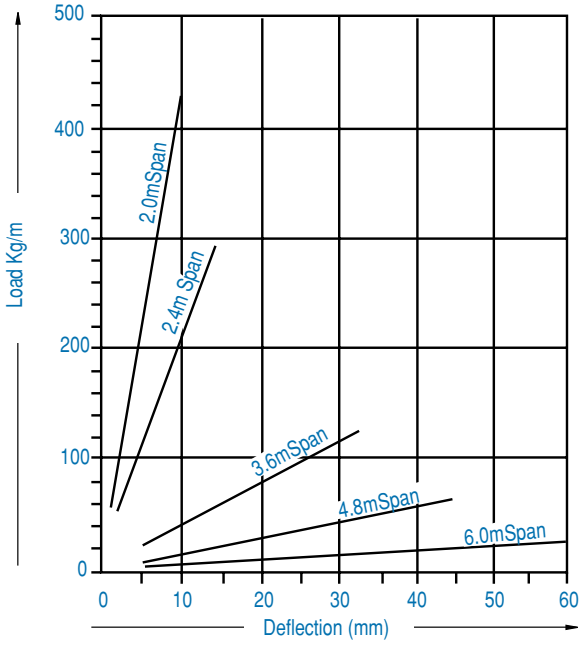


ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA Standard VE1 and verified by testing. Safety Factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

NEMA 16A CABLE LADDER - STEEL

TECHNICAL DATA

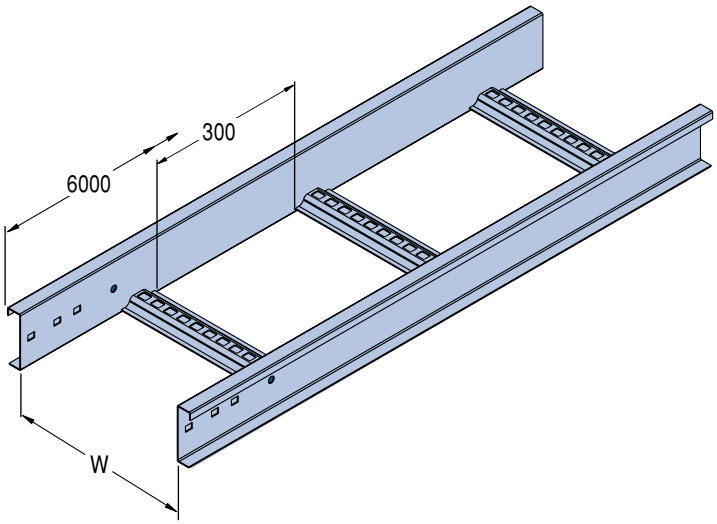
Cable Laying Depth: 72mm

Loading Data:
Basic Load Capacity
64kg/lin.m on 6m span
90kg/lin.m on 4.8m span
230kg/lin.m on 3m span

Length: 6m

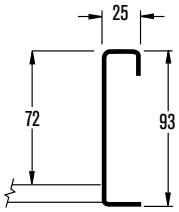
Rung Spacing: 300mm nominal

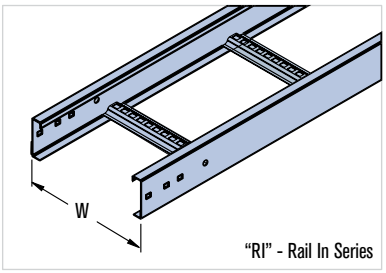
Standard Finish: Hot Dipped Galvanised
Also available in Stainless Steel Grade 316



PARTS LIST

Dim "W"	Type	Part No. HG	Part No. 316 SS
150	16A	LEG101	LUG101
300	16A	LEG103	LUG103
450	16A	LEG104	LUG104
600	16A	LEG106	LUG106
150	16A-RI	LEG101R	LUG101R
300	16A-RI	LEG103R	LUG103R
450	16A-RI	LEG104R	LUG104R
600	16A-RI	LEG106R	LUG106R

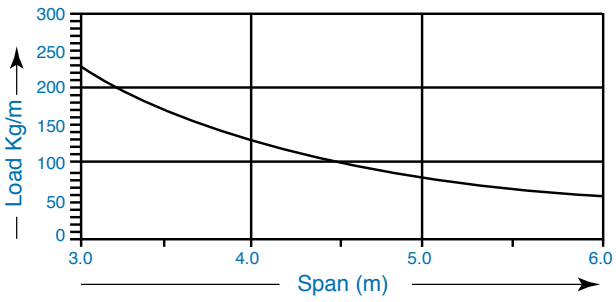




"RI" - Rail In Series

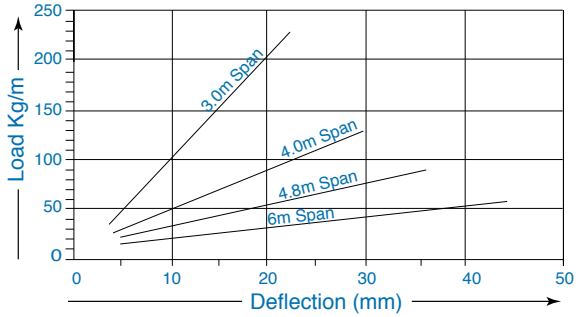
** Splice plate & fixing screws are not included (order separately).*

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA Standard VE1 and verified by testing. Safety Factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

UNISTRUT®

NEMA 20B CABLE LADDER - STEEL

TECHNICAL DATA

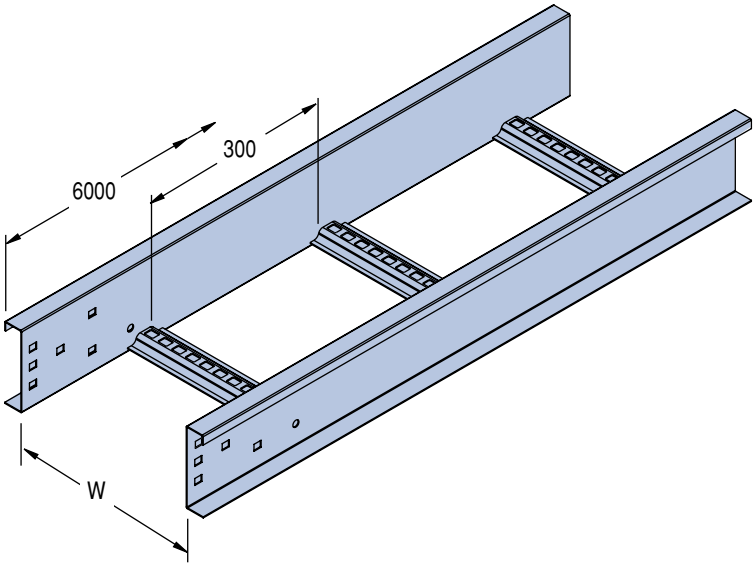
Cable Laying Depth: 109mm

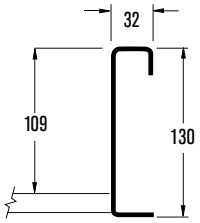
Loading Data:
Basic Load Capacity
136kg/lin.m on 6m span
544kg/lin.m on 3m span

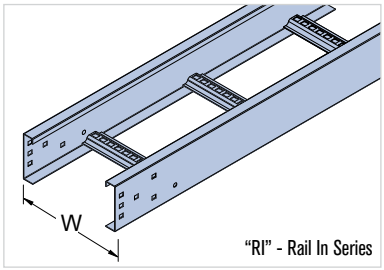
Length: 6m

Rung Spacing: 300mm nominal

Standard Finish: Hot Dipped Galvanised
Also available in Stainless Steel Grade 316





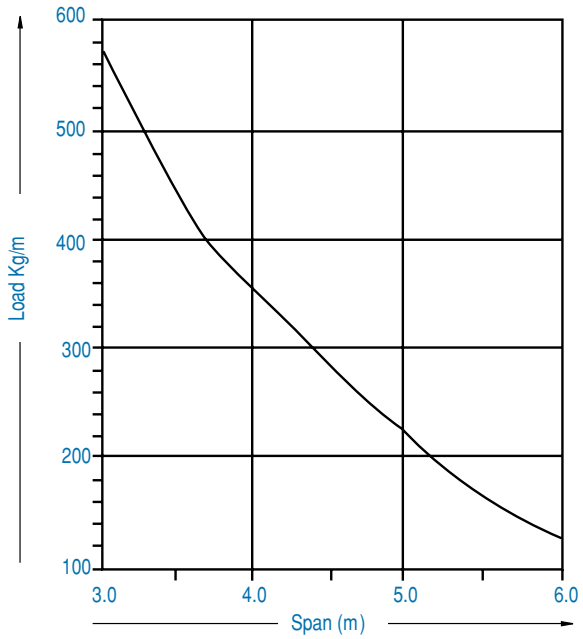


PARTS LIST

Dim "W"	Type	Part No. HG	Part No. 316 SS
150	20B	LEK101	LUK101
300	20B	LEK103	LUK103
450	20B	LEK104	LUK104
600	20B	LEK106	LUK106
150	20B-RI	LEK101R	LUK101R
300	20B-RI	LEK103R	LUK103R
450	20B-RI	LEK104R	LUK104R
600	20B-RI	LEK106R	LUK106R

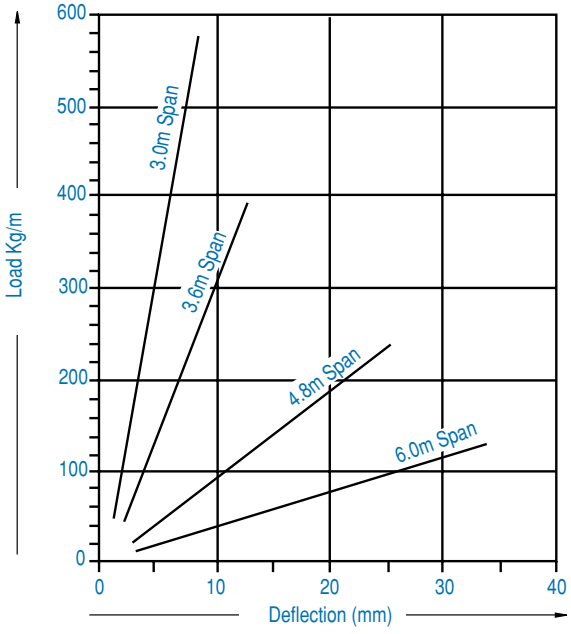
** Splice plate & fixing screws are not included (order separately).*

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA Standard VE1 and verified by testing. Safety Factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

NEMA 20C CABLE LADDER - STEEL

TECHNICAL DATA

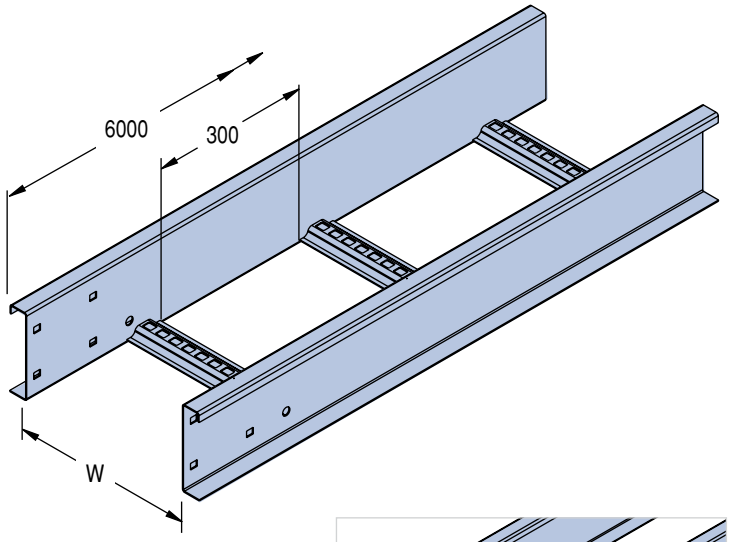
Cable Laying Depth: 125mm

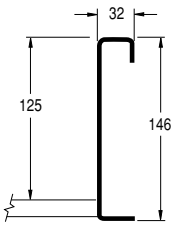
Loading Data:
Basic Load Capacity
168kg/lin.m on 6m span
653kg/lin.m on 3m span

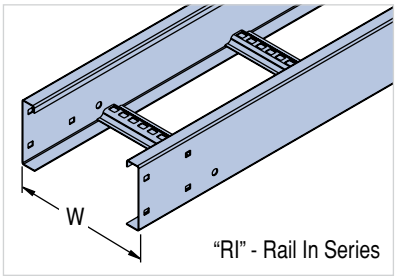
Length: 6m

Rung Spacing: 300mm nominal

Standard Finish: Hot Dipped Galvanised
Also available in Stainless Steel Grade 316





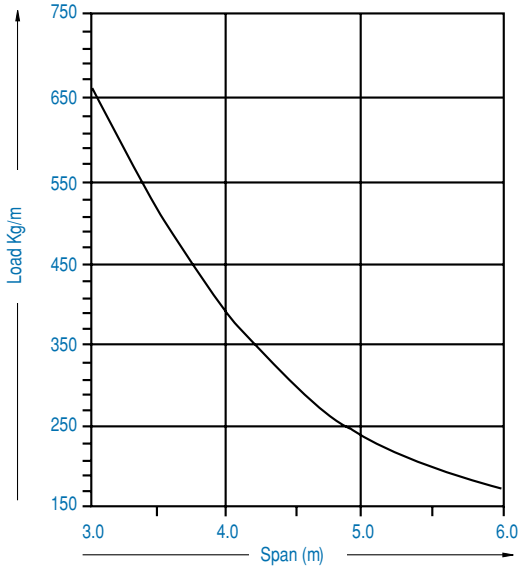


PARTS LIST

Dim "W"	Type	Part No. HG	Part No. 316 SS
150	20C	LEL101	LUL101
300	20C	LEL103	LUL103
450	20C	LEL104	LUL104
600	20C	LEL106	LUL106
150	20C-RI	LEL101R	LUL101R
300	20C-RI	LEL103R	LUL103R
450	20C-RI	LEL104R	LUL104R
600	20C-RI	LEL106R	LUL106R

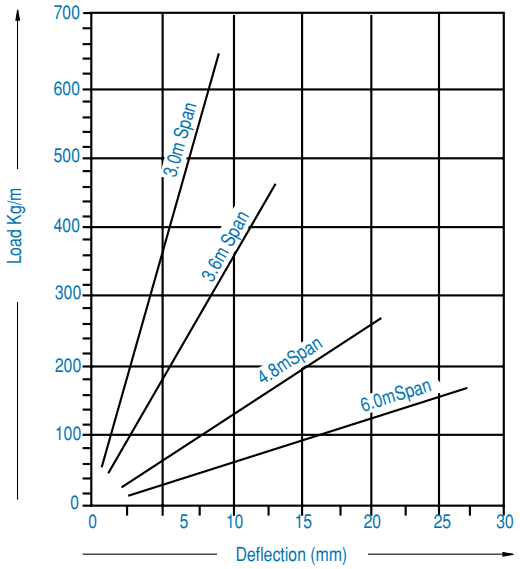
** Splice plate & fixing screws are not included (order separately).*

DEFLECTION GRAPH



Allowable loads are determined generally in accordance with NEMA Standard VE1 and verified by testing. Safety Factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



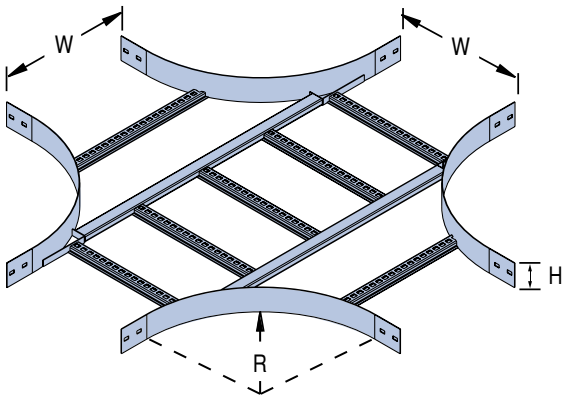
Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

UNISTRUT®

NEMA CABLE LADDER - CROSSES, BENDS, TEES - STEEL

CROSS

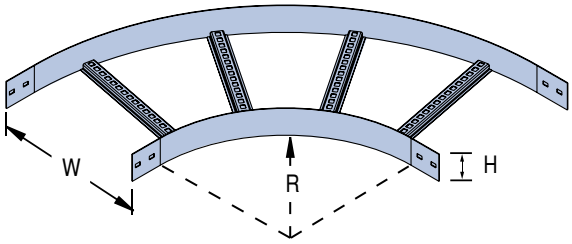
Type	Radius"R"	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	300	150	60	LEE181	LUE181
12B	300	300	60	LEE183	LUE183
12B	300	450	60	LEE184	LUE184
12B	300	600	60	LEE186	LUE186
16A	450	150	84	LEG181	LUG181
16A	450	300	84	LEG183	LUG183
16A	450	450	84	LEG184	LUG184
16A	450	600	84	LEG186	LUG186
20B	450	150	119	LEK181	LUK181
20B	450	300	119	LEK183	LUK183
20B	450	450	119	LEK184	LUK184
20B	450	600	119	LEK186	LUK186
20C	600	150	135	LEL181	LUL181
20C	600	300	135	LEL183	LUL183
20C	600	450	135	LEL184	LUL184
20C	600	600	135	LEL186	LUL186



HG & SS CROSS

FLAT BEND 90°

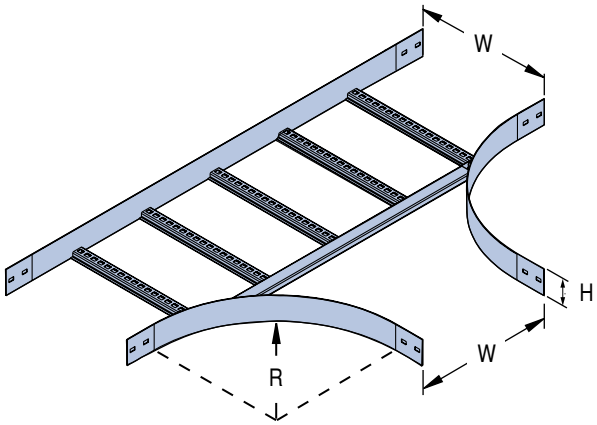
Type	Radius"R"	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	300	150	60	LEE111	LUE111
12B	300	300	60	LEE113	LUE113
12B	300	450	60	LEE114	LUE114
12B	300	600	60	LEE116	LUE116
16A	450	150	84	LEG111	LUG111
16A	450	300	84	LEG113	LUG113
16A	450	450	84	LEG114	LUG114
16A	450	600	84	LEG116	LUG116
20B	450	150	119	LEK111	LUK111
20B	450	300	119	LEK113	LUK113
20B	450	450	119	LEK114	LUK114
20B	450	600	119	LEK116	LUK116
20C	600	150	135	LEL111	LUL111
20C	600	300	135	LEL113	LUL113
20C	600	450	135	LEL114	LUL114
20C	600	600	135	LEL116	LUL116



HG & SS FLAT BEND 90°

TEE

Type	Radius"R"	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	300	150	60	LEE191	LUE191
12B	300	300	60	LEE193	LUE193
12B	300	450	60	LEE194	LUE194
12B	300	600	60	LEE196	LUE196
16A	450	150	84	LEG191	LUG191
16A	450	300	84	LEG193	LUG193
16A	450	450	84	LEG194	LUG194
16A	450	600	84	LEG196	LUG196
20B	450	150	119	LEK191	LUK191
20B	450	300	119	LEK193	LUK193
20B	450	450	119	LEK194	LUK194
20B	450	600	119	LEK196	LUK196
20C	600	150	135	LEL191	LUL191
20C	600	300	135	LEL193	LUL193
20C	600	450	135	LEL194	LUL194
20C	600	600	135	LEL196	LUL196



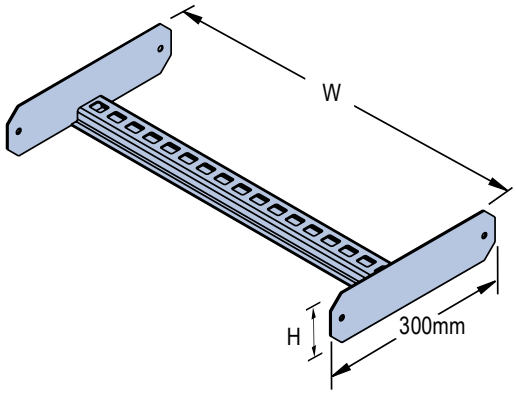
HG & SS TEE

** Fixing Hardware for all cable ladder systems must be ordered separately.*

NEMA CABLE LADDER - RISERS - STEEL

ADJUSTABLE RISER

Type	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	150	60	LEE141	LUE141
12B	300	60	LEE143	LUE143
12B	450	60	LEE144	LUE144
12B	600	60	LEE146	LUE146
16A	150	84	LEG141	LUG141
16A	300	84	LEG143	LUG143
16A	450	84	LEG144	LUG144
16A	600	84	LEG146	LUG146
20B	150	119	LEK141	LUK141
20B	300	119	LEK143	LUK143
20B	450	119	LEK144	LUK144
20B	600	119	LEK146	LUK146
20C	150	135	LEL141	LUL141
20C	300	135	LEL143	LUL143
20C	450	135	LEL144	LUL144
20C	600	135	LEL146	LUL146

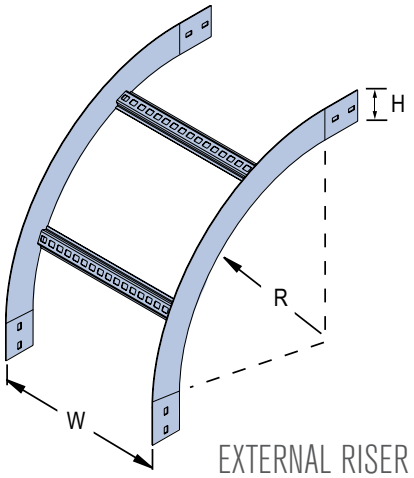


HG & SS

ADJUSTABLE RISER

EXTERNAL RISER 90°

Type	Radius"R"	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	300	150	60	LEE131	LUE131
12B	300	300	60	LEE133	LUE133
12B	300	450	60	LEE134	LUE134
12B	300	600	60	LEE136	LUE136
16A	450	150	84	LEG131	LUG131
16A	450	300	84	LEG133	LUG133
16A	450	450	84	LEG134	LUG134
16A	450	600	84	LEG136	LUG136
20B	450	150	119	LEK131	LUK131
20B	450	300	119	LEK133	LUK133
20B	450	450	119	LEK134	LUK134
20B	450	600	119	LEK136	LUK136
20C	600	150	135	LEL131	LUL131
20C	600	300	135	LEL133	LUL133
20C	600	450	135	LEL134	LUL134
20C	600	600	135	LEL136	LUL136

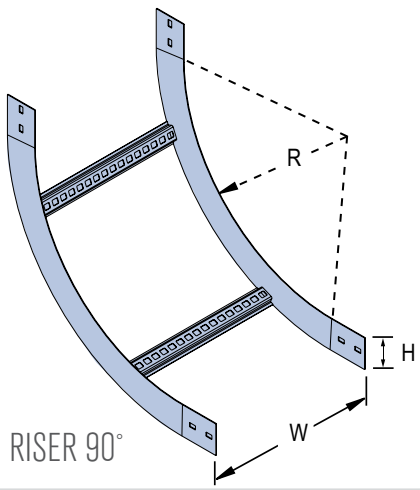


HG & SS

EXTERNAL RISER 90°

INTERNAL RISER 90°

Type	Radius"R"	Width"W"	Height"H"	Part No. HG	Part No. SS
12B	300	150	60	LEE121	LUE121
12B	300	300	60	LEE123	LUE123
12B	300	450	60	LEE124	LUE124
12B	300	600	60	LEE126	LUE126
16A	450	150	84	LEG121	LUG121
16A	450	300	84	LEG123	LUG123
16A	450	450	84	LEG124	LUG124
16A	450	600	84	LEG126	LUG126
20B	450	150	119	LEK121	LUK121
20B	450	300	119	LEK123	LUK123
20B	450	450	119	LEK124	LUK124
20B	450	600	119	LEK126	LUK126
20C	600	150	135	LEL121	LUL121
20C	600	300	135	LEL123	LUL123
20C	600	450	135	LEL124	LUL124
20C	600	600	135	LEL126	LUL126



HG & SS

INTERNAL RISER 90°

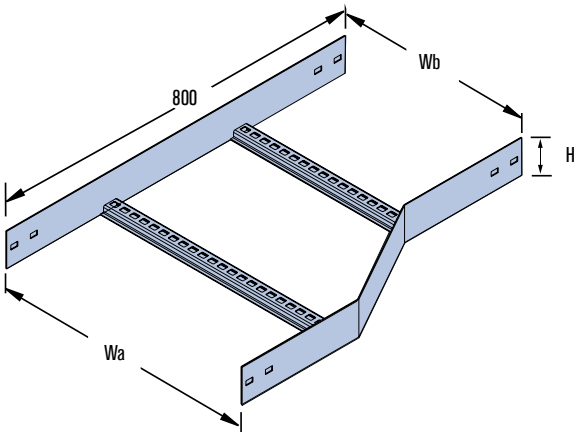
** Fixing Hardware for all cable ladder systems must be ordered separately.*

UNISTRUT®

NEMA CABLE LADDER - REDUCERS - STEEL

OFFSET REDUCER LH

Type	Width"Wa"	Width"Wb"	Height"H"	Part No. HG	Part No. SS
12B	600	450	60	LEE1764	LUE1764
12B	600	300	60	LEE1763	LUE1763
12B	600	150	60	LEE1761	LUE1761
12B	450	300	60	LEE1743	LUE1743
12B	450	150	60	LEE1741	LUE1741
12B	300	150	60	LEE1731	LUE1731
16A	600	450	84	LEG1764	LUG1764
16A	600	300	84	LEG1763	LUG1763
16A	600	150	84	LEG1761	LUG1761
16A	450	300	84	LEG1743	LUG1743
16A	450	150	84	LEG1741	LUG1741
16A	300	150	84	LEG1731	LUG1731
20B	600	450	119	LEK1764	LUK1764
20B	600	300	119	LEK1763	LUK1763
20B	600	150	119	LEK1761	LUK1761
20B	450	300	119	LEK1743	LUK1743
20B	450	150	119	LEK1741	LUK1741
20B	300	150	119	LEK1731	LUK1731
20C	600	450	135	LEL1764	LUL1764
20C	600	300	135	LEL1763	LUL1763
20C	600	150	135	LEL1761	LUL1761
20C	450	300	135	LEL1743	LUL1743
20C	450	150	135	LEL1741	LUL1741
20C	300	150	135	LEL1731	LUL1731

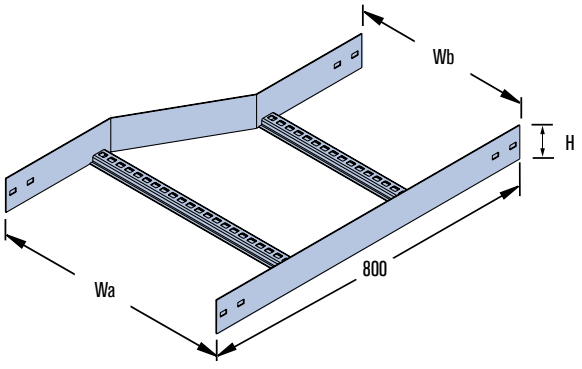


HG & SS

OFFSET REDUCER LH

OFFSET REDUCER RH

Type	Width"Wa"	Width"Wb"	Height"H"	Part No. HG	Part No. SS
12B	600	450	60	LEE1664	LUE1664
12B	600	300	60	LEE1663	LUE1663
12B	600	150	60	LEE1661	LUE1661
12B	450	300	60	LEE1643	LUE1643
12B	450	150	60	LEE1641	LUE1641
12B	300	150	60	LEE1631	LUE1631
16A	600	450	84	LEG1664	LUG1664
16A	600	300	84	LEG1663	LUG1663
16A	600	150	84	LEG1661	LUG1661
16A	450	300	84	LEG1643	LUG1643
16A	450	150	84	LEG1641	LUG1641
16A	300	150	84	LEG1631	LUG1631
20B	600	450	119	LEK1664	LUK1664
20B	600	300	119	LEK1663	LUK1663
20B	600	150	119	LEK1661	LUK1661
20B	450	300	119	LEK1643	LUK1643
20B	450	150	119	LEK1641	LUK1641
20B	300	150	119	LEK1631	LUK1631
20C	600	450	135	LEL1664	LUL1664
20C	600	300	135	LEL1663	LUL1663
20C	600	150	135	LEL1661	LUL1661
20C	450	300	135	LEL1643	LUL1643
20C	450	150	135	LEL1641	LUL1641
20C	300	150	135	LEL1631	LUL1631



HG & SS

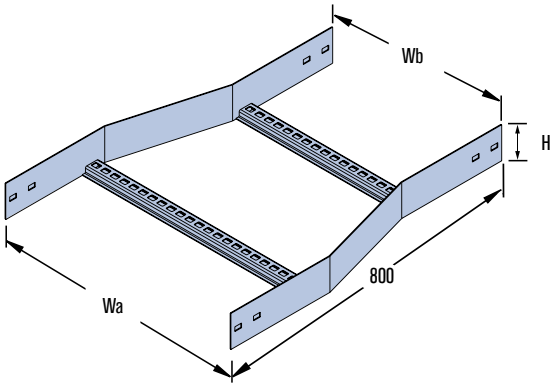
OFFSET REDUCER RH

** Fixing Hardware for all cable ladder systems must be ordered separately.*

NEMA CABLE LADDER - REDUCERS - STEEL

STRAIGHT REDUCER

Type	Width"Wa"	Width"Wb"	Height"H"	Part No. HG	Part No. SS
12B	600	450	60	LEE1564	LUE1564
12B	600	300	60	LEE1563	LUE1563
12B	600	150	60	LEE1561	LUE1561
12B	450	300	60	LEE1543	LUE1543
12B	450	150	60	LEE1541	LUE1541
12B	300	150	60	LEE1531	LUE1531
16A	600	450	84	LEG1564	LUG1564
16A	600	300	84	LEG1563	LUG1563
16A	600	150	84	LEG1561	LUG1561
16A	450	300	84	LEG1543	LUG1543
16A	450	150	84	LEG1541	LUG1541
16A	300	150	84	LEG1531	LUG1531
20B	600	450	119	LEK1564	LUK1564
20B	600	300	119	LEK1563	LUK1563
20B	600	150	119	LEK1561	LUK1561
20B	450	300	119	LEK1543	LUK1543
20B	450	150	119	LEK1541	LUK1541
20B	300	150	119	LEK1531	LUK1531
20C	600	450	135	LEL1564	LUL1564
20C	600	300	135	LEL1563	LUL1563
20C	600	150	135	LEL1561	LUL1561
20C	450	300	135	LEL1543	LUL1543
20C	450	150	135	LEL1541	LUL1541
20C	300	150	135	LEL1531	LUL1531

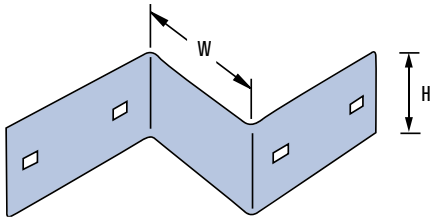


HG & SS

STRAIGHT REDUCER

REDUCER SPLICE

Type	Width"W "	Height"H"	Part No. HG	Part No. SS
12B	75	60	LEE380	LUE380
12B	150	60	LEE381	LUE381
12B	300	60	LEE383	LUE383
12B	450	60	LEE384	LUE384
16A	75	84	LEG380	LUG380
16A	150	84	LEG381	LUG381
16A	300	84	LEG383	LUG383
16A	450	84	LEG384	LUG384
20B	75	119	LEK380	LUK380
20B	150	119	LEK381	LUK381
20B	300	119	LEK383	LUK383
20B	450	119	LEK384	LUK384
20C	75	135	LEL380	LUL380
20C	150	135	LEL381	LUL381
20C	300	135	LEL383	LUL383
20C	450	135	LEL384	LUL384



HG & SS

REDUCER SPLICE

Reduction of ladder width is normally carried out using straight or offset reducers. Reducer Splice Plates are a flexible, cost effective alternative, which bolt directly to the ladder side-rails. Available for all steel cable ladder systems.

** Fixing Hardware for all cable ladder systems must be ordered separately.*

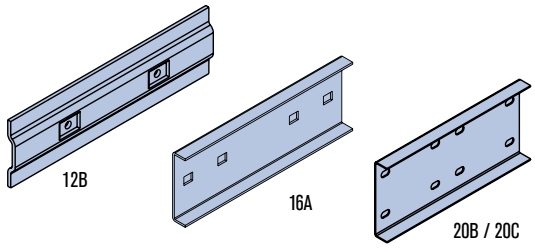
UNISTRUT®

NEMA STEEL CABLE LADDER - ACCESSORIES

SPLICE PLATES

Type	Part No. HG	Part No. SS
12B	LEE30	LUE30
16A	LEG30	LUG30
20B	LEK30	LUK30
20C	LEL30	LUL30

The neat fitting flanges and bolted configuration of Unistrut® splice plates also reduces deflection at joints as the ladder is loaded. Unsightly dips or discontinuites along the ladder run are therefore avoided. Bolt holes in splice plates and ladder side-rails are elongated so that site misalignments as well as thermal expansion and contraction are catered for.

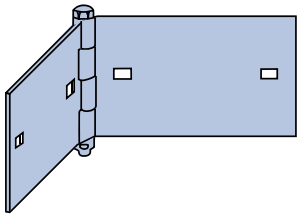


HG & SS — SPLICE PLATES

HINGED HORIZONTAL SPLICE

Type	Part No. HG	Part No. SS
12B	LEE35	LUE35
16A	LEG35	LUG35
20B	LEK35	LUK35
20C	LEL35	LUL35

A fast and economical method of changing ladder direction where exact site dimensions must be met. Especially suitable where the angle is less that 45°, or larger angles where the cable bending radius is not important. Also provides a flexible alternative to standard accessory sizes and radii. Suits all Unistrut® steel cable ladder systems.

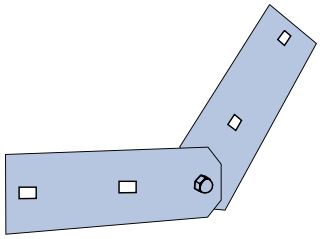


HG & SS — HINGED HORIZONTAL SPLICE

HINGED VERTICAL SPLICE

Type	Part No. HG	Part No. SS
12B	LEE36	LUE36
16A	LEG36	LUG36
20B	LEK36	LUK36
20C	LEL36	LUL36

Ideal for making changes in vertical level or direction. Easily adapts to exact site dimensions which may otherwise be difficult to achieve with fixed risers. Cables form their own bending radius spanning between adjacent end-rungs. Also used to form adjustable risers providing flexibility to adjust to any site restrictions.

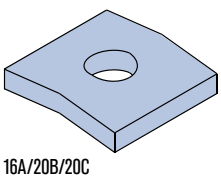


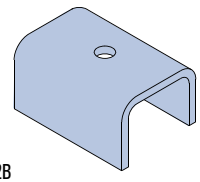
HG & SS — HINGED VERTICAL SPLICE

HOLD DOWN BRACKET

Type	Part No. HG	Part No. SS
12B	LEE50	LUE50
16A	LEG50	LUG50
20B	LEG50	LUG50
20C	LEG50	LUG50

Hold Down Brackets provide rigid clamping for all steel cable ladder systems. The Brackets can be positioned at any point along the ladder length.



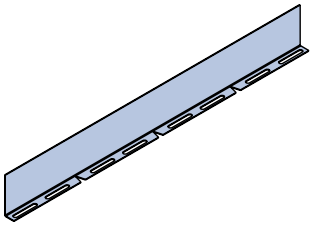


HG & SS — HOLD DOWN BRACKET

DIVIDER STRIP

Type	Part No. HG	Part No. SS
12B	LEE55	LUE55
16A	LEM55	LUM55
20B	LEM55	LUM55
20C	LEM55	LUM55

Divider strip is used to separate cables of different voltages or circuits.
The notched base permits forming to the required shape.



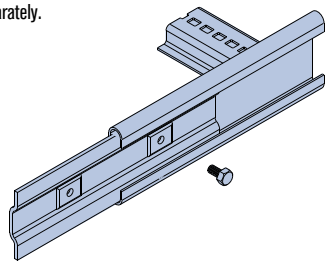
HG & SS — DIVIDER STRIP

** Fixing Hardware for all cable ladder systems must be ordered separately.*

NEMA STEEL CABLE LADDER - ACCESSORIES

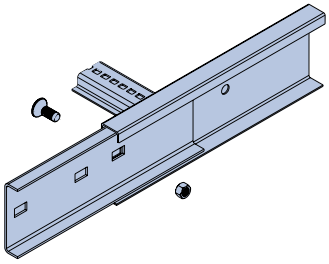
12B SPLICE PLATE

Screws to be ordered separately.



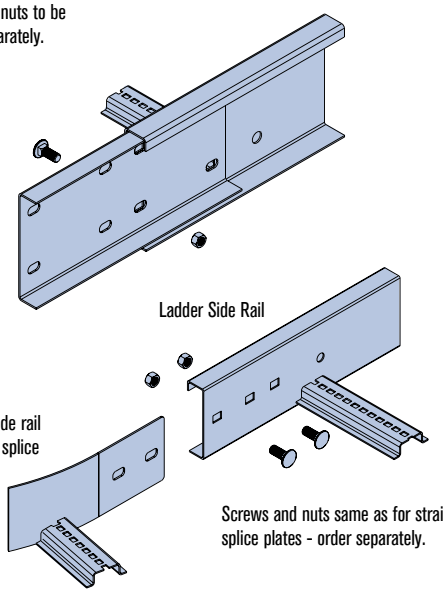
16A SPLICE PLATE

Screws and nuts to be ordered separately.



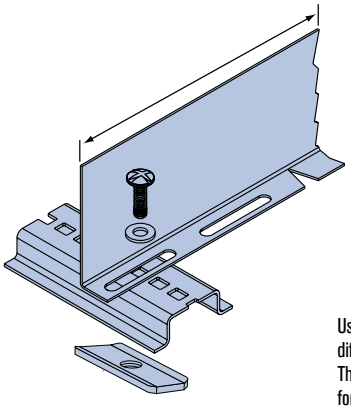
20B / 20C SPLICE PLATE

Screws and nuts to be ordered separately.



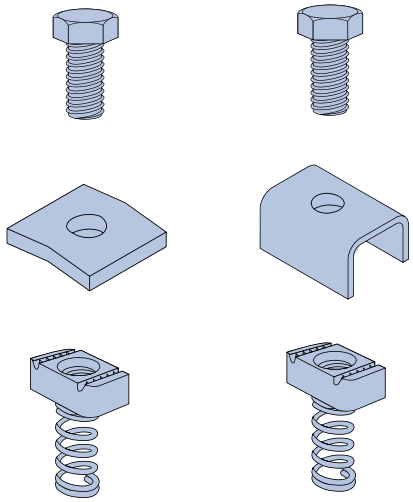
Screws and nuts same as for straight splice plates - order separately.

DIVIDER STRIP



Used to separate cables of different voltages or circuits. The notched base permits forming to the required shape. Fix at 1m centres.

HOLD DOWN BRACKETS



16A, 20B & 20C

12B

Can be positioned at any point along ladder length. Brackets provide rigid clamping for all steel systems

UNISTRUT®

NEMA STEEL CABLE LADDER - FASTENERS

Splice Plates–Straight, Hinged Horizontal & Hinged Vertical	Description	Part No. HG	Part No. SS	Quantity Required
12B	SCL 12B Splice Screw	LEE42	LUE42	2 Per Splice Plate
16A, 16A-RI	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	4 Per Splice Plate 4 Per Splice Plate
20B, 20B-RI, 20C, 20C-RI	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	8 Per Splice Plate 8 Per Splice Plate

Self Splicing Accessories	Description	Part No. HG	Part No. SS	Quantity Required
12B Bend, Riser or Reducer	SCL 12B Splice Screw	LEE42	LUE42	4 per Bend, Riser or Reducer
12B Tee	SCL 12B Splice Screw	LEE42	LUE42	6 per Tee
12B Cross	SCL 12B Splice Screw	LEE42	LUE42	8 per Cross
16A, 16A-RI, 20B, 20B-RI Bend, Riser or Reducer	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	8 per Bend, Riser or Reducer 8 per Bend, Riser or Reducer
16A, 16A-RI, 20B, 20B-RI Tee	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	12 per Tee 12 per Tee
16A, 16A-RI, 20B, 20B-RI Tee	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	16 per Cross 16 per Cross
20C, 20C-RI Bend, Riser or Reducer	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	16 per Bend, Riser or Reducer 16 per Bend, Riser or Reducer
20C, 20C-RI Tee	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	24 per Tee 24 per Tee
20C, 20C-RI Cross	SCL 16A/20B/20C Splice Bolt SCL 16A/20B/20C Splice Nut	LEG40 LEG41	LUG40 LUG41	32 per Cross 32 per Cross

Divider Strip	Description	Part No. HG	Part No. SS	Quantity Required
12B, 16A, 20B, 20C	Divider Strip Screw	PHS0620MG	PHS0620SS	3 per Length
12B, 16A, 20B, 20C	Divider Strip Washer	FW06H	FW06SS	3 per Length
12B, 16A, 20B, 20C	Divider Strip Nut	P3016MG	P3016SS	3 per Length

Hold Down Bracket	Description	Part No. HG	Part No. SS	Quantity Required
12B	Hold Down Screw	LEE52	LUE52	1 per Bracket
12B	Hold Down Nut	P1007H	P1007SS	1 per Bracket
16A, 20B, 20C	Hold Down Screw	HHS1230H	HHS1230SS	1 per Bracket
16A, 20B, 20C	Hold Down Nut	P1010H	P1013SS	1 per Bracket

Fixing hardware for all Cable Ladder Systems must be ordered separately.

CABLE LADDER AND CABLE TRAY COVERS - STEEL

LADDER AND TRAY COVERS

Covers are normally specified where protecton is required:

1. To safeguard against damage to cable and insulation from falling objects–dropped tools, discarded cigarettes, sparks or solid materials.
2. Covers protect cable insulation and fixings (plastic ties etc.) from harmful effects of ultra-violet light or weathering deterioration.
3. In areas where high levels of airborne particles are present, covers prevent accumulation of dust or other debris on cables, which may cause heat build up, fire hazards or absorb moisture, which may shorten life of installation.

AVAILABILITY

Standard covers are available for all Unistrut® cable ladder systems and UNI-TRAY® systems. Standard length is 3 meters. Flat, peaked or ventilated covers are available by special order.

MATERIAL

Hot-dip galvanised steel sheet to AS1397.

STEEL STANDARD COVERS

Type	Nominal Width	Width	Part Number
UT3/UT5 & 12B	150	176	LEE6013H
UT3/UT5 & 12B	300	326	LEE6033H
UT3/UT5 & 12B	450	476	LEE6043H
UT3/UT5 & 12B	600	626	LEE6063H
16A	150	201	LEG6013H
16A	300	351	LEG6033H
16A	450	501	LEG6043H
16A	600	651	LEG6063H
20B/20C	150	215	LEK6013H
20B/20C	300	365	LEK6033H
20B/20C	450	515	LEK6043H
20B/20C	600	665	LEK6063H
12B/16A/20B & 20C RAIL IN	150	154	LEM6013H
12B/16A/20B & 20C RAIL IN	300	304	LEM6033H
12B/16A/20B & 20C RAIL IN	450	454	LEM6043H
12B/16A/20B & 20C RAIL IN	600	604	LEM6063H

SPECIAL ORDER STYLES

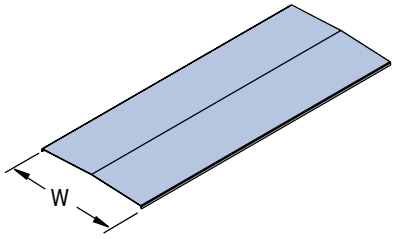
Style	Part Number
Flat–F	eg. LE….3HF
Vented–V	eg. LE….3HV
15° Peaked–P1	eg. LE….3P1H
30° Peaked–P3	eg. LE….3P3H
15° Peaked & Vented–P1V	eg. LE….3P1VH
30° Peaked & Vented–P3V	eg. LE….3P3VH

OTHER FINISHES

Also available in 316 Stainless Steel as a special order.

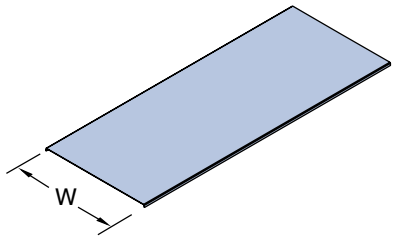
Part Number example L**U**….3

Stainless steel part numbers are similar to the Hot dipped galvanised part numbers, but replacing the second letter of each part number with "U" and removing the H.



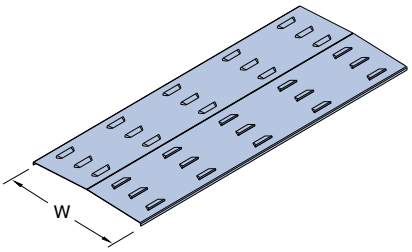
STANDARD COVERS

The most common type used. The 3-5° crease allows for maximum protection to cables. The standard cover has a 3-5° crease for added rigidity and mositure run-off.



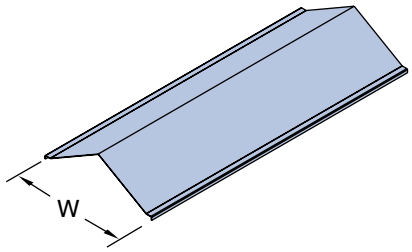
FLAT COVERS

Most commonly used where there is space restrictions and the use of standard and peaked covers is not practical.



VENTILATED COVERS

Should be used wherever reasonable protection for cables is required and where there is also a primary requirement to allow the escape of heat generated by cable.



PEAKED COVERS

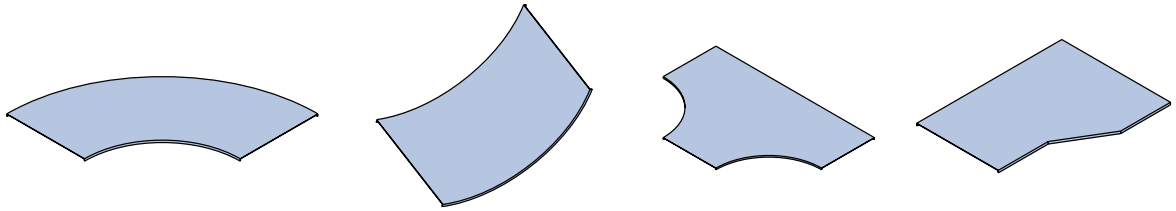
Used in very dusty situations where the self cleaning effect of slopping sides prevents excessive dust accumulations. The large air-space above the cables also assists with the dissipation of heat.

UNISTRUT®

CABLE LADDER AND CABLE TRAY COVERS - STEEL

ACCESSORY COVERS–HOT DIPPED GALVANISED

Flat covers are available to match shaped accessories for all Unistrut® steel Cable Ladder Systems.



STEEL SHAPE COVERS FLAT - HOT DIPPED GALVANISED

Type	Shape	Part Number
12B/16A/20B & 20C	BEND	LEM61*#H
12B/16A/20B & 20C	INTERNAL RISER	LEM62*#H
12B	EXTERNAL RISER	LEE63*R#H
16A	EXTERNAL RISER	LEG63*R#H
20B	EXTERNAL RISER	LEK63*R#H
20C	EXTERNAL RISER	LEL63*R#H
12B/16A/20B & 20C	CROSS	LEM68*#H
12B/16A/20B & 20C	TEE	LEM69*#H
12B/16A/20B & 20C	STRAIGHT REDUCER	LEM65**H
12B/16A/20B & 20C	RIGHT HAND REDUCER	LEM66**H
12B/16A/20B & 20C	LEFT HAND REDUCER	LEM67**H

* Shape Width	# Shape Radius
150mm = "1"	300mm = "3"
300mm = "3"	450mm = "4"
450mm = "4"	600mm = "6"
600mm = "6"	900mm = "9"

Reducer Covers– part numbers for reducer covers are made up of two widths. The first width being the widest and the second being the smallest. EG. A Right Hand Reducer to reduce from 450mm to 150mm will have the part number LEM6641H.

SPECIAL ORDER STYLES

Style	Part Number
Flat–F	eg. LE….3HF
Vented–V	eg. LE….3HV
15° Peaked–P1	eg. LE….3P1H
30° Peaked–P3	eg. LE….3P3H
15° Peaked & Vented–P1V	eg. LE….3P1VH
30° Peaked & Vented–P3V	eg. LE….3P3VH

OTHER FINISHES

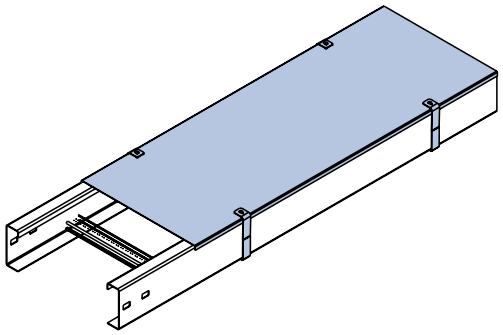
Also available in 316 Stainless Steel as a special order.

Part Number example L**U**….3

Stainless steel par numbers are similar to the Hot dipped galvanised part numbers, but replacing the second letter of each part number with "U" and removing the H.

CABLE LADDER COVER FIXINGS

Covers are retained in position by means of cover clips as illustrated. Manufactured from high strength stainless steel, these unique clips, which have no thread components to freeze up are quickly installed and are also easily removed or replaced at a later date. One size of clip for each ladder system suits both ladder and accessory covers.



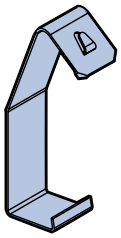
RECOMMENDED SPACING FOR COVER CLIPS

Service conditions	Design Wind velocity, Vz (AS1170)	Ladder Width, mm			
		600	450	300	150
Up to and including exposed external locations	50m/s	1.2m	1.2m	1.2m	1.2m
Cyclonic Areas	65m/s	0.6m	0.8m	1.2m	1.2m

CABLE LADDER AND CABLE TRAY COVERS - STEEL

SS CLIPS

Type	Part No.
12B	LEE90
16A	LEG90
20B	LEK90
20C	LEL90



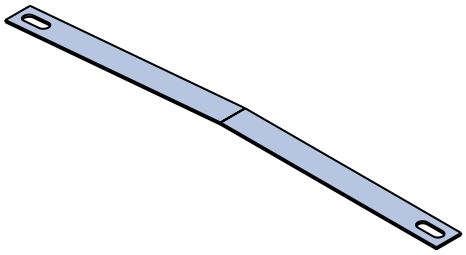
HDG CLAMPS

Type	Part No.
12B	LEE91
16A	LEG91
20B	LEK91
20C	LEL91

COVER STRAPS [HG]

Type	Description	Part No. HG
16A	150	LEG931
16A	300	LEG933
16A	450	LEG934
16A	600	LEG936
20B/20C	150	LEK931
20B/20C	300	LEK933
20B/20C	450	LEK934
20B/20C	600	LEK936

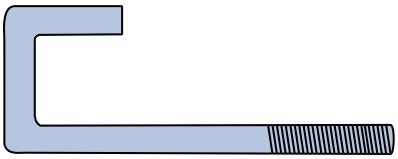
Note: Also available to suit peaked cover.



HOOK BOLT & WING NUT [MG]

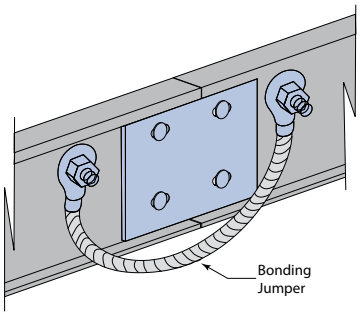
Type	Description	Part No. HG
16A	16A Hook Bolt	LEG8873
20B	20B Hook Bolt	LEK8873
20C	20C Hook Bolt	LEL8873
16A/20B/20C	Wing Nut M10	WN10MG

Note: two pair of hook bolt and wing nuts are used to attach the cover straps. Hook bolt and wing nuts are sold separately.



EARTH KIT

Part Number: LEMES35K
35mm² 440L with M10 Lug.
Supplied with M10 fasteners for installation



UNISTRUT®

NEMA CABLE LADDER - ALUMINIUM

ALUMINIUM CABLE LADDER (ACL)

Wherever severe corrosion conditions are present, or a long maintenance free life is required, Unistrut® aluminium cable ladder systems are the obvious choice.

Unistrut® manufactures a complete range of Aluminium cable ladder systems that conform to NEMA VE1. These systems provide a wide range of load and span combinations to suit the requirements of almost any installation.

Most frequently, aluminium cable ladders are selected because of their excellent performance in marine environments where salt spray or salt laden atmosphere is present. Applications such as wharves, coal loader conveyors or similar port facilities as well as coal mines, smelters, chemical processing plants and refineries are all typical users of aluminium cable ladders.

SPLICE PLATES

The unique Unistrut® aluminium system splice plate is close fitting so that it is retained neatly and firmly on the cable ladder side rail.The splice design also permits up to 10mm of expansion and contraction movement at each joint – an important consideration with aluminium cable ladders – eliminates the need to place special expansion splices at predetermined intervals. The installation procedure for the splice connection is fast and simple.

Notes

To attain maximum working load of the system, the following recommendations should be adopted:

- *Do not splice single spans of ladder.*
- *Avoid splice joints in the vicinity of the end supports on continuous runs.*
- *Avoid splice joints directly over intermediate supports on continuous runs.*
- *Locate splice joints at the quarter span point between supports on continuous runs.*

If in doubt, please consult your Unistrut® Service Centre.

ACCESSORIES

All aluminium cable ladder systems are complemented by a full range of standardised fabricated accessories and fittings which are readily available.

BUILT-IN SPLICE

The principal feature of all Unistrut® cable ladder accessories is the 'built-in' plate. An extension of the accessory side-rail permits direct connection to the straight ladder, eliminating the need for a separate splice component.

The advantages of this method are:

- Minimised fixing hardware and components.
- When joining to a cut ladder, the accessory end acts as a convenient drill template for bolt holes.
- Simplified pre-planning, quantity take-offs and ordering.
- No left-over components.
- Strong and rigid joint.
- Faster installation.

Accessories are attached with the same fasteners as used for straight splice plates.
Elongated slots allow easier fit-up and permit adjustments in alignment to be absorbed.

HOLD-DOWN BRACKETS

The general purpose hold-down bracket can be positioned at any point along ladder length, even in the situation where a rung and support member coincide. The bracket provides a large bearing area for the side-rail and permits free expansion movement to occur.

For side mounted ladders, or where rigid fixing of ladder is required, the rigid clamping bracket can be used.

CONSTRUCTION

Unistrut® aluminium cable ladder systems are manufactured from high strength alloy 6063-T6 for all extruded components to AS / NZS1866 and 5005 for sheet or plate components to AS / NZS1734. These alloys are suitable for marine applications and offer excellent all round corrosion resistance. All fasteners are made from 300 series grade of stainless steel for optimum corrosion resistance.

The rungs are fillet welded to the side rails, which further improves the overall stability as well as strength of finished product.

NEMA 12 CABLE LADDER - ALUMINIUM

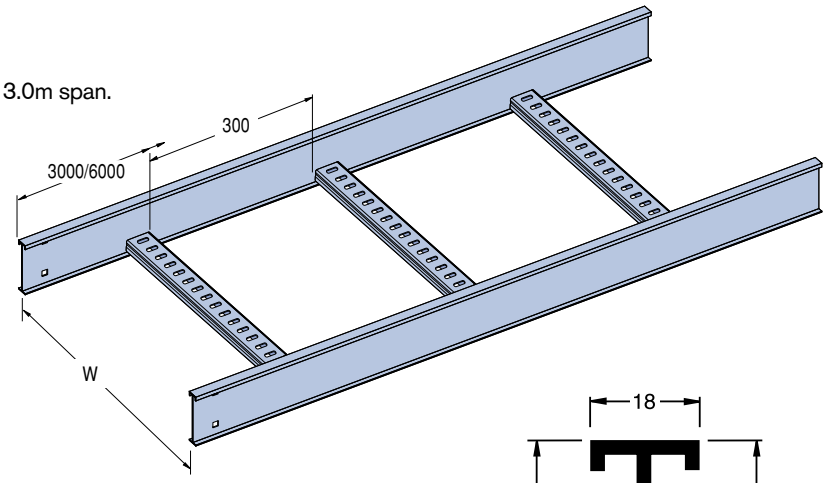
TECHNICAL DATA

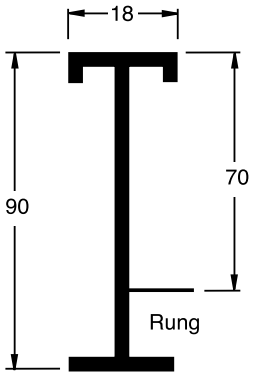
Cable Depth: 70mm

Loading Data:
Basic Load Capacity = 140kgs/lin.m on 3.0m span.

Length: 6m

Rung Spacing: 300mm nominal

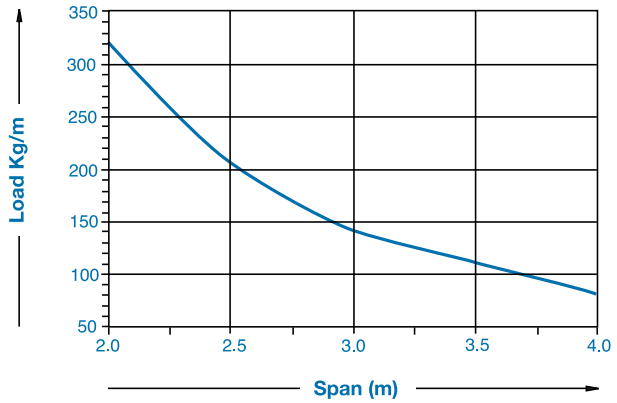




PARTS LIST

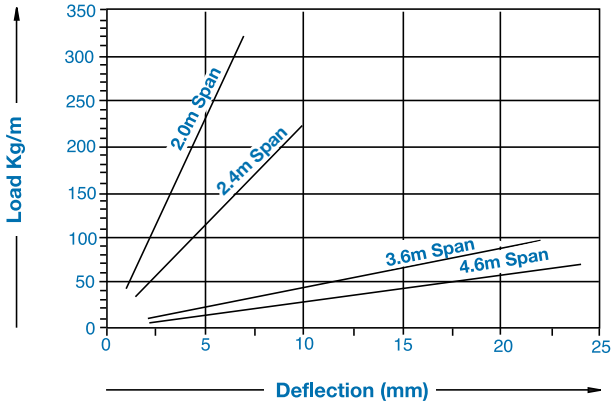
Dim "W"	Type	Part No.
150	12	AL12 150
300	12	AL12 300
450	12	AL12 450
600	12	AL12 600

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA standard VE 1 and verified by testing. Safety factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

UNISTRUT®

NEMA 16 CABLE LADDER - ALUMINIUM

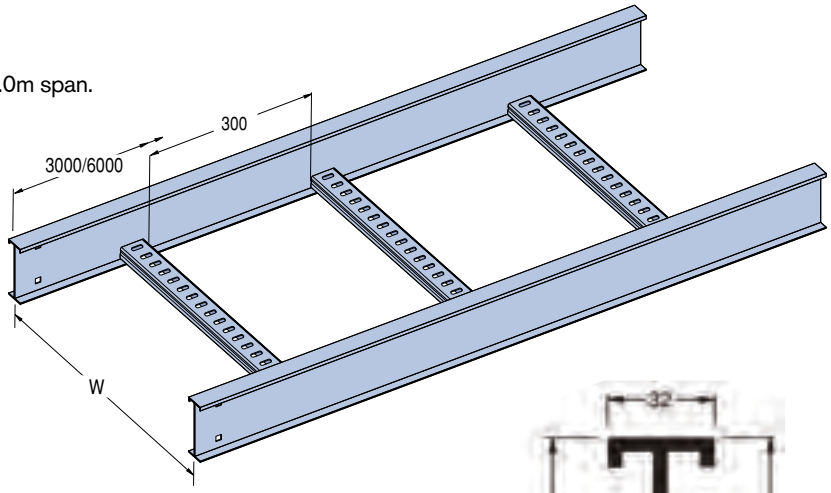
TECHNICAL DATA

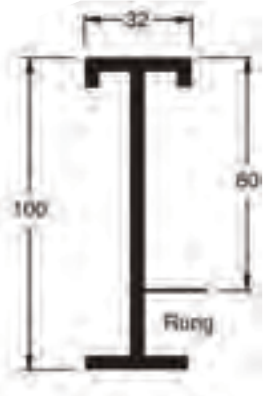
Cable Depth: 80mm

Loading Data:
Basic Load Capacity = 225 kgs/lin.m on 3.0m span.

Length: 6m

Rung Spacing: 300mm nominal

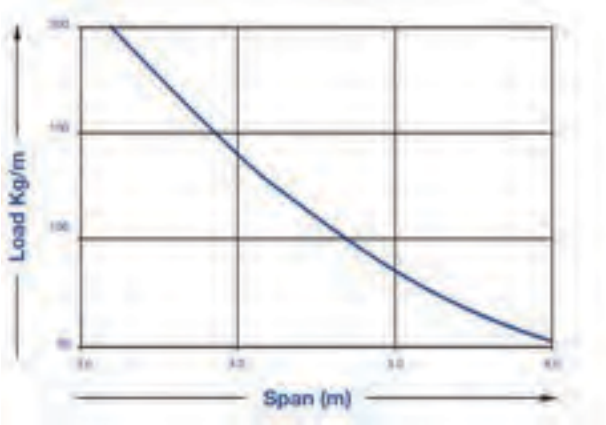




PARTS LIST

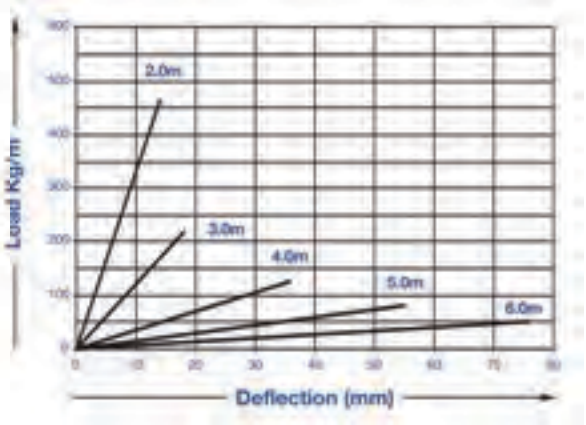
Dim "W"	Type	Part No.
150	16	AL16 150
300	16	AL16 300
450	16	AL16 450
600	16	AL16 600

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA standard VE 1 and verified by testing. Safety factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

NEMA 20 CABLE LADDER - ALUMINIUM

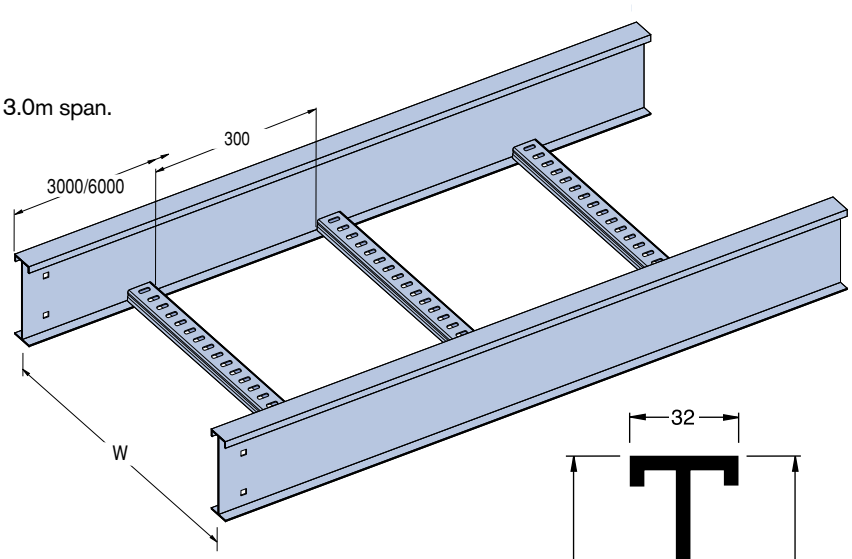
TECHNICAL DATA

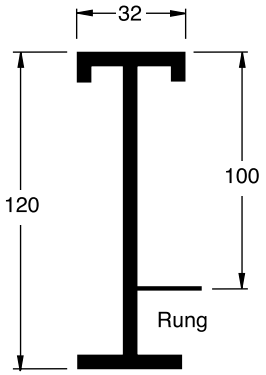
Cable Depth: 100mm

Loading Data:
Basic Load Capacity = 370 kgs/lin.m on 3.0m span.

Length: 6m

Rung Spacing: 300mm nominal

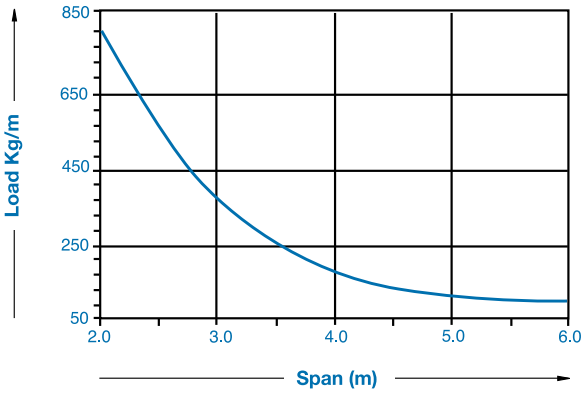




PARTS LIST

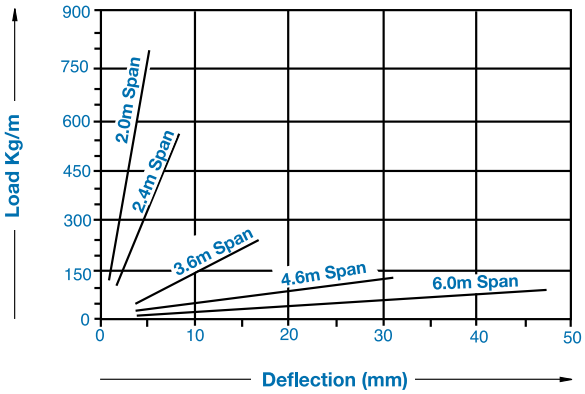
Dim "W"	Type	Part No.
150	20	AL20 150
300	20	AL20 300
450	20	AL20 450
600	20	AL20 600

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA standard VE 1 and verified by testing. Safety factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH



Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run. To find deflection of a single span, multiply by 2.5.

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NEMA 20C CABLE LADDER - ALUMINIUM

TECHNICAL DATA

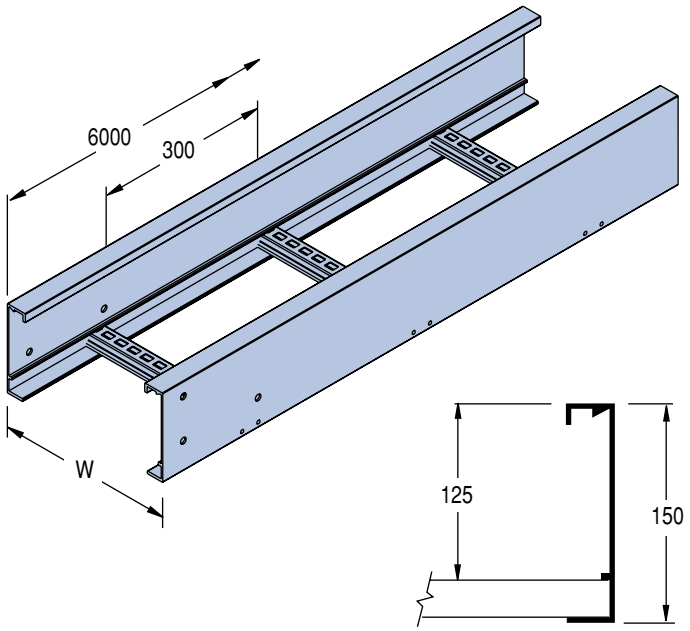
Cable Laying Depth: 125mm

Loading Data:
Basic Load Capacity
175kg/lin.m on 6m span

Length: 6m

Rung Spacing: 300mm nominal

Standard Finish: Aluminium, Mill Finish

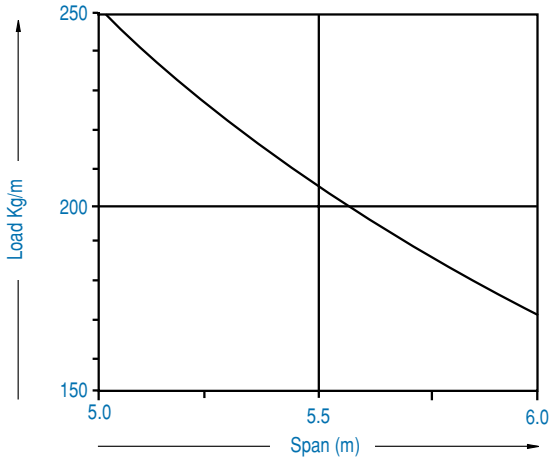


PARTS LIST

Dim "W"	Type	Part No.
150	20C	LAL101W
300	20C	LAL103W
450	20C	LAL104W
600	20C	LAL106W

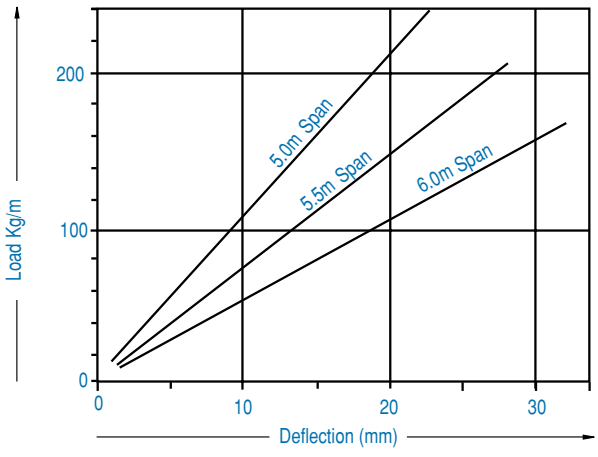
** Splice plate & fixing screws are not included (order separately).*

ALLOWABLE LOAD GRAPH



Allowable loads are determined generally in accordance with NEMA Standard VE1 and verified by testing. Safety Factor = 1.5 on collapse load for single span.

DEFLECTION GRAPH

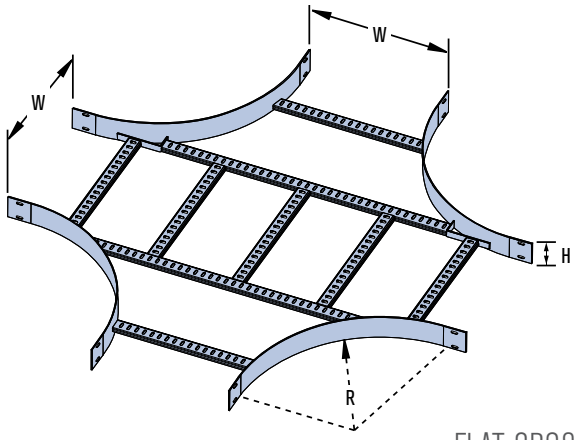


Deflections shown apply to the end-bays (ie. worst case) of a continuous ladder run.
To find deflection of a single span, multiply by 2.5.

NEMA CABLE LADDER - CROSSES, BENDS, TEES - ALUMINIUM

FLAT CROSS – AL

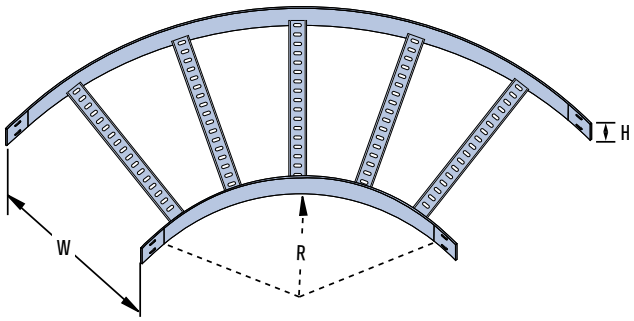
Type	Radius"R"	Width"W"	Height"H"	Part No.
12	300	150	90	AL12FC150R3
12	300	300	90	AL12FC300R3
12	300	450	90	AL12FC450R3
12	300	600	90	AL12FC600R3
16	450	150	100	AL16FC150R4
16	450	300	100	AL16FC300R4
16	450	450	100	AL16FC450R4
16	450	600	100	AL16FC600R4
20	450	150	120	AL20FC150R4
20	450	300	120	AL20FC300R4
20	450	450	120	AL20FC450R4
20	450	600	120	AL20FC450R4
20C	600	150	150	LAL181R6
20C	600	300	150	LAL183R6
20C	600	450	150	LAL184R6
20C	600	600	150	LAL186R6



FLAT CROSS

FLAT BEND 90° – AL

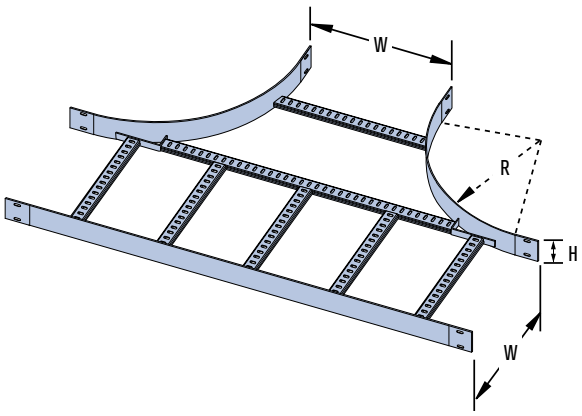
Type	Radius"R"	Width"W"	Height"H"	Part No.
12	300	150	90	AL12FB150R3
12	300	300	90	AL12FB300R3
12	300	450	90	AL12FB450R3
12	300	600	90	AL12FB600R3
16	450	150	100	AL16FB150R4
16	450	300	100	AL16FB300R4
16	450	450	100	AL16FB450R4
16	450	600	100	AL16FB600R4
20	450	150	120	AL20FB150R4
20	450	300	120	AL20FB300R4
20	450	450	120	AL20FB450R4
20	450	600	120	AL20FB600R4
20C	450	600	150	LAL111R6
20C	600	150	150	LAL113R6
20C	600	300	150	LAL114R6
20C	600	600	150	LAL116R6



FLAT BEND 90°

TEE – AL

Type	Radius"R"	Width"W"	Height"H"	Part No.
12	300	150	90	AL12T150R3
12	300	300	90	AL12T300R3
12	300	450	90	AL12T450R3
12	300	600	90	AL12T600R3
16	450	150	100	AL16T150R4
16	450	300	100	AL16T300R4
16	450	450	100	AL16T450R4
16	450	600	100	AL16T600R4
20	450	150	120	AL20T150R4
20	450	300	120	AL20T300R4
20	450	450	120	AL20T450R4
20	450	600	120	AL20T450R4
20C	600	150	150	LAL191R6
20C	600	300	150	LAL193R6
20C	600	450	150	LAL194R6
20C	600	600	150	LAL196R6



TEE

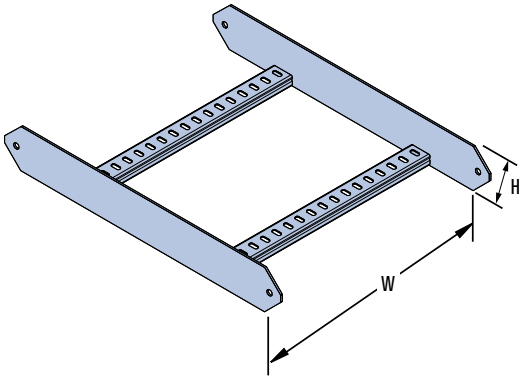
** Fixing Hardware for all cable ladder systems must be ordered separately.*

UNISTRUT®

NEMA CABLE LADDER - RISERS - ALUMINIUM

ADJUSTABLE RISER – AL

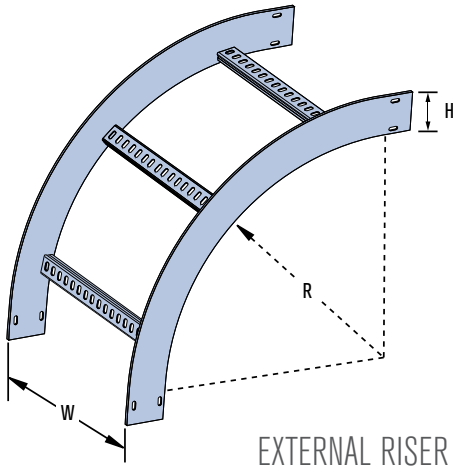
Type	Width"W"	Height"H"	Part No.
12	150	90	AL12AR-150W
12	300	90	AL12AR-300W
12	450	90	AL12AR-450W
12	600	90	AL12AR-600W
16	150	100	AL16AR-150W
16	300	100	AL16AR-300W
16	450	100	AL16AR-450W
16	600	100	AL16AR-600W
20	150	120	AL20AR-150W
20	300	120	AL20AR-300W
20	450	120	AL20AR-450W
20	600	120	AL20AR-600W
20C	150	150	LAL141
20C	300	150	LAL143
20C	450	150	LAL144
20C	600	150	LAL146



ADJUSTABLE RISER

EXTERNAL RISER - 90° – AL

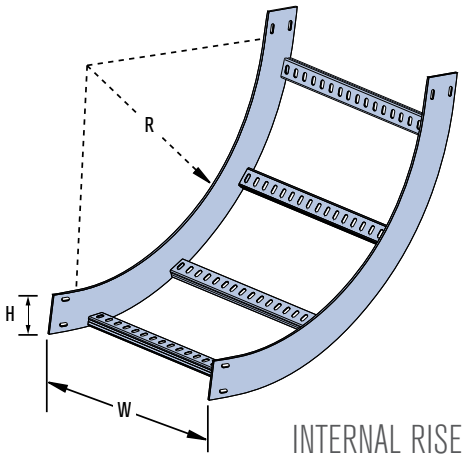
Type	Radius"R"	Width"W"	Height"H"	Part No.
12	300	150	90	AL12ER150R3
12	300	300	90	AL12ER300R3
12	300	450	90	AL12ER450R3
12	300	600	90	AL12ER600R3
16	450	150	100	AL16ER150R4
16	450	300	100	AL16ER300R4
16	450	450	100	AL16ER450R4
16	450	600	100	AL16ER600R4
20	450	150	120	AL20ER150R4
20	450	300	120	AL20ER300R4
20	450	450	120	AL20ER450R4
20	450	600	120	AL20ER450R4
20C	600	150	150	LAL131R6
20C	600	300	150	LAL133R6
20C	600	450	150	LAL134R6
20C	600	600	150	LAL136R6



EXTERNAL RISER - 90°

INTERNAL RISER - 90° – AL

Type	Radius"R"	Width"W"	Height"H"	Part No.
12	300	150	90	AL12IR150R3
12	300	300	90	AL12IR300R3
12	300	450	90	AL12IR450R3
12	300	600	90	AL12IR600R3
16	450	150	100	AL16IR150R4
16	450	300	100	AL16IR300R4
16	450	450	100	AL16IR450R4
16	450	600	100	AL16IR600R4
20	450	150	120	AL20IR150R4
20	450	300	120	AL20IR300R4
20	450	450	120	AL20IR450R4
20	450	600	120	AL20IR450R4
20C	600	150	150	LAL121R6
20C	600	300	150	LAL123R6
20C	600	450	150	LAL124R6
20C	600	600	150	LAL126R6



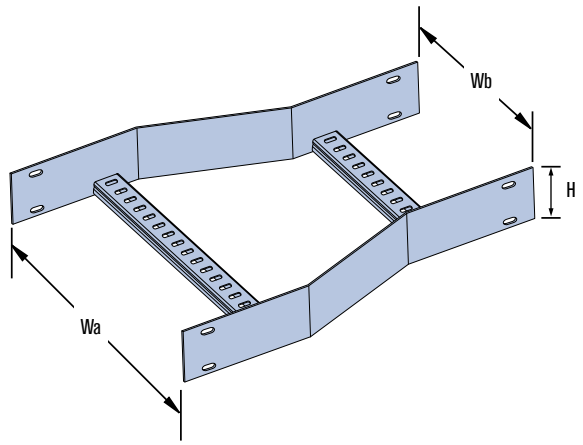
INTERNAL RISER - 90°

** Fixing Hardware for all cable ladder systems must be ordered separately.*

NEMA CABLE LADDER - REDUCERS - ALUMINIUM

STRAIGHT REDUCER – AL

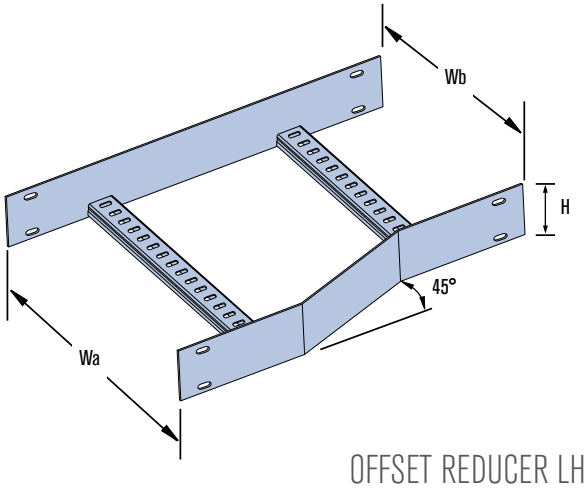
Type	Width"Wa"	Width"Wb"	Height"H"	Part No.
12	300	150	90	AL12SR31
12	450	150	90	AL12SR41
12	450	300	90	AL12SR43
12	600	150	90	AL12SR61
12	600	300	90	AL12SR63
12	600	450	90	AL12SR64
16	300	150	100	AL16SR31
16	450	150	100	AL16SR41
16	450	300	100	AL16SR43
16	600	150	100	AL16SR61
16	600	300	100	AL16SR63
16	600	450	100	AL16SR64
20	300	150	120	AL20SR31
20	450	150	120	AL20SR41
20	450	300	120	AL20SR43
20	600	150	120	AL20SR61
20	600	300	120	AL20SR63
20	600	450	120	AL20SR64
20C	300	150	150	LAL1531
20C	450	150	150	LAL1541
20C	450	300	150	LAL1543
20C	600	150	150	LAL1561
20C	600	300	150	LAL1563
20C	600	450	150	LAL1564



STRAIGHT REDUCER

OFFSET REDUCER LH – AL

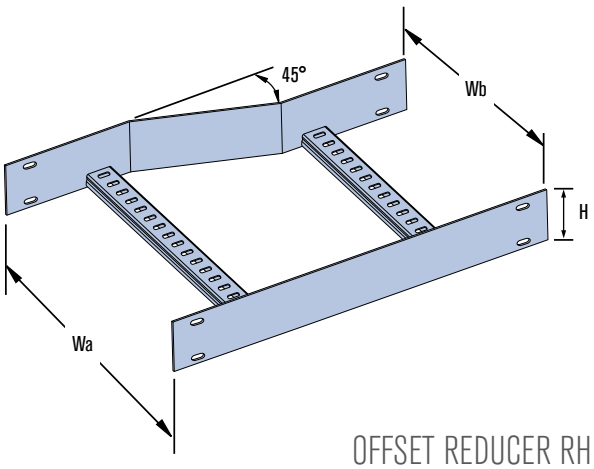
Type	Width"Wa"	Width"Wb"	Height"H"	Part No.
12	300	150	90	AL12LHR31
12	450	150	90	AL12LHR41
12	450	300	90	AL12LHR43
12	600	150	90	AL12LHR61
12	600	300	90	AL12LHR63
12	600	450	90	AL12LHR64
16	300	150	100	AL16LHR31
16	450	150	100	AL16LHR41
16	450	300	100	AL16LHR43
16	600	150	100	AL16LHR61
16	600	300	100	AL16LHR63
16	600	450	100	AL16LHR64
20	300	150	120	AL20LHR31
20	450	150	120	AL20LHR41
20	450	300	120	AL20LHR43
20	600	150	120	AL20LHR61
20	600	300	120	AL20LHR63
20	600	450	120	AL20LHR64
20C	300	150	150	LAL1731
20C	450	150	150	LAL1741
20C	450	300	150	LAL1743
20C	600	150	150	LAL1761
20C	600	300	150	LAL1763
20C	600	450	150	LAL1764



OFFSET REDUCER LH

OFFSET REDUCER RH – AL

Type	Width"Wa"	Width"Wb"	Height"H"	Part No.
12	300	150	90	AL12RHR31
12	450	150	90	AL12RHR41
12	450	300	90	AL12RHR43
12	600	150	90	AL12RHR61
12	600	300	90	AL12RHR63
12	600	450	90	AL12RHR64
16	300	150	100	AL16RHR31
16	450	150	100	AL16RHR41
16	450	300	100	AL16RHR43
16	600	150	100	AL16RHR61
16	600	300	100	AL16RHR63
16	600	450	100	AL16RHR64
20	300	150	120	AL20RHR31
20	450	150	120	AL20RHR41
20	450	300	120	AL20RHR43
20	600	150	120	AL20RHR61
20	600	300	120	AL20RHR63
20	600	450	120	AL20RHR64
20C	300	150	150	LAL1631
20C	450	150	150	LAL1641
20C	450	300	150	LAL1643
20C	600	150	150	LAL1661
20C	600	300	150	LAL1663
20C	600	450	150	LAL1664



OFFSET REDUCER RH

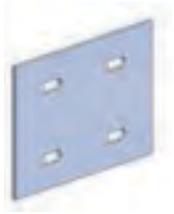
** Fixing Hardware for all cable ladder systems must be ordered separately.*

UNISTRUT®

NEMA ALUMINIUM CABLE LADDER - ACCESSORIES

SPLICE PLATE

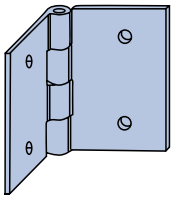
Type	Part No.
12	AL12SP
16	AL16SP
20	AL20SP
20C	LAL30



The unique Unistrut® aluminium splice plate is close fitting and shaped so that it is retained neatly and firmly between mating flanges incorporated in the ladder-side rails.

HINGED HORIZONTAL SPLICE

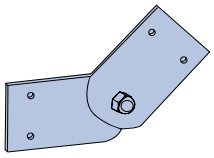
Type	Part No.
12	AL12HHS
16	AL16HHS
20	AL20HHS
20C	LAL35



A fast and economical method of changing ladder direction where exact site dimensions must be met. Especially suitable where the angle is less that 45°, or larger angles where the cable bending radius is not important. Also provides a flexible alternative to standard accessory sizes and radii. Suits all Unistrut® aluminium cable ladder systems.

HINGED VERTICAL SPLICE

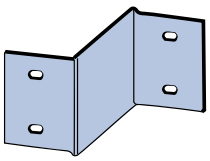
Type	Part No.
12	AL12HVS
16	AL16HVS
20	AL20HVS
20C	LAL36



Ideal for making changes in vertical level or direction. Easily adapts to exact site dimensions which may otherwise be difficult to achieve with fixed risers. Cables form their own bending radius spanning between adjacent end-rungs. Also used to form adjustable risers providing flexibility to adjust to any site restrictions.

REDUCER SPLICE

Type	Width "mm"	Part No.
12	75	AL12RS75
12	150	AL12RS150
12	300	AL12RS300
16	75	AL16RS75
16	150	AL16RS150
16	300	AL16RS300
20	75	AL20RS75
20	150	AL20RS150
20	300	AL20RS300
20C	75	LAL380
20C	150	LAL381
20C	300	LAL383



Reduction of ladder width is normally carried out using straight or offset reducers. Reducer splice plates are a flexible, cost effective alternative which bolt directly to the ladder side-rails. Available for all aluminium cable ladder systems.

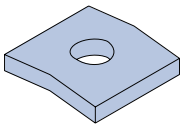
EXPANSION HOLD DOWN BRACKET

Type	Part No.
AL12,16,20	ALEHD
20C	LAL50

General purpose hold-down bracket can be positioned at any point along ladder length, even in the situation where a rung and support member coincide. The bracket provides a large bearing area for the side-rail and permits free expansion movement to occur. For side mounted ladders, or where rigid fixing of ladder is required, the rigid clamping bracket can be used.

RIGID HOLD DOWN BRACKET

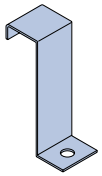
Type	Part No.
All Aluminium Systems	ALRHD



General purpose hold-down bracket can be positioned at any point along ladder length, even in the situation where a rung and support member coincide. The bracket provides a large bearing area for the side-rail and permits free expansion movement to occur. For side mounted ladders, or where rigid fixing of ladder is required, the rigid clamping bracket can be used.

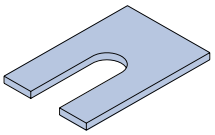
Z HOLD DOWN BRACKET

Type	Part No.
AL12	AL12ZHDBSS
AL16	AL16ZHDBSS
AL20	AL20ZHDBSS
20C	LAL20CZHDBSS



INTERFACE SPACER

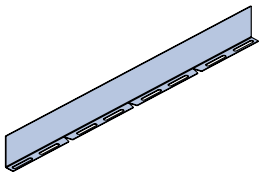
Type	Part No.
All Aluminium Systems	ALS54



Used to separate cable ladder and supports in corrosive environments.

DIVIDER STRIP

Type	Part No.
All Aluminium Systems	ALDS3

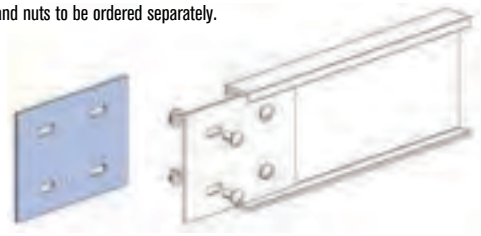


Divider Strip is used to separate cables of different voltages or circuits. The notched base permits forming to the required shape.

NEMA ALUMINIUM CABLE LADDER - ACCESSORIES

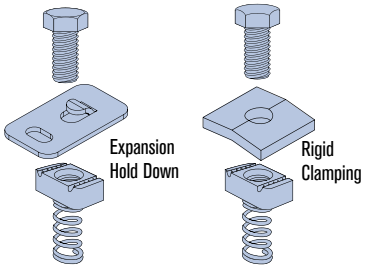
AL12, AL16, AL20 & 20C SPLICE PLATE

Screws and nuts to be ordered separately.



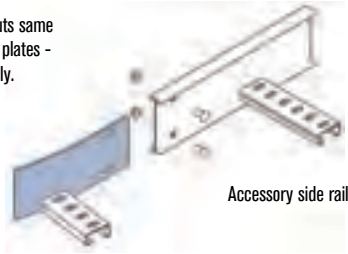
HOLD DOWN BRACKETS

Can be positioned at any point along ladder length. Brackets provide rigid clamping for all aluminium systems.



BUILT IN SPLICE

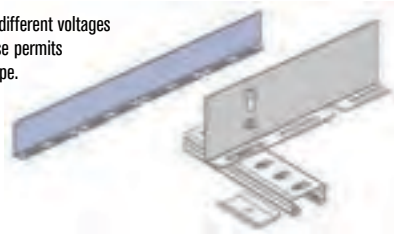
Screws and nuts same as for straight plates - order seperately.



Accessory side rail with built in splice

DIVIDER STRIP

Used to separate cables of different voltages or circuits. The notched base permits forming to the required shape. Fix at 1m centres.



NEMA ALUMINIUM CABLE LADDER - FASTENERS

Splice Plates–Straight, Hinged Horizontal & Hinged Vertical	Description	Part No.	Quantity Required
AL12, AL16, AL20	Aluminium Ladder Nut & Bolt Pk50 316SS	AL43SS	4 Per Splice Plate
20C	20C Splice Nut 316SS 20C Hex Head Splice Screw 316SS	LAL41 LAL42	4 Per Splice Plate 4 Per Splice Plate

Self Splicing Accessories	Description	Part No.	Quantity Required
AL12, AL16, AL20 - Bend, Riser or Reducer	Aluminium Ladder Nut & Bolt Pk50 MG	AL43MG	8 per Bend, Riser or Reducer
AL12, AL16, AL20 - Tee	Aluminium Ladder Nut & Bolt Pk50 MG	AL43MG	12 per Tee
AL12, AL16, AL20 - Cross	Aluminium Ladder Nut & Bolt Pk50 MG	AL43MG	16 per Cross
20C - Bend, Riser or Reducer	20C Splice Nut 316SS 20C Hex Head Splice Screw 316SS	LAL41 LAL42	8 per Bend, Riser or Reducer 8 per Bend, Riser or Reducer
20C - Tee	20C Splice Nut 316SS 20C Hex Head Splice Screw 316SS	LAL41 LAL42	12 per Tee 12 per Tee
20C - Cross	20C Splice Nut 316SS 20C Hex Head Splice Screw 316SS	LAL41 LAL42	16 per Cross 16 per Cross

Divider Strip	Description	Part No.	Quantity Required
AL12, AL16, AL20, 20C	Divider Strip Screw	PHS0620SS	3 per Length
AL12, AL16, AL20, 20C	Divider Strip Washer	FW06SS	3 per Length
AL12, AL16, AL20, 20C	Divider Strip Nut	P3016SS	3 per Length

Hold Down Bracket - Expansion	Description	Part No.	Quantity Required
AL12, AL16, AL20, 20C	Expansion Hold Down Screw	HHS1225SS	1 per Bracket
AL12, AL16, AL20, 20C	Expansion Hold Down Nut	P1013SS	1 per Bracket
AL12, AL16, AL20, 20C	Expansion Hold Down Washer	FW12SS	1 per Bracket
Hold Down Bracket - Rigid	**Description**	**Part No.**	**Quantity Required**
AL12, AL16, AL20, 20C	Expansion Hold Down Screw	HHS1230SS	1 per Bracket
AL12, AL16, AL20, 20C	Expansion Hold Down Nut	P1013SS	1 per Bracket

Fixing hardware for all Cable Ladder Systems must be ordered separately.

UNISTRUT®

CABLE LADDER AND CABLE TRAY COVERS - ALUMINIUM

LADDER AND TRAY COVERS

Covers are normally specified where protection is required:

1. To safeguard against damage to cable and insulation from falling objects–dropped tools, discarded cigarettes, sparks or solid materials.
2. Covers protect cable insulation and fixings (plastic ties etc.) from harmful effects of ultra-violet light and/or weathering deterioration.
3. In areas where high levels of airborne particles are present, covers prevent accumulation of dust or other debris on cables, which may cause heat build up, fire hazards or absorb moisture, which may shorten life of installation.

AVAILABILITY

Standard covers are available for all Unistrut® cable ladder systems. Standard length is 3 meters. Flat, peaked or ventilated covers are available by special order.

MATERIAL

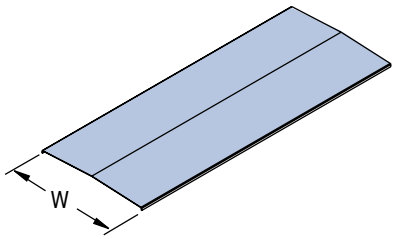
Aluminium Alloy 5005. Suitable for marine applications and compatible with the 6063-T6 alloy used in ladders.

ALUMINIUM STANDARD COVERS

Type	Nominal Width	Width	Part Number
UT3 / UT5 / AL12	150	175	AL12LC150
UT3 / UT5 / AL12	300	325	AL12LC300
UT3 / UT5 / AL12	450	475	AL12LC450
UT3 / UT5 / AL12	600	625	AL12LC600
AL16 / AL20	150	189	AL16LC150
AL16 / AL20	300	339	AL16LC300
AL16 / AL20	450	489	AL16LC450
AL16 / AL20	600	639	AL16LC600
20C	150	156	LAM6013
20C	300	306	LAM6033
20C	450	456	LAM6043
20C	600	606	LAM6063

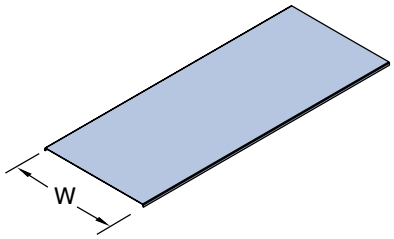
SPECIAL ORDER STYLES

Style	Part Number
Flat–F	eg. AL....3F
Vented–V	eg. AL....3V
15° Peaked–P1	eg. AL....3P1
30° Peaked–P3	eg. AL....3P3
15° Peaked & Vented–P1V	eg. AL....3P1V
30° Peaked & Vented–P3V	eg. AL....3P3V



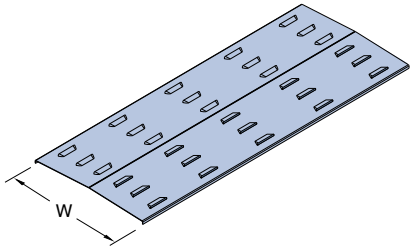
STANDARD COVERS

The most common type used. The 3-5° crease allows for maximum protection to cables. The standard cover has a 3-5° crease for added rigidity.



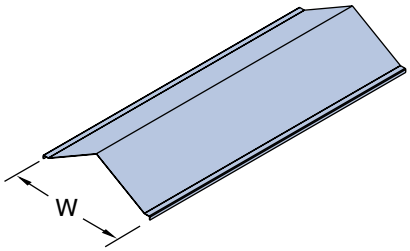
FLAT COVERS

Most commonly used where there is space restrictions and the use of standard and peaked covers is not practical.



VENTILATED COVERS

Should be used wherever reasonable protection for cables is required and where there is also a primary requirement to allow the escape of heat generated by cable.



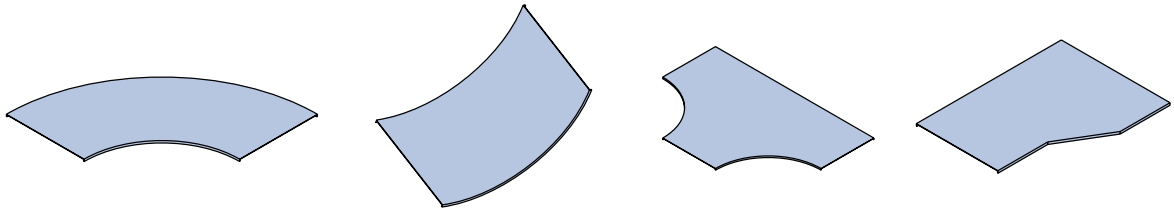
PEAKED COVERS

Used in very dusty situations where the self cleaning effect of slopping sides prevents excessive dust accumulations. The large air-space above the cables also assists with the dissipation of heat.

CABLE LADDER AND CABLE TRAY COVERS - ALUMINIUM

ACCESSORY COVERS–ALUMINIUM

Flat covers are available to match shaped accessories for all Unistrut® aluminium Cable Ladder Systems.



ALUMINIUM SHAPE COVERS FLAT

Type	Shape	Part Number
AL12 / AL16 / AL20 & 20C	BEND	ALBC*R#
AL12 / AL16 / AL20 & 20C	INTERNAL RISER	ALIR*R#
AL12	EXTERNAL RISER	AL12ERC*R#
AL16	EXTERNAL RISER	AL16ERC*R#
AL20	EXTERNAL RISER	AL20ERC*R#
20C	EXTERNAL RISER	AL20CERC*R#
AL12 / AL16 / AL20 & 20C	CROSS	ALCC*R#
AL12 / AL16 / AL20 & 20C	TEE	ALTC*R#
AL12 / AL16 / AL20 & 20C	STRAIGHT REDUCER	ALSRC**
AL12 / AL16 / AL20 & 20C	RIGHT HAND REDUCER	ALRRC**
AL12 / AL16 / AL20 & 20C	LEFT HAND REDUCER	ALLRC**

* Shape Width	# Shape Radius
150mm = "1"	300mm = "3"
300mm = "3"	450mm = "4"
450mm = "4"	600mm = "6"
600mm = "6"	900mm = "9"

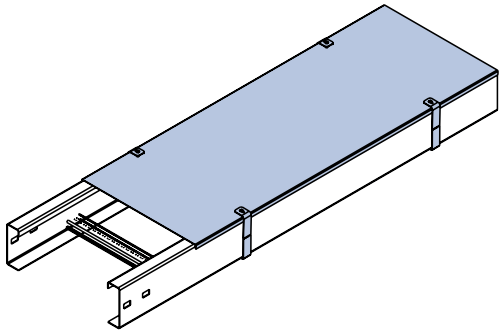
Reducer Covers– part numbers for reducer covers are made up of two widths. The first width being the widest and the second being the smallest. EG. A Right Hand Reducer to reduce from 450mm to 150mm will have the part number ALRRC41.

SPECIAL ORDER STYLES

Style	Part Number
Flat–F	eg. AL....3F
Vented–V	eg. AL....3V
15° Peaked–P1	eg. AL....3P1
30° Peaked–P3	eg. AL....3P3
15° Peaked & Vented–P1V	eg. AL....3P1V
30° Peaked & Vented–P3V	eg. AL....3P3V

CABLE LADDER COVER FIXINGS

Covers are retained in position by means of cover clips as illustrated. Manufactured from high strength stainless steel, these unique clips, which have no thread components to freeze up are quickly installed and are also easily removed or replaced at a later date. One size of clip for each ladder system suits both ladder and accessory covers.



RECOMMENDED SPACING FOR COVER CLIPS

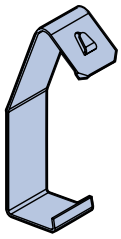
Service conditions	Design Wind velocity, Vz (AS1170)	Ladder Width, mm			
		600	450	300	150
Up to and including exposed external locations	50m/s	1.2m	1.2m	1.2m	1.2m
Cyclonic Areas	65m/s	0.6m	0.8m	1.2m	1.2m

UNISTRUT®

CABLE TRAY AND CABLE LADDER COVERS - ALUMINIUM

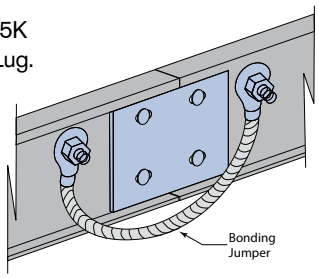
SS CLIPS

Type	Part No.
AL12	AL12CC
AL16	AL16CC
AL20	AL20CC
20C	LAL90



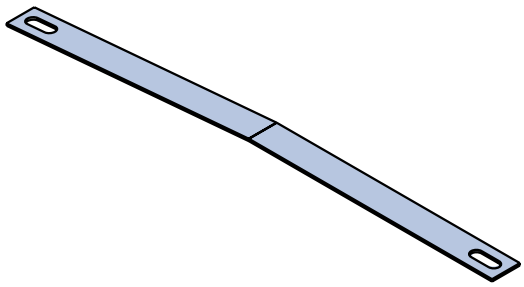
EARTH KIT

Part Number: LEMES35K
35mm² 440L with M10 Lug.
Supplied with M10
fasteners for installation



COVER STRAPS [HG]

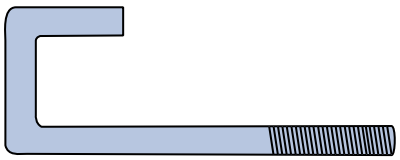
Type	Ladder Width	Part Number
AL12	150	AL12CS1AL
AL12	300	AL12CS3AL
AL12	450	AL12CS4AL
AL12	600	AL12CS6AL
AL16	150	AL16CS1AL
AL16	300	AL16CS3AL
AL16	450	AL16CS4AL
AL16	600	AL16CS6AL
AL20	150	AL20CS1AL
AL20	300	AL20CS3AL
AL20	450	AL20CS4AL
AL20	600	AL20CS6AL
20C	150	LAL931
20C	300	LAL933
20C	450	LAL934
20C	600	LAL936



Note: Also available to suit peaked cover.

HOOK BOLT & WING NUT [MG]

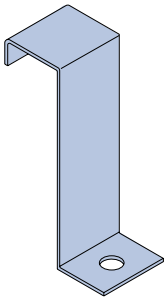
Type	Ladder Width	Part Number
AL12	HOOK BOLT	AL12HBSS
AL16	HOOK BOLT	AL16HBSS
AL20	HOOK BOLT	AL20HBSS
20C	HOOK BOLT	LUK8873
ALL HOOK BOLTS	WING NUT	WN10SS



Note: Two hook bolts and wing nuts are used to attach the cover straps. Hook bolts and wing nuts are sold seperatley.

Z HOLD DOWN BRACKET

Type	Part No.
AL12	AL12ZHDBSS
AL16	AL16ZHDBSS
AL20	AL20ZHDBSS
20C	LAL20CZHDBSS



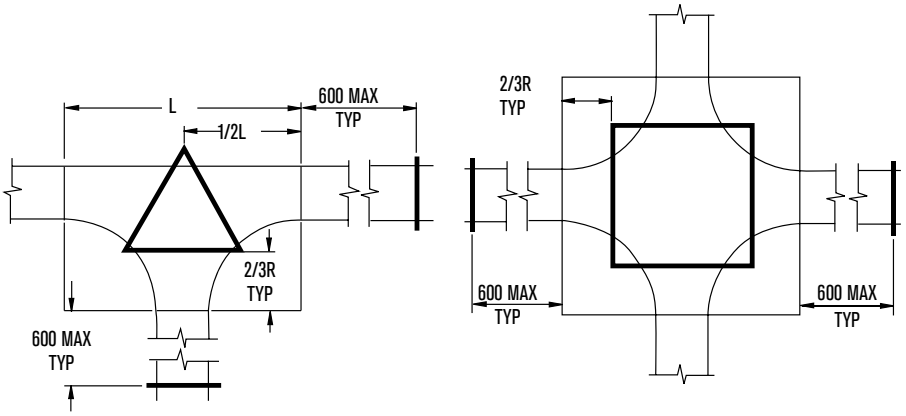
NEMA CABLE LADDER ACCESSORIES SUPPORTS

Accessories for all Unistrut® cable ladder systems are available in the four standard widths - 150, 300, 450 or 600mm. SCL (Steel Cable Ladder) and ACL (Aluminium Cable Ladder).

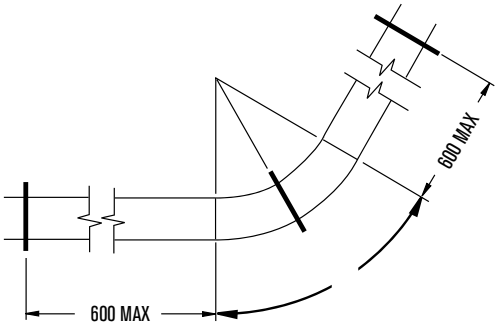
Steel Cable Ladder	
Ladder System	Standard Radius
Nema 12B	300mm
Nema 16A, Nema 20B	450mm
Nema 20C	600mm

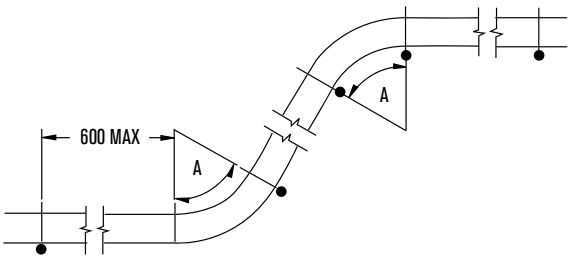
Aluminium Cable Ladder	
Ladder System	Standard Radius
AL12	300mm
AL16, AL20	450mm
20C	600mm

Fixed bends and Internal or External Risers are readily available with a 90° angle. Other angles (30°, 45° or 60°) and other radii (300, 450, 600 or 900mm) can be supplied on special request. The radii also applies to Tees and Crosses.
All support locations below are in accordance with NEMA standard VE2.

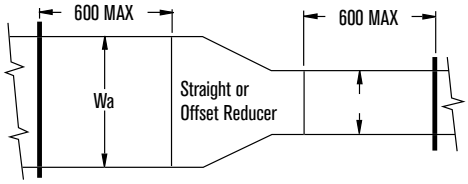


For smaller radius accessories and /or lightly loaded ladders, the support methods shown may be reduced or even eliminated. This is best determined at the point of installation or consult your local Unistrut® Service Centre.





For narrower ladders and smaller angles, the bend centre support may be deleted.



Straight Reducer plus left and right hand offset reducers are available for all Unistrut® Cable Ladder systems.

Major
Width: Wa 300, 450, 600, 450, 600, 600

Minor
Width: Wb 150, 150, 150, 300, 300, 450

Reducer splice plates are also available for all ladder systems.

UNISTRUT®

UNI-TRAY®, RITEWAY, ACROFIL®, CABLE DUCTING

UNI-TRAY®

The UNI-TRAY® systems offers the contractor the ability to site manufacture all required junctions, thereby reducing the installation cost over traditional cable trays and ladders.

UNI-TRAY® is used widely as an architectural cable support and the comprehensive range of light, medium and heavy duty products ensure that the UNI-TRAY® system is an aesthetically pleasing and cost effective cable support medium.

RITEWAY CABLE TRAY

A simple and cost effective support system for communications and power cable distribution. Slots running down the length of the trays enable easy installation of cable ties. The joggled end for joining lengths and accessories eliminates the requirements for separate joiners.

ACROFIL® WIRE BASKETS

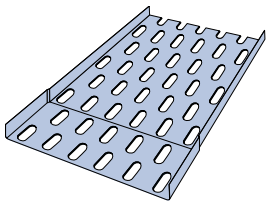
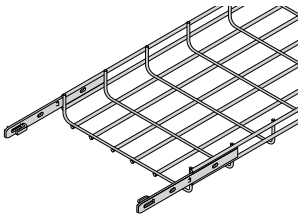
Ideal for a variety of applications, our wire baskets feature a self-splicing system designed to be simple to assemble and proven to be 80% faster in mounting time than standard splicing – eliminating the need for nut and bolt connections.

Light and quick to assemble, easy to handle, our wire basket helps simplify application installation.

CABLE DUCTING

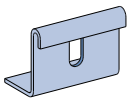
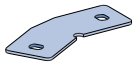
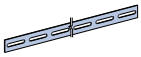
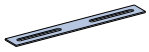
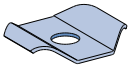
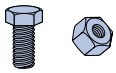
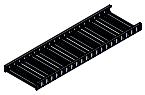
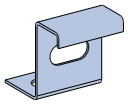
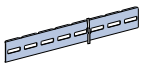
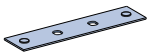
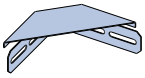
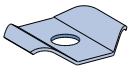
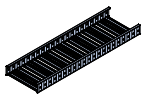
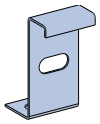
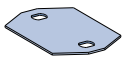
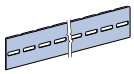
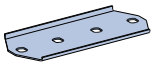
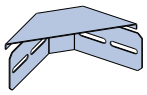
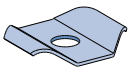
The cable duct system is designed to be quick and simple to assemble, providing real time saving as well as remaining a reliable product throughout its natural life cycle.

In-Built joining splices allow you to securely connect cable duct lengths without the need to have separate splice plates, giving a neat external finish.

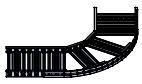
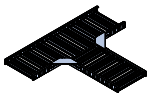
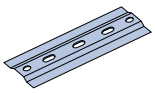
UNI-TRAY®	RITEWAY	ACROFIL®	CABLE DUCTING
			
PG. 95	PG. 102	PG. 104	PG. 132

CABLE TRAY AND SUPPORT SYSTEMS - PICTORIAL INDEX

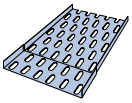
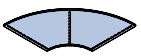
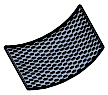
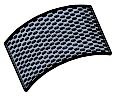
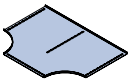
UNI-TRAY® & ACCESSORIES

 UT1 - UNI-TRAY® PG. 95	 HOLD DOWN BRACKET PG. 96	 LINK PLATE PG. 96	 RADIUS PLATE PG. 96	 SPLICE PLATE PG. 96	 GUSSET PG. 96	 CENTER HOLD DOWN CLAMP PG. 96	 HARDWARE PG. 96
 UT3 - UNI-TRAY® PG. 97	 HOLD DOWN BRACKET PG. 98	 LINK PLATE PG. 98	 RADIUS PLATE PG. 98	 SPLICE PLATE PG. 98	 GUSSET PG. 98	 CENTER HOLD DOWN CLAMP PG. 98	 HARDWARE PG. 98
 UT5 - UNI-TRAY® PG. 99	 HOLD DOWN BRACKET PG. 100	 LINK PLATE PG. 100	 RADIUS PLATE PG. 100	 SPLICE PLATE PG. 100	 GUSSET PG. 100	 CENTER HOLD DOWN CLAMP PG. 100	 HARDWARE PG. 100

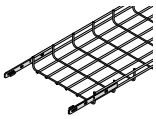
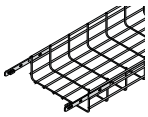
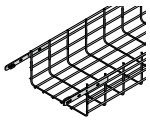
UNI-TRAY®

 UNI-TRAY® BEND PG. 101	 UNI-TRAY® T-X BRACKET PG. 101	 UNI-TRAY® EXTERNAL RISER PG. 101	 UNI-TRAY® INTERNAL RISER PG. 101	 TB - LIGHT DUTY TRAPEZE BRACKET PG. 101

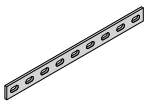
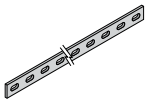
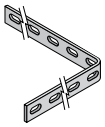
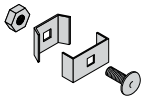
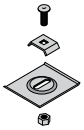
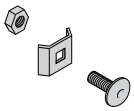
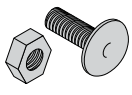
RITEWAY TRAY & ACCESSORIES

 RITEWAY TRAY PG. 102 / 103	 RITEWAY BEND PG. 103	 RITEWAY INTERNAL RISER PG. 103	 RITEWAY EXTERNAL RISER PG. 103	 RITEWAY TEE PG. 103	 RITEWAY CROSS PG. 103

ACROFIL® – WIRE MESH CABLE TRAY

 DOUBLE ROD REINFORCED TRAY [AF50 - (W)] PG. 107	 TRIPLE ROD REINFORCED TRAY [AF100 - (W)] PG. 108	 QUADRUPLE ROD REINFORCED TRAY [AF150 - (W)] PG. 109

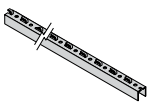
ACROFIL® JOINERS AND HARDWARE

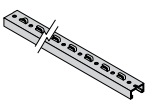
 AF-SPLICE PG. 110	 BEND & INTERSECTION BARS (550MM OR 1100MM LONG) PG. 110	 BEND & INTERSECTION BARS PG. 110	 CONNECTOR KIT (AF-KITCH1) PG. 111	 CONNECTOR KIT (AF-KITCH2) PG. 112	 CONNECTOR KIT (AF-KITCH3) PG. 112	 CONNECTOR HARDWARE (AF-EG-CBN) PG. 112

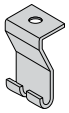
UNISTRUT®

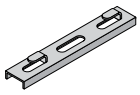
CABLE TRAY AND SUPPORT SYSTEMS - PICTORIAL INDEX

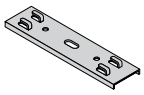
ACROFIL® SUPPORTS


U SUPPORT BRACKET [AF-USB-3M] PG. 113

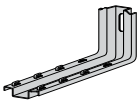

SUPPORT BRACKET MEDIUM [AF-MSB-3M] PG. 113

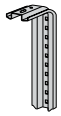

DROP ROD CLIP [AF-SIDECLIP] PG. 114

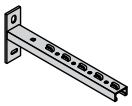

DROP ROD CLIP [AF-RODCLIP1] PG. 114

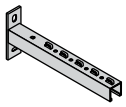

DROP ROD CLIP [AF-RODCLIP2] PG. 114

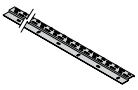

CEILING CLIP [AF-CCA-(W)] PG. 115

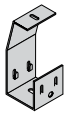

WALL CLIP [AF-CPA-(W)] PG. 115

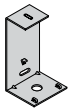

PENDANT [AF-PPA-(H)] PG. 115

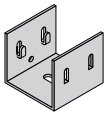

CANTILEVER MEDIUM [AF-CANTM-(W)] PG. 116

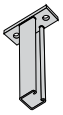

CANTILEVER MEDIUM [AF-CANTH-(W)] PG. 116

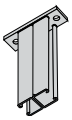

ZED [AF-ZBAR-3M] PG. 116

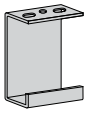

HANGER [AF-HGR-50] PG. 117

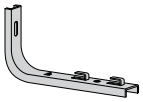

HANGER [AF-HGR-100] PG. 117


WALL BRACKET [AF-WB-50] PG. 117

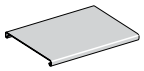

SINGLE CHANNEL PENDANT [P2663-(L)] PG. 117

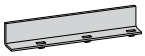

BACK-TO-BACK CHANNEL PENDANT [P2542 TO P2546] PG. 118

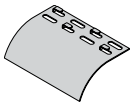

HANGING BRACKET [AF-CB-MSB] PG. 119

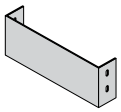

BRACKET [AF-CMA-(W)] PG. 119

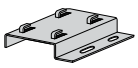
ACROFIL® ACCESSORIES

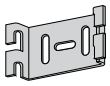

COVER [AF-CVR-(W)] PG. 120


TRAY DIVIDERS [AF-DIV50] & [AF-DIV100] PG. 120


DROP OUT [AF-(W)DO] PG. 120


BLIND END [AF(H)-BE(W)] PG. 121


LIGHTING BRACKET [AF-LIGHTB] PG. 122

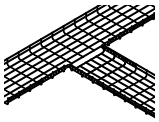

ELECTRICAL BOX BRACKET [AF-JBOX] PG. 122

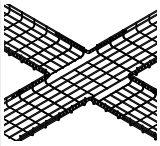
ACROFIL® FITTINGS OVERVIEW

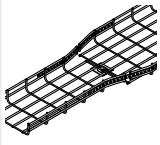

AF-CUTTOOL PG. 123

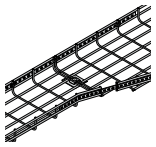

90° LONG RADIUS BENDS PG. 124


90° SHORT RADIUS BENDS PG. 125


STANDARD TEE PG. 127


CROSS PG. 127

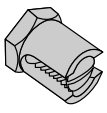

REDUCER PG. 128

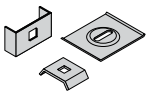

OFFSET PG. 128

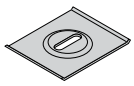

RISER PG. 128

ACROFIL® GROUNDING AND HARDWARE


GROUNDING CLIP (AF-GCLIP) PG. 129


GROUNDING CLAMP / SPLIT BOLT PG. 129


TRAY CLIPS PG. 130


HOLD DOWN CLIP [AF-BCLIP] PG. 130


AFS41 FAST CLIP 304SS PG. 130

METAL CABLE DUCTING


CABLE DUCT STRAIGHT LENGTH PG. 132


CABLE DUCT ELBOW PG. 132


CABLE DUCT EQUAL TEE PG. 132


CABLE DUCT INSIDE RISER PG. 133


CABLE DUCT OUTSIDE RISER PG. 133

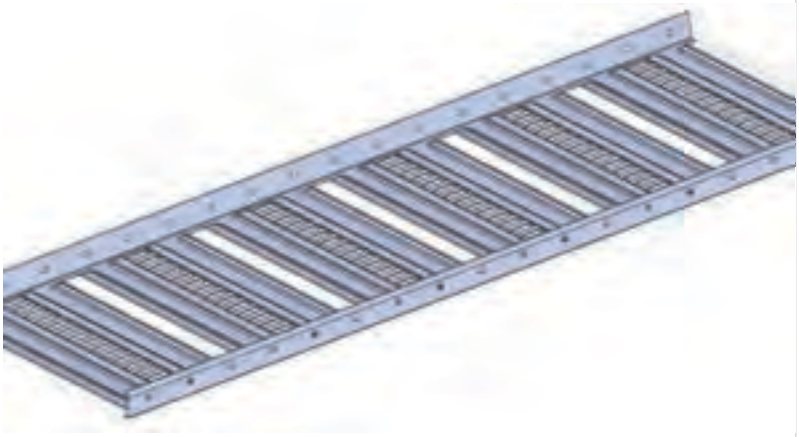

CABLE DUCT EQUAL CROSS PG. 133


CABLE DUCT END CAP PG. 133

UNI-TRAY® CABLE TRAY

UT1 UNI-TRAY®

UT1 is available in differing finishes with 30mm side height, 3 metres in length and a variety of widths to meet all your application needs.



FINISHES

Galvabond (GB)

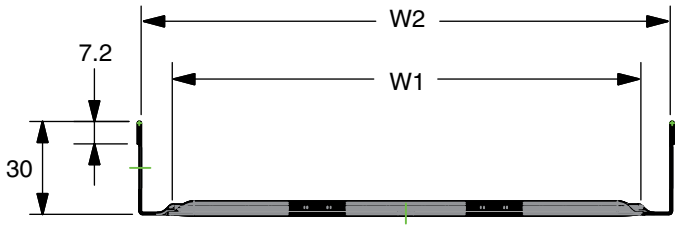
Base material is supplied ex the Steel Mill in pre-galvanised finish, in accordance with AS/NZS 1397, with a coating class of Z275. The material is slit to width, punched, and formed in the UNI-TRAY® profile.

Hot Dipped Galvanised (HG)

Coatings are applied generally in accordance with AS/NZS 4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly. It may be necessary to remove excess build-up prior to use.

Other – Powder Coated (PC), Pre-Galv (PG), Plain (PL)

When specific applications require other commercially available finishes, they can be supplied according to specification.



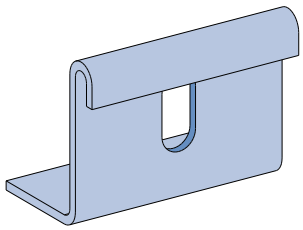
GB Code	Cable Laying Width mm "W1"	Overall Width mm "W2"	Cable Laying Depth mm	Length mm	Overall Height mm
UT1-075	75	98	25	3000	30
UT1-100	100	123	25	3000	30
UT1-150	150	173	25	3000	30
UT1-225	225	248	25	3000	30
UT1-300	300	323	25	3000	30

Basic Load 20kgs/Linea Meter on 1.5 meter span.

UNISTRUT®

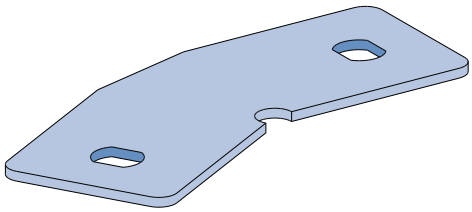
UT1 ACCESSORIES

HOLD DOWN BRACKET



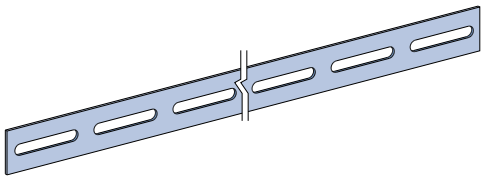
Description	Finish	Part No.	Finish	Part No.
Hold Down Bracket	GB	UT1HDB	HG	UT1HDBH

LINK PLATE



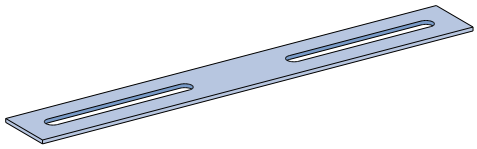
Description	Finish	Part No.	Finish	Part No.
Link Plate	GB	UT1LP	HG	UT1LPH

RADIUS PLATE



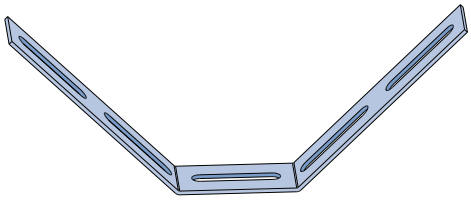
Description	Finish	Part No.	Finish	Part No.
Radius Plate 1000mm	GB	UT1RP	HG	UT1RPH

SPLICE PLATE



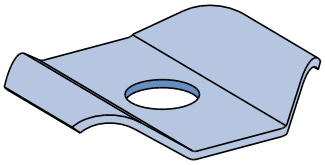
Description	Finish	Part No.	Finish	Part No.
Splice Plate	GB	UT1SP	HG	UT1SPH

GUSSET



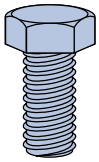
Description	Finish	Part No.	Finish	Part No.
Tray Gusset	GB	UT1TG	HG	UT1TGH

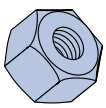
CENTER HOLD DOWN CLAMP



Description	Finish	Part No.	Finish	Part No.
Center Down Clamp	GB	UTCHD	HG	UTCHDH

HARDWARE



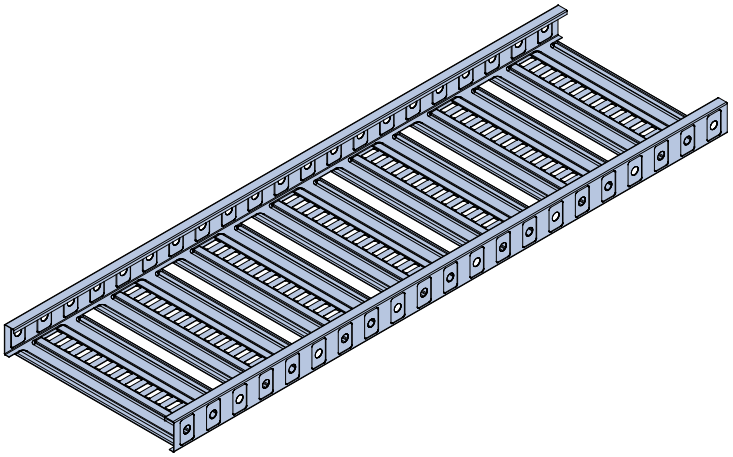


Description	Finish	Part No.	Finish	Part No.
Hex Head Bolt M6 x 20	ZP	HHS0620	HG	HHS0620H
Hex Nut M6	ZP	HN06	HG	HN06H

UNI-TRAY® CABLE TRAY

UT3 UNI-TRAY®

UT3 is avaliable in differing finishes with 50mm side height, 3 metres in length and a variety of widths to meet all your application needs.



FINISHES

Galvabond (GB)

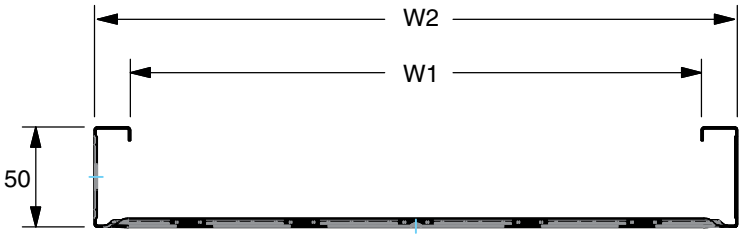
Base material is supplied ex the Steel Mill in pre-galvanised finish,in accordance with AS/NZS 1397, with a coating class of Z275. The material is slit to width, punched, and formed in the UNI-TRAY® profile.

Hot Dipped Galvanised (HG)

Coatings are applied generally in accordance with AS/NZS 4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly. It may be necessary to remove excess build-up prior to use.

Other – Powder Coated (PC)

When specific applications require other commercially available finishes, they can be supplied according to specification.



GB Code	Cable Laying Width mm "W1"	Overall Width mm "W2"	Cable Laying Depth mm	Length mm	Overall Height mm
UT3-150	150	172	45	3000	50
UT3-300	300	322	45	3000	50
UT3-450	450	472	45	3000	50
UT3-600	600	622	45	3000	50

Basic Load 125kgs/Linea Meter on 1.5 meter span.

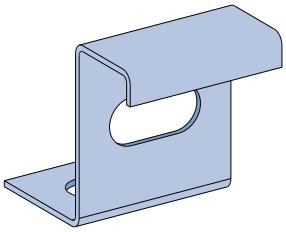
Deflections mm	10mm	20mm	25mm	35mm
Span 1.5 meters				
Span 2.0 meters				
Span 2.4 meters				
Span 3.0 meters				
Allowable Load	125kg/m	75kg/m	50kg/m	35kg/m

Note: The deflections have been provided as a guide based on CONTINUOUS spans.

UNISTRUT®

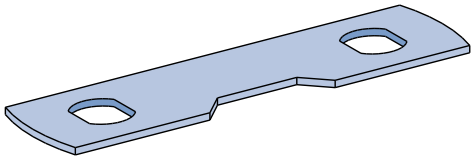
UT3 ACCESSORIES

HOLD DOWN BRACKET



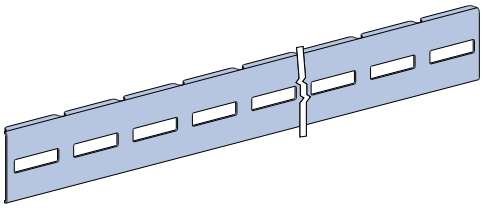
Description	Finish	Part No.	Finish	Part No.
Hold Down Bracket	GB	UT3HDB	HG	UT3HDBH

LINK PLATE



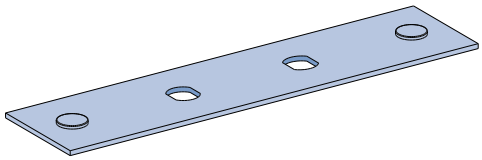
Description	Finish	Part No.	Finish	Part No.
Link Plate	GB	UT3LP	HG	UT3LPH

RADIUS PLATE



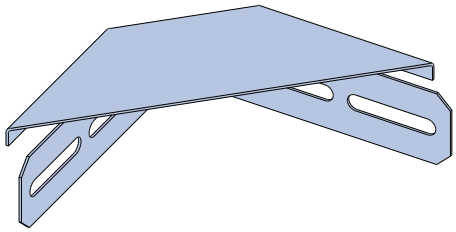
Description	Finish	Part No.	Finish	Part No.
Radius Plate 3000mm	GB	UT3RP	HG	UT3RPH

SPLICE PLATE



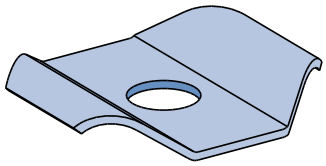
Description	Finish	Part No.	Finish	Part No.
Splice Plate	GB	UT3SP	HG	UT3SPH

GUSSET



Description	Finish	Part No.	Finish	Part No.
Tray Gusset	GB	N/A	HG	UT3TGH

CENTER HOLD DOWN CLAMP



Description	Finish	Part No.	Finish	Part No.
Center Down Clamp	GB	UTCHD	HG	UTCHDH

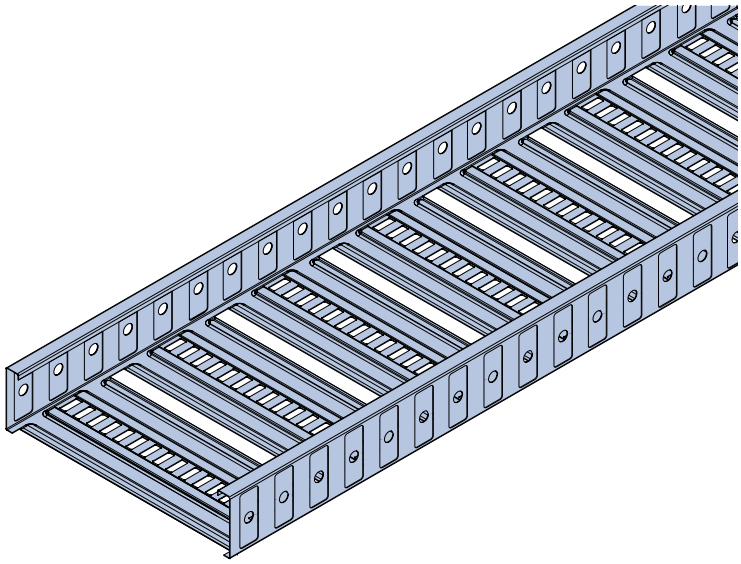
HARDWARE

Description	Finish	Part No.	Finish	Part No.
UNITRAY UT3 & 5 Nut & Bolt Pack 40	ZP	UT940	HG	UT940MG

UNI-TRAY® CABLE TRAY

UT5 UNI-TRAY®

UT5 is available in differing finishes with 85mm side height, 3 metres in length and a variety of widths to meet all your application needs.



FINISHES

Galvabond (GB)

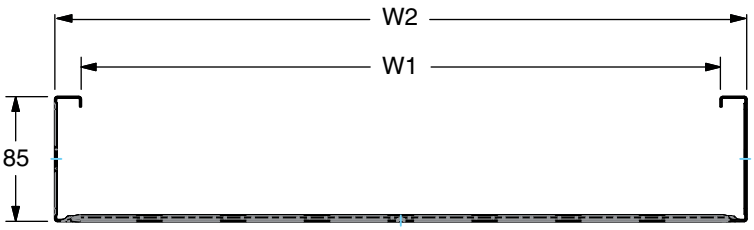
Base material is supplied ex the Steel Mill in pre-galvanised finish,in accordance with AS/NZS 1397, with a coating class of Z275. The material is slit to width, punched, and formed in the UNI-TRAY® profile.

Hot Dipped Galvanised (HG)

Coatings are applied generally in accordance with AS/NZS 4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly. It may be necessary to remove excess build-up prior to use.

Other – Powder Coated (PC)

When specific applications require other commercially available finishes, they can be supplied according to specification.



GB Code	Cable Laying Width mm "W1"	Overall Width mm "W2"	Cable Laying Depth mm	Length mm	Overall Height mm
UT5-150	150	172	80	3000	85
UT5-300	300	322	80	3000	85
UT5-450	450	472	80	3000	85
UT5-600	600	622	80	3000	85

Basic Load 75kgs/Linea Meter on 3.0 meter span.

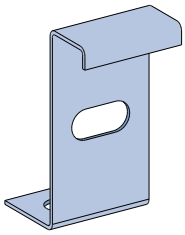
Deflections mm	8mm	10mm	15mm	22mm
Span 1.5 meters				
Span 2.0 meters				
Span 2.4 meters				
Span 3.0 meters				
Allowable Load	220kg/m	130kg/m	100kg/m	75kg/m

Note: The deflections have been provided as a guide based on CONTINUOUS spans.

UNISTRUT®

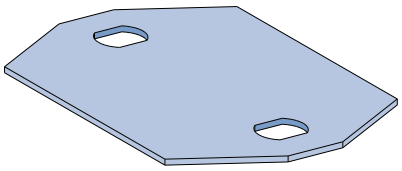
UT5 ACCESSORIES

HOLD DOWN BRACKET



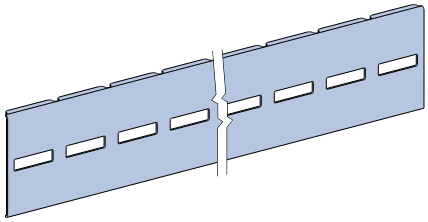
Description	Finish	Part No.	Finish	Part No.
Hold Down Bracket	GB	UT5HDB	HG	UT5HDBH

LINK PLATE



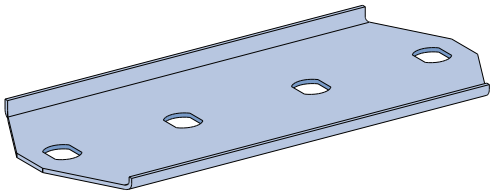
Description	Finish	Part No.	Finish	Part No.
Link Plate	GB	UT5LP	HG	UT5LPH

RADIUS PLATE



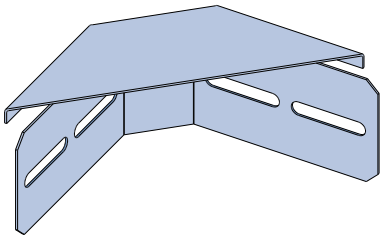
Description	Finish	Part No.	Finish	Part No.
Radius Plate 3000mm	GB	UT5RP	HG	UT5RPH

SPLICE PLATE



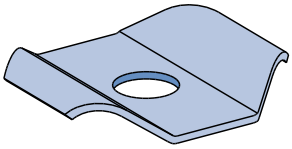
Description	Finish	Part No.	Finish	Part No.
Splice Plate	GB	UT5SP	HG	UT5SPH

GUSSET



Description	Finish	Part No.	Finish	Part No.
Tray Gusset	GB	n/a	HG	UT5TGH

CENTER HOLD DOWN CLAMP



Description	Finish	Part No.	Finish	Part No.
Center Down Clamp	GB	UTCHD	HG	UTCHDH

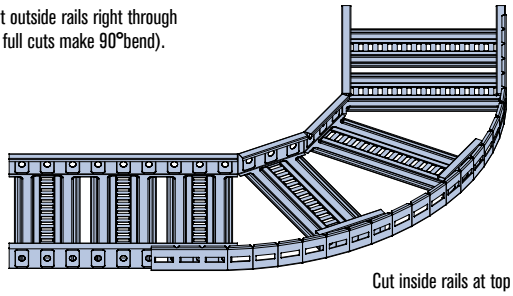
HARDWARE

Description	Finish	Part No.	Finish	Part No.
UNITRAY UT3 & 5 Nut & Bolt Pack 40	ZP	UT940	HG	UT940MG

UNI-TRAY® – RAPID ON-SITE FABRICATION ASSEMBLIES

UNI-TRAY® BEND

Cut outside rails right through (3 full cuts make 90°bend).

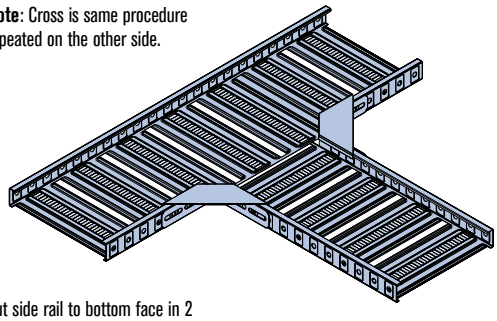


Cut inside rails at top and bottom flanges only.

Form bendside to suit and cut to length before fixing to tray with standard joining hardware.

UNI-TRAY® TEE

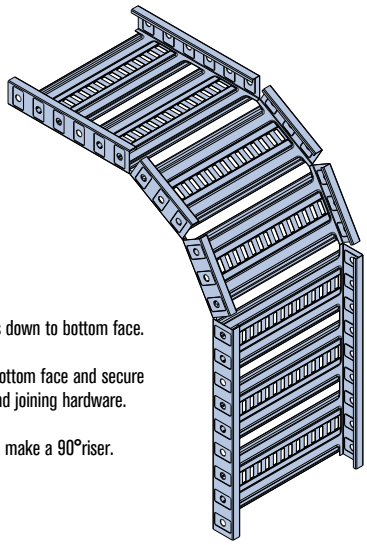
Note: Cross is same procedure repeated on the other side.



Cut side rail to bottom face in 2 places to suit tray width (flatten side down or cut off with snips).

Fix 2 GUSSET brackets to both trays using joining hardware.

UNI-TRAY® EXTERNAL RISER

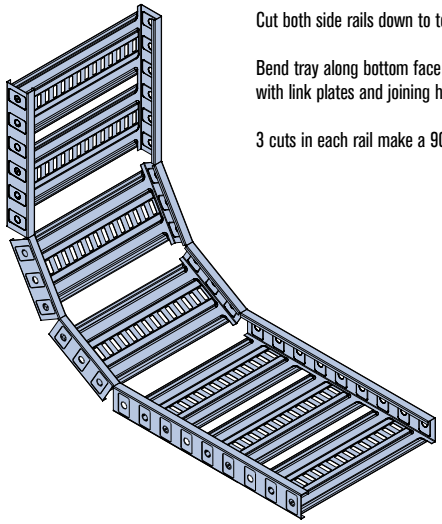


Cut both side rails down to bottom face.

Bend tray along bottom face and secure with link plates and joining hardware.

3 cuts in each rail make a 90°riser.

UNI-TRAY® INTERNAL RISER

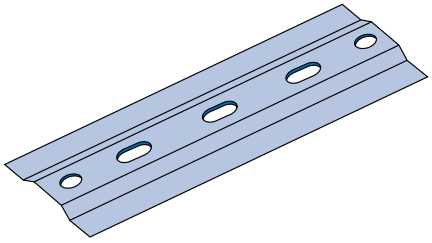


Cut both side rails down to top face.

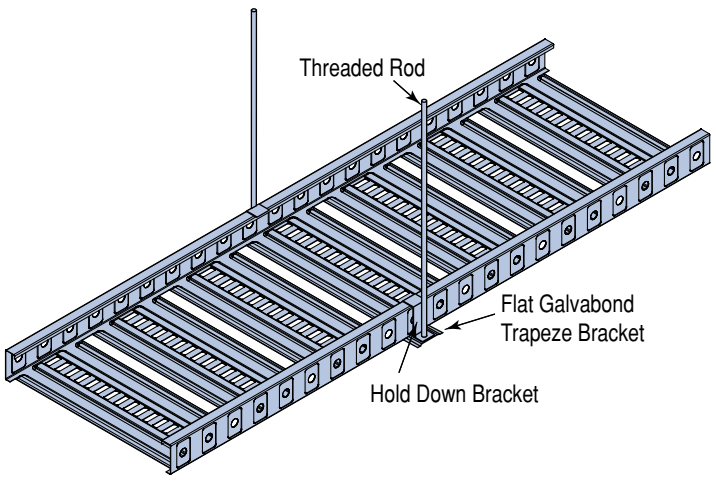
Bend tray along bottom face and secure with link plates and joining hardware.

3 cuts in each rail make a 90°riser.

TB – LIGHT DUTY TRAPEZE BRACKET



Part No.	Designation	Actual Size
TB150	Trapeze Bracket for Unitray 150mm	250mm
TB300	Trapeze Bracket for Unitray 300mm	400mm
TB450	Trapeze Bracket for Unitray 450mm	550mm
TB600	Trapeze Bracket for Unitray 600mm	700mm



UNISTRUT®

RITEWAY TRAY

Features
12mm Square Edge. "Joggled" end on tray provides built in splice connection.
Punched slots accept 12.7mm wide cable tie.

Recommended joining hardware is: M6 x 8 Gutter Bolt and M6 Flange Nut.

Standard Length: 2.4m

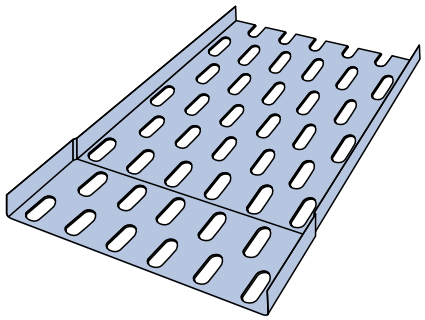
Standard Finish: Galvabond.

Also available in: Hot dipped galvanised, Aluminium, Powder coated & 316 Stainless Steel.

Nominal Standard Widths: 75, 100, 150, 200, 300, 450 and 600mm.

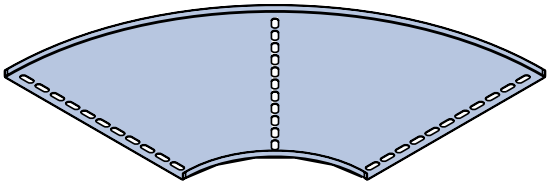
RITEWAY TRAY

Part No. GB	Part No. HG	Description	Unit
RTGA307	RTHA307	75mm Riteway Tray	3M
RTGA310	RTHA310	100mm Riteway Tray	3M
RTGA315	RTHA315	150mm Riteway Tray	3M
RTGA320	RTHA320	200mm Riteway Tray	3M
RTGA330	RTHA330	300mm Riteway Tray	3M
RTGA345	RTHA345	450mm Riteway Tray	3M



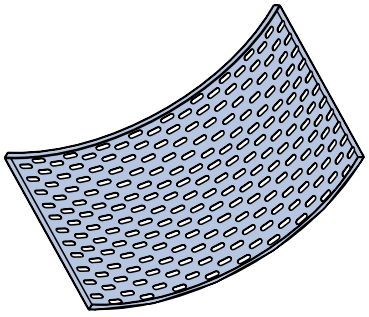
RITEWAY BEND

Part No. GB	Part No. HG	Description	Radius (R)	Unit
ATG1B107	ATH1B107	75mm Riteway Bend	150mm	EA
ATG1B110	ATH1B110	100mm Riteway Bend	150mm	EA
ATG1B115	ATH1B115	150mm Riteway Bend	150mm	EA
ATG1B120	ATH1B120	200mm Riteway Bend	150mm	EA
ATG1B130	ATH1B130	300mm Riteway Bend	150mm	EA
ATG1B145	ATH1B145	450mm Riteway Bend	150mm	EA
ATG1B160	ATH1B160	600mm Riteway Bend	150mm	EA



RITEWAY INTERNAL RISER

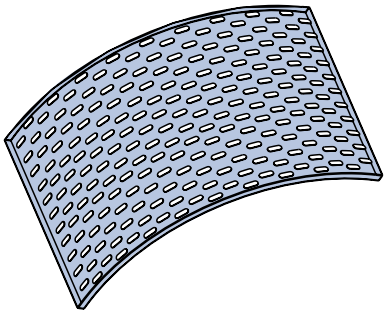
Part No. GB	Part No. HG	Description	Radius (R)	Unit
ATG1I107	ATH1I107	75mm Riteway Internal Riser	225mm	EA
ATG1I110	ATH1I110	100mm Riteway Internal Riser	225mm	EA
ATG1I115	ATH1I115	150mm Riteway Internal Riser	225mm	EA
ATG1I120	ATH1I120	200mm Riteway Internal Riser	225mm	EA
ATG1I130	ATH1I130	300mm Riteway Internal Riser	225mm	EA
ATG1I145	ATH1I145	450mm Riteway Internal Riser	225mm	EA
ATG1I160	ATH1I160	600mm Riteway Internal Riser	225mm	EA



RITEWAY TRAYS AND ACCESSORIES

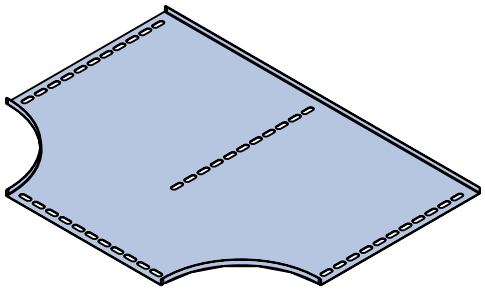
RITEWAY EXTERNAL RISER

Part No. GB	Part No. HG	Description	Radius (R)	Unit
ATG1E207	ATH1E207	75mm Riteway External Riser	225mm	EA
ATG1E210	ATH1E210	100mm Riteway External Riser	225mm	EA
ATG1E115	ATH1E115	150mm Riteway External Riser	225mm	EA
ATG1E120	ATH1E120	200mm Riteway External Riser	225mm	EA
ATG1E130	ATH1E130	300mm Riteway External Riser	225mm	EA
ATG1E145	ATH1E145	450mm Riteway External Riser	225mm	EA
ATG1E160	ATH1E160	600mm Riteway External Riser	225mm	EA



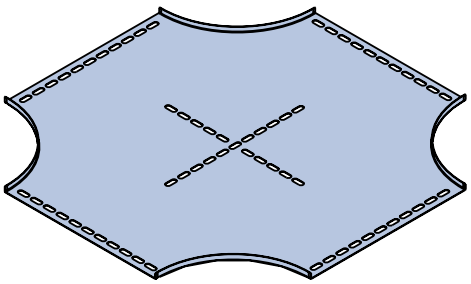
RITEWAY TEE

Part No. GB	Part No. HG	Description	Radius (R)	Unit
ATG1T107	ATH1T107	75mm Riteway Tee	150mm	EA
ATG1T110	ATH1T110	100mm Riteway Tee	150mm	EA
ATG1T115	ATH1T115	150mm Riteway Tee	150mm	EA
ATG1T120	ATH1T120	200mm Riteway Tee	150mm	EA
ATG1T130	ATH1T130	300mm Riteway Tee	150mm	EA
ATG1T145	ATH1T145	450mm Riteway Tee	150mm	EA
ATG1T160	ATH1T160	600mm Riteway Tee	150mm	EA



RITEWAY CROSS

Part No. GB	Part No. HG	Description	Radius (R)	Unit
ATG1X107	ATH1X107	75mm Riteway Cross	150mm	EA
ATG1X110	ATH1X110	100mm Riteway Cross	150mm	EA
ATG1X115	ATH1X115	150mm Riteway Cross	150mm	EA
ATG1X120	ATH1X120	200mm Riteway Cross	150mm	EA
ATG1X130	ATH1X130	300mm Riteway Cross	150mm	EA
ATG1X145	ATH1X145	450mm Riteway Cross	150mm	EA
ATG1X160	ATH1X160	600mm Riteway Cross	150mm	EA



AHZS106008 – M6 x 8 Gutter Bolt & M6 Flange Nut (50/pack)

UNISTRUT®

ACROFIL® – WIRE MESH CABLE TRAY

ACROFIL® OVERVIEW

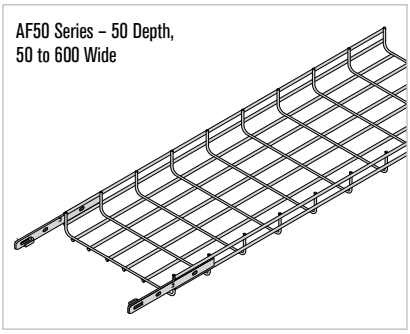
ACROFIL® is a welded wire mesh cable management system produced from high strength steel wires. ACROFIL® is produced by first welding a net, forming the Strut, and then finishing. The 50mmX100mm wire spacing permits continuous airflow to help prevent heat buildup. In addition this unique open design prevents the buildup of dust, contaminants and bacterial proliferation.

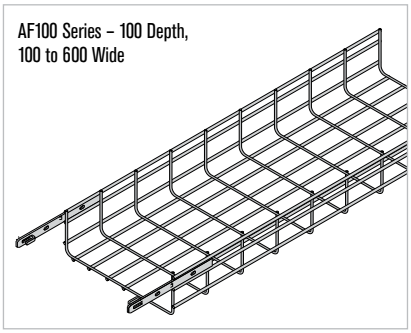
ACROFIL® is produced in standard 3m lengths and is supplied in 2 standard depths: 50 and 100mm.

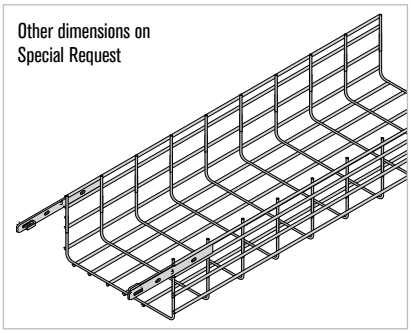
ACROFIL® is offered in nine different widths:

50 mm, 100mm, 150mm, 200mm, 300mm, 400mm, 450mm, 500mm, 600mm.

Special sizes are available to meet your unique requirements.







ZINC PLATED (ZP) – (AS 1789)

Strut, fittings and components are electroplated generally in accordance with AS 1789.
Fasteners are electroplated generally in accordance with AS 1897.

HOT DIP GALVANISED (HG) – (AS/NZS 4680)

Coatings are applied generally in accordance with AS/NZS 4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly.
It may be necessary to remove excess build-up prior to use.

316 TYPE STAINLESS STEEL (SS)

Corrosive resistant stainless steel with no additional surface treatment. This material option provides the best corrosion resistance available. Stainless steel is used primarily in marine environments or food processing facilities.

OTHER FINISHES - POWDER COATED (PC), PRE GALVANISED (PG), PLAIN (PL) AND GRADE 304 STAINLESS STEEL (SS304).

When specific applications require other commercially available finishes, they can be supplied according to specification.

HOW TO ORDER

Part numbers shown in the catalog are for the standard zinc plated finish.
For special order finishes, add the finish code as a suffix.

EXAMPLE

AF50-300 is zinc plated
AF50-300-SS is stainless steel type 316

MASSES AND DIMENSIONS

Masses given for all material are approximate shipping weights.
All dimensions subject to commercial tolerance variations.

ACROFIL® – WIRE MESH CABLE TRAY

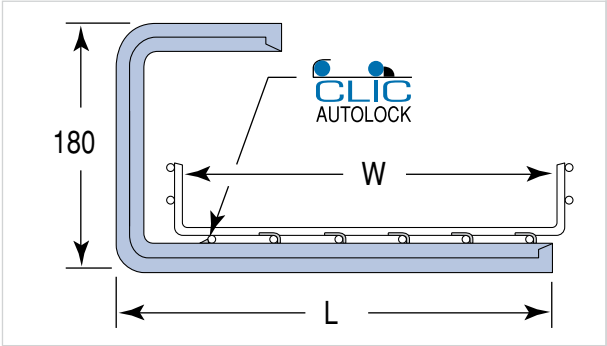
ACROFIL® SYSTEM

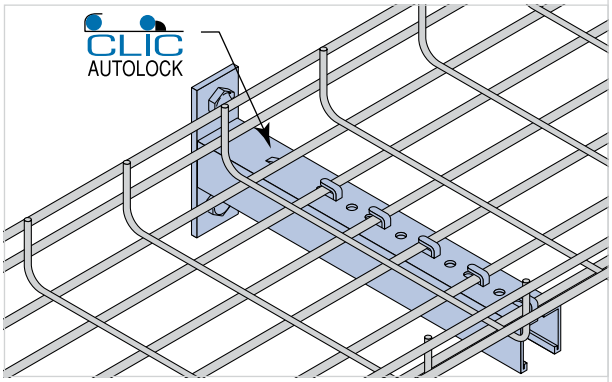
UNISTRUT® The premier name in electrical and metal infrastructure solutions has been designing and manufacturing products in Australia for over 50 years delivering superior performance in design, engineering excellence, distribution, and customer service.

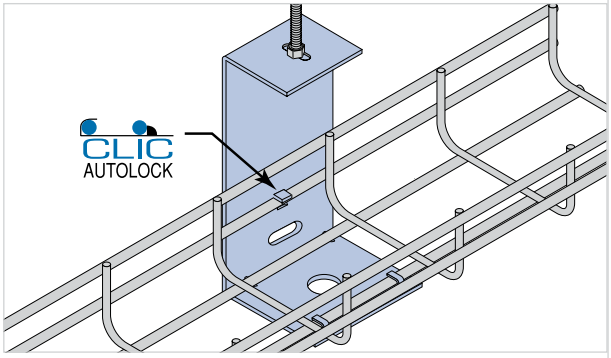
As part of global company Atkore, Unistrut® is able to provide the Acrofil® range of wire-mesh cable tray, which features unique Autolock system and welded splices. Autolock and welded splices make connecting tray fast and simple and in turn eliminate the need for nut and bolt connection.

The addition of Acrofil® to our range reinforces Unistrut® Australia's commitment to being the one stop supplier for all your cable management solutions.

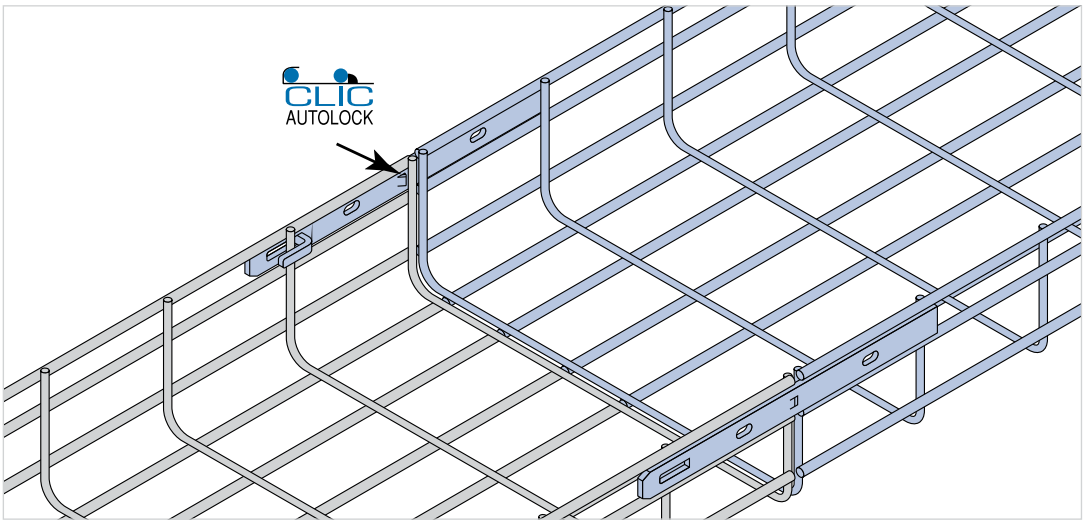
Visit **www.unistrut.com.au**







CLIC



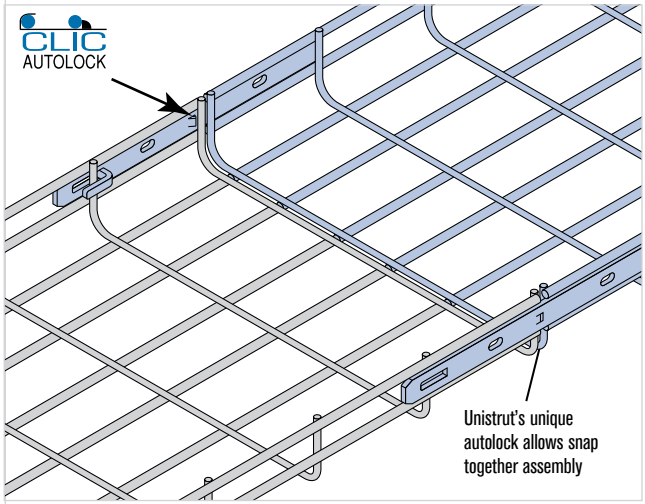
UNISTRUT®

ACROFIL® – WIRE MESH CABLE TRAY

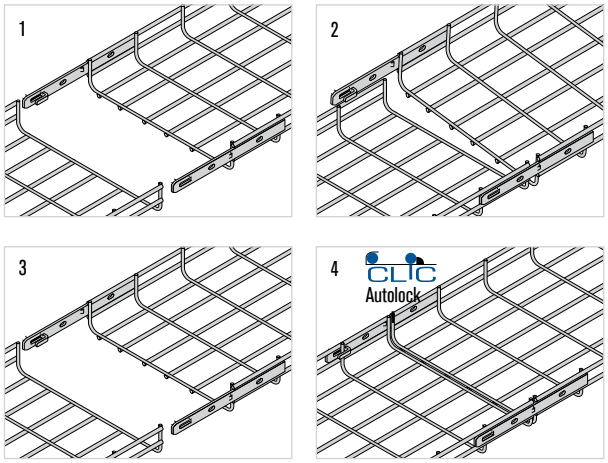
ACROFIL® SYSTEM

SELF-SPLICING STRAIGHT LENGTHS

ACROFIL®'s exclusive autolock splicing system makes connecting ACROFIL® fast and simple. The Autolock, or self splicing bars which come pre-installed on ACROFIL® systems, eliminates the need for a typical nut and bolt type connection. For proper grounding of ACROFIL® please refer to page 129.



ACROFIL® ASSEMBLY - AF50, AF100, & AF150



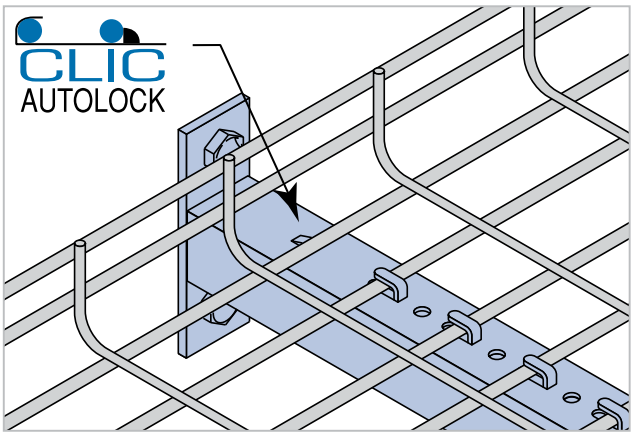
Step 1 Align the trays as shown.

Step 2 While raising the rear edge of the male connection, slide the tray forward, but do not engage the locking clip.

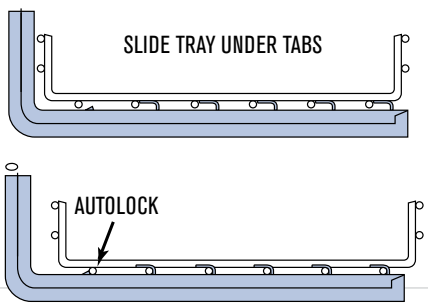
Step 3 Push the rear locking clip over the back edge of the tray.

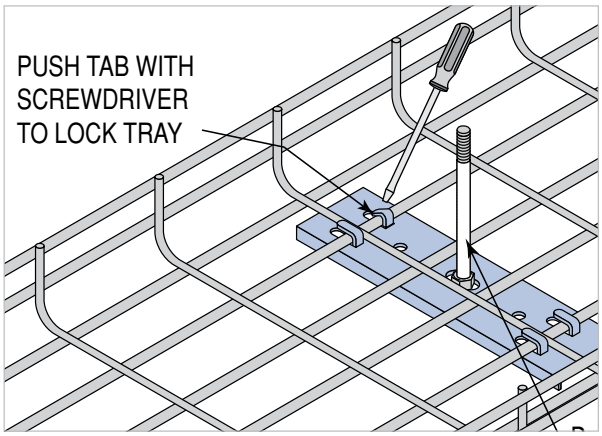
Step 4 Slide the tray forward to engage both front and rear locking clips.

ACCESSORY ASSEMBLY

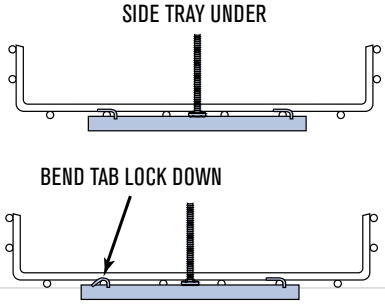


Many of the ACROFIL® wire basket accessories feature the unique autolock. Just slide the tray under the tabs and then push down to engage the autolock. No tools, bending, or attachments are required for a secure connection.





For accessories which use the tab lock, the tray is secured by using a screw driver to gently bend one of the tabs down over the tray.

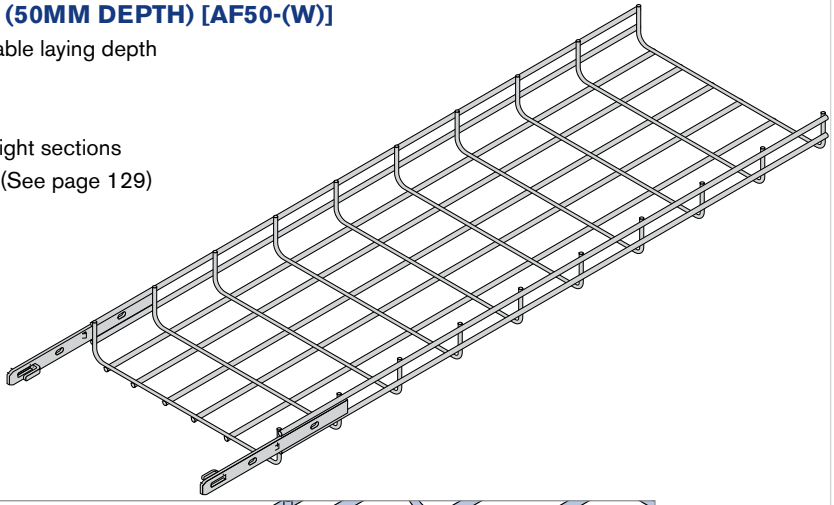


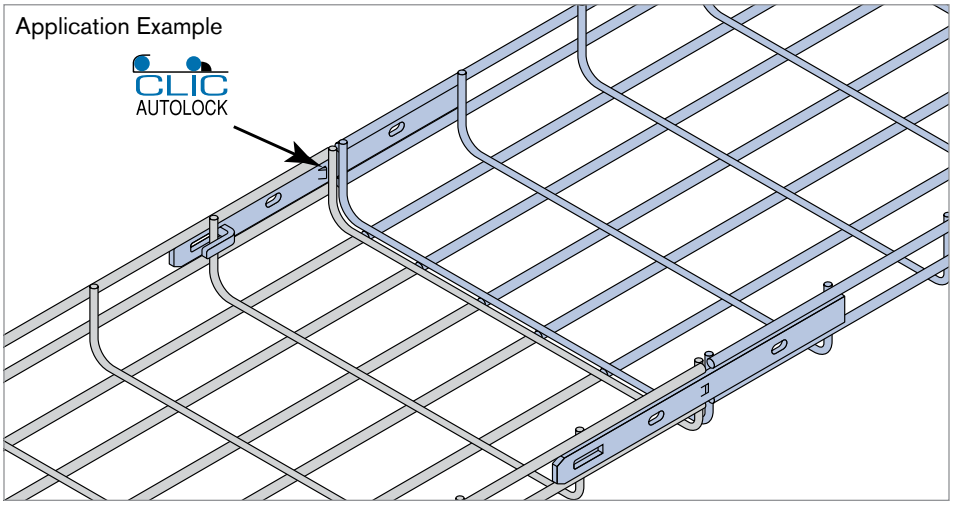
ACROFIL® – WIRE MESH CABLE TRAY

ACROFIL® SYSTEM

DOUBLE ROD REINFORCED TRAY (50MM DEPTH) [AF50-(W)]

- Double rod reinforced tray has a 50mm cable laying depth
- Standard length of tray is 3m
- Standard finish is zinc plated
- No hardware is necessary to connect straight sections
- For continuous grounding use AF-GCLIP (See page 129)





Part Description		Width (Nominal)	Depth (mm)	Weight (kg) (piece)	Loading (kg/m)		
					1.5m Span	2.0m Span	2.5m Span
	AF50-50	50	50	1.9	24	17	9
	AF50-100	100	50	2.3	30	17	13
	AF50-150	150	50	3.8	75	38	27
	AF50-200	200	50	3.9	87	38	28
	AF50-300	300	50	4.3	94	46	30
	AF50-400	400	50	4.8	111	67	42
	AF50-450	450	50	7.2	111	67	42
	AF50-500	500	50	8.4	121	76	42
	AF50-600	600	50	9.6	133	92	42

Load Values are determined by IEC61537 testing. Copies of load tests available upon request.
Safety Factor 1.7

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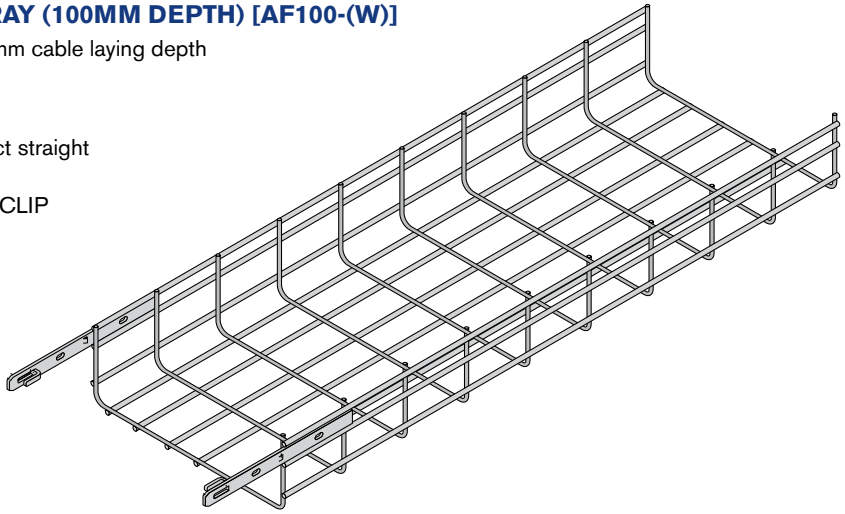
ACROFIL® – WIRE MESH CABLE TRAY

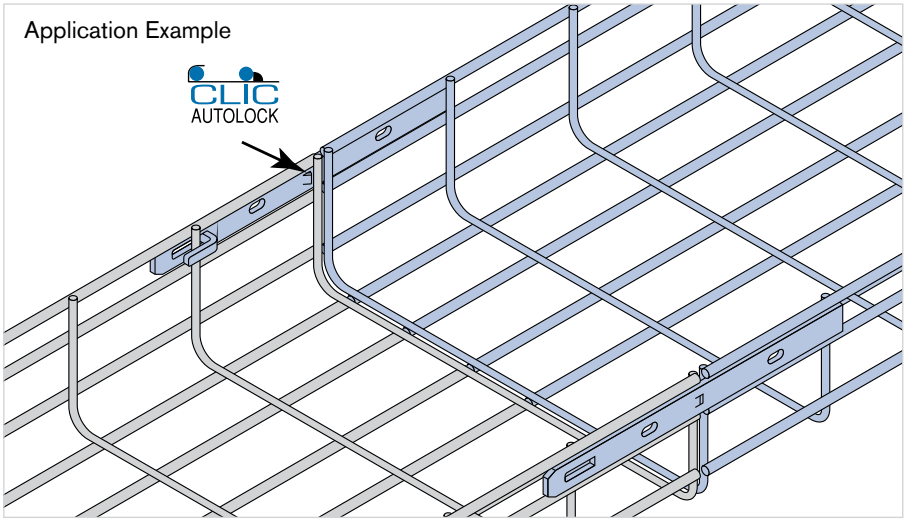
ACROFIL® SYSTEM

TRIPLE ROD REINFORCED TRAY (100MM DEPTH) [AF100-(W)]

- Triple rod reinforced tray has a 100mm cable laying depth
- Standard length of tray is 3m
- Standard finish is zinc plated
- No hardware is necessary to connect straight sections
- For continuous grounding use AF-GCLIP (See page 129)



Application Example



Part Description		Width (Nominal)	Depth (mm)	Weight (kg) (piece)	Loading (kg/m)		
					2.0m Span	2.5m Span	3.0m Span
	AF100-100	100	100	3.9	29	21	16
	AF100-200	200	100	4.9	50	33	23
	AF100-300	300	100	7.2	73	49	33
	AF100-400	400	100	8.4	87	51	34
	AF100-500	500	100	9.6	104	53	37
	AF100-600	600	100	13.3	145	90	51

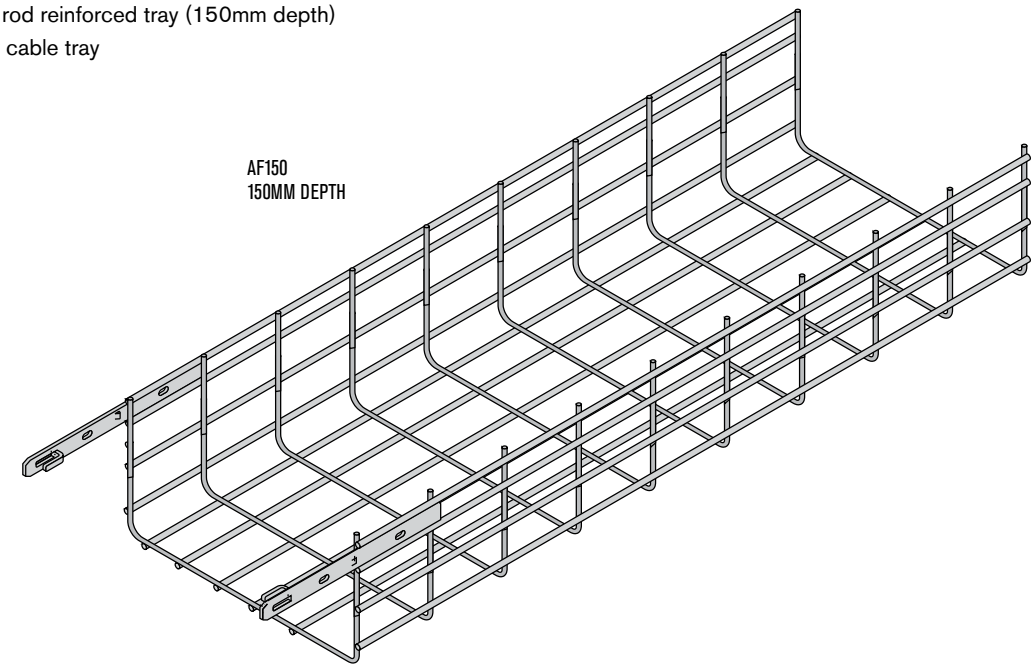
Load Values are determined by IEC61537 testing. Copies of load tests available upon request.
Safety Factor 1.7

ACROFIL® – WIRE MESH CABLE TRAY

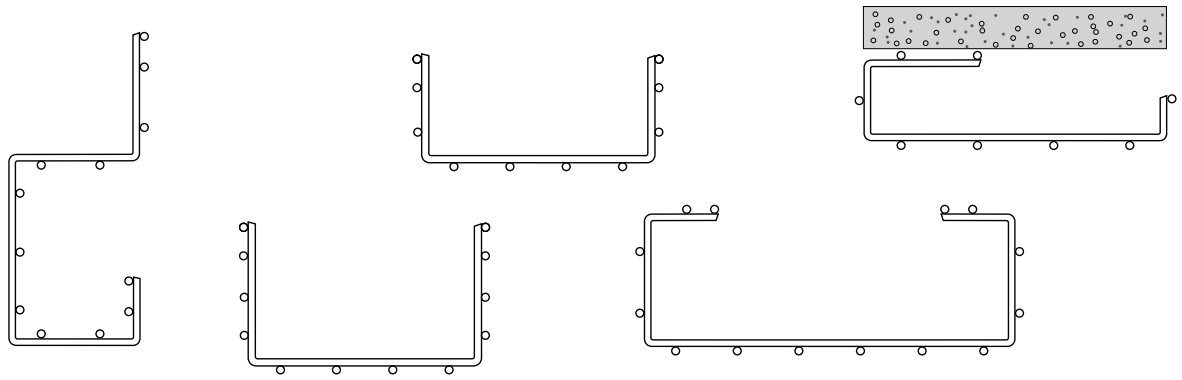
ACROFIL® SYSTEM

OTHER PRODUCTS AVAILABLE AT SPECIAL REQUEST

- Quadruple rod reinforced tray (150mm depth)
- Heavy duty cable tray



CUSTOM MADE TRAY EXAMPLES



UNISTRUT®

ACROFIL® – BAR CONNECTORS

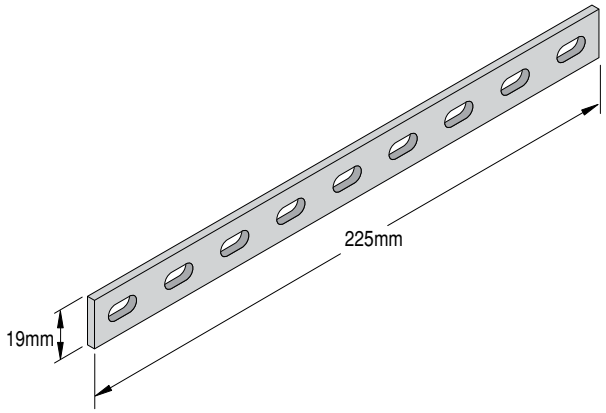
AF-SPLICE

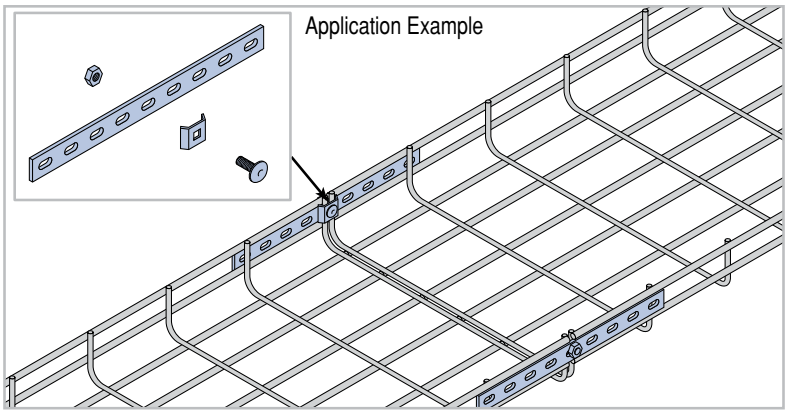
Weight: 0.13kg/each

- Splice bar connector is 19mm x 225mm long
- Standard finish is zinc plated
- Connect using AF-KITCH3 (sold separately)
- Bend 90° for use as an angle connector

NOTES:

1. Always place nut on outside of tray
2. For use with AF50, AF100 & AF150 tray
3. The splice connector is used to connect remnant sections of tray cut from standard lengths and to field fabricate fittings





BEND & INTERSECTION BARS

AF-TBAR1100

Weight: 0.65kg/each

- AF-TBAR1100 connector is 19mm x 1100mm long
- Connect using AF-KITCH3 (sold separately)
- Bend 90° for use as an angle connector

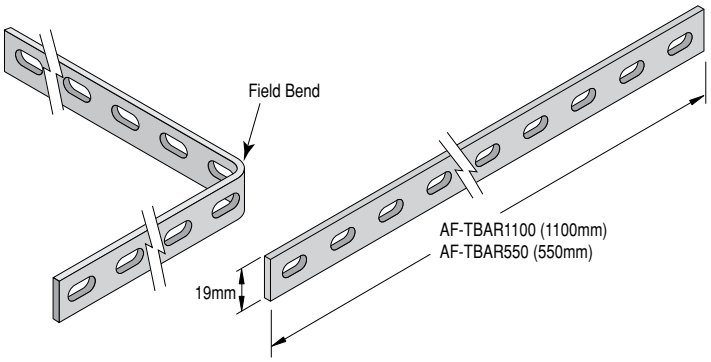
AF-TBAR550

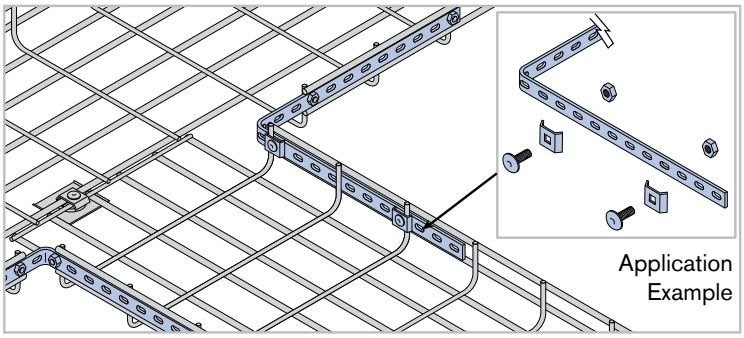
Weight: 0.32kg/each

- AF-TBAR550 connector is 19mm x 550mm long
- Connect using AF-KITCH3 (sold separately)

NOTES:

1. Always place nut on outside of tray
2. For use with AF50, AF100 & AF150 tray
3. Used for tees that require a heavier support
4. These bars are normally cut to appropriate length

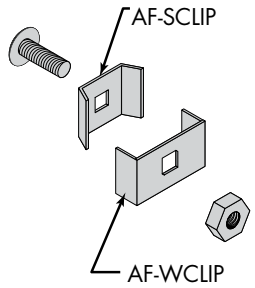




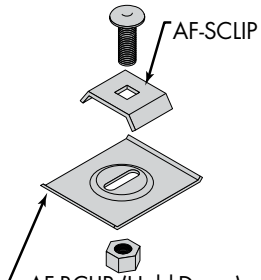
ACROFIL® – CONNECTOR HARDWARE

CONNECTOR HARDWARE OVERVIEW

AF-KITCH1

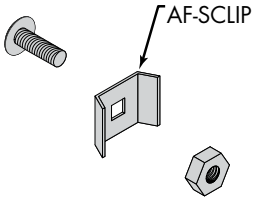


AF-KITCH2

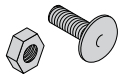


Also see page 130

AF-KITCH3



AF-EG-CBN



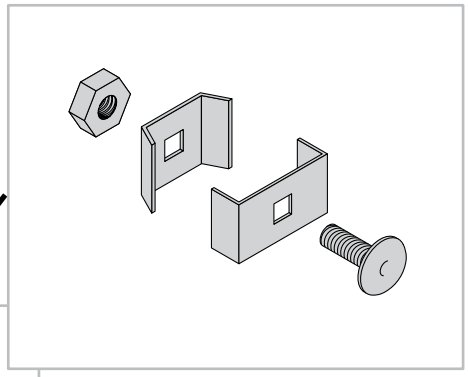
Part Kit	Weight (kg)	NO./ PKG
AF-KITCH1	0.32	10
AF-KITCH2	0.53	10
AF-KITCH3	0.20	10
AF-EG-CBN	0.09	10

Single Part	Weight (kg)	NO./ PKG
AF-SCLIP	0.20	10
AF-WCLIP	0.31	10
AF-BCLIP	0.92	10

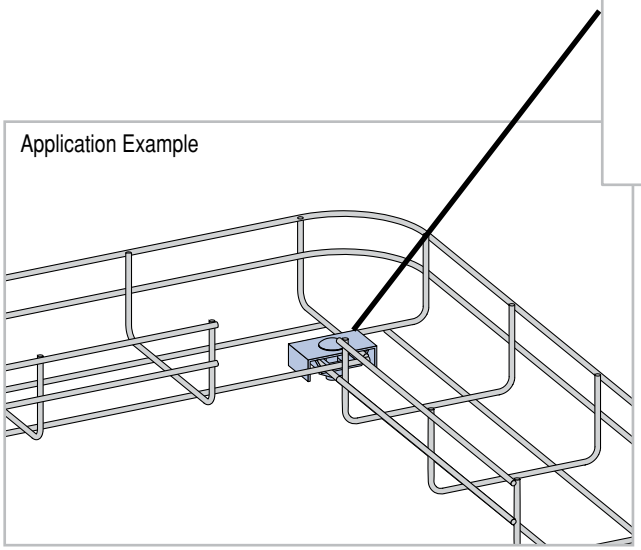
CONNECTOR KIT [AF-KITCH1]

- Standard bar connector is 30mm x 18mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray



Application Example



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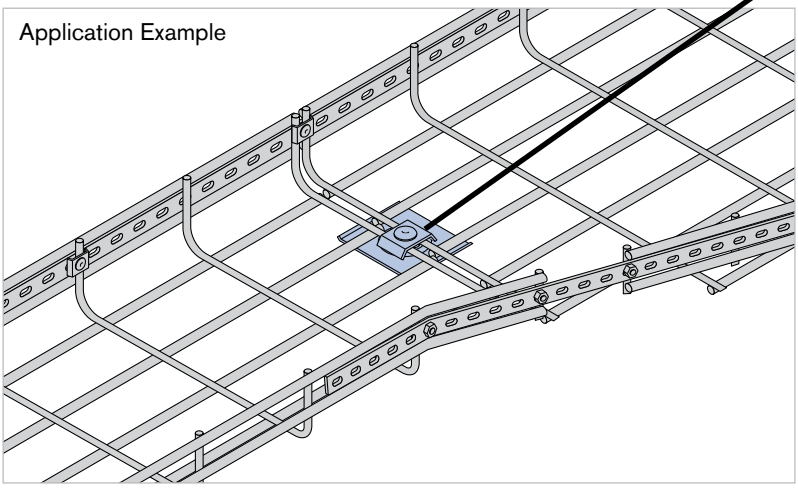
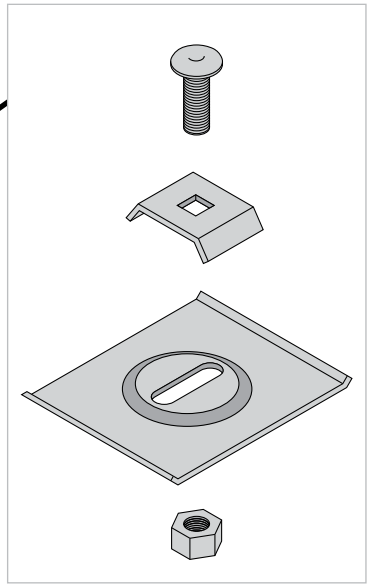
ACROFIL® – CONNECTOR HARDWARE KITS

CONNECTOR KIT [AF-KITCH2]

- Bottom connector is 50mm x 60mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray

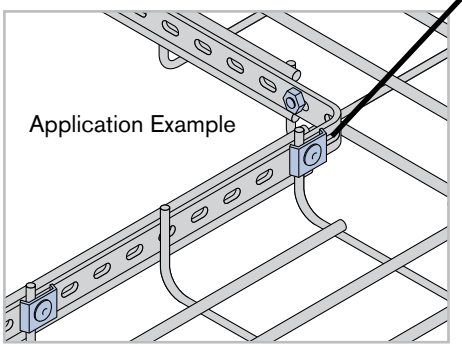


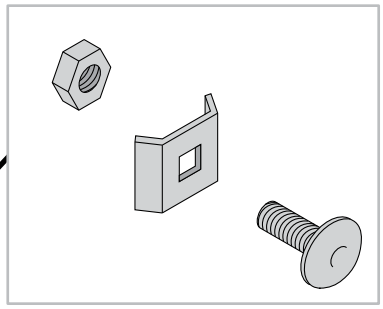


CONNECTOR KIT [AF-KITCH3]

- Universal connector is 18mm x 24mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray

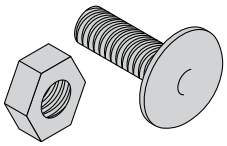




CONNECTOR HARDWARE [AF-EG-CBN]

- M6 x 20 Carriage bolt
- M6 Hex nut
- Standard finish is zinc plated
- Sold in packs of 10 each

NOTE: Always place nut on outside of tray

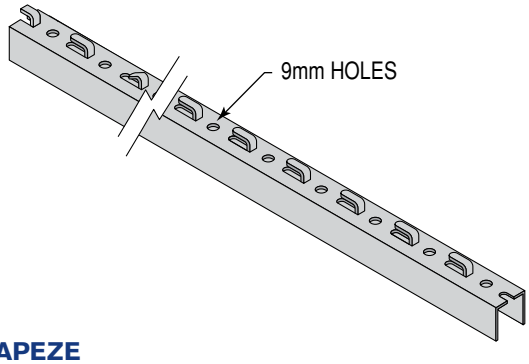


ACROFIL® – SUPPORT BRACKETS

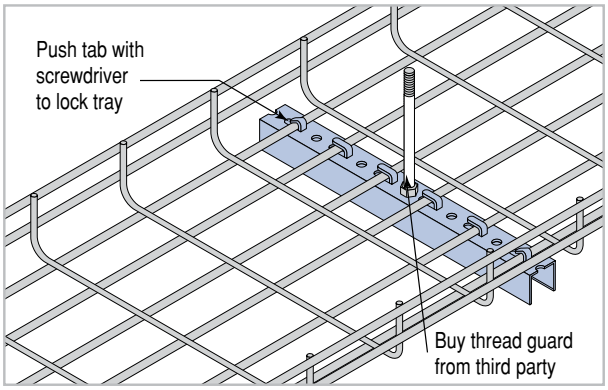
U SUPPORT BRACKET [AF-USB-3M]

Weight: 3.1kg/each

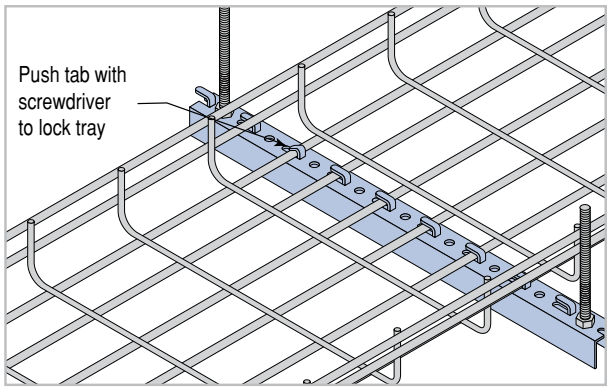
- U support bracket 24mm x 24mm channel
- Standard finish is zinc plated
- Support is 3m long, customer cuts to size as needed
- Cut lengths 150mm wider than tray width for trapeze
  Cut lengths 25mm shorter than tray width for single rod support
- Unique grip system requires only a push of a screwdriver to fasten the tray to the supports
- 9mm holes for rod support



SINGLE ROD



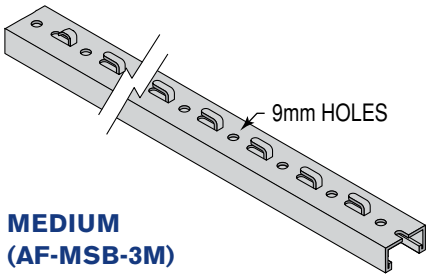
TRAPEZE



SUPPORT BRACKET MEDIUM (AF-MSB-3M)

Weight: 5.4kg/each

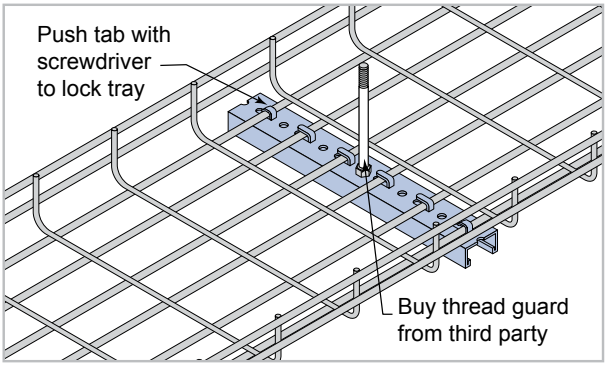
- Medium support bracket is 41mm x 21mm strut
- Standard finish is zinc plated
- Support is 3m long, customer cuts to size as needed
- Cut lengths 150mm wider than tray width for trapeze
  Cut lengths 25mm shorter than tray width for single rod support
- Unique grip system requires only a push of a screwdriver to fasten the tray to the supports
- 9mm holes for rod support



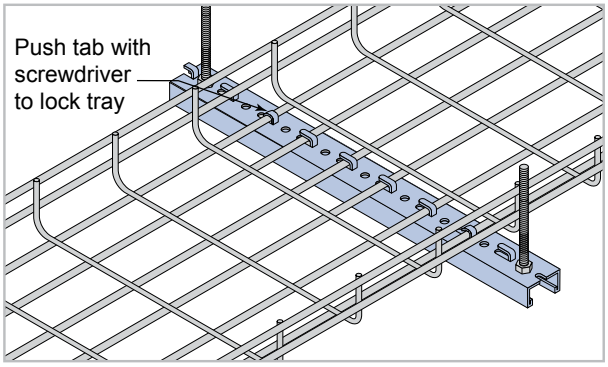
MEDIUM (AF-MSB-3M)

Weight: 5.4 kg/each

SINGLE ROD



TRAPEZE



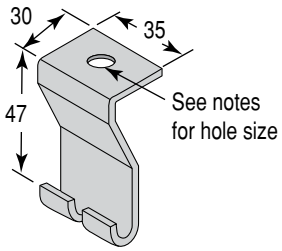
UNISTRUT®

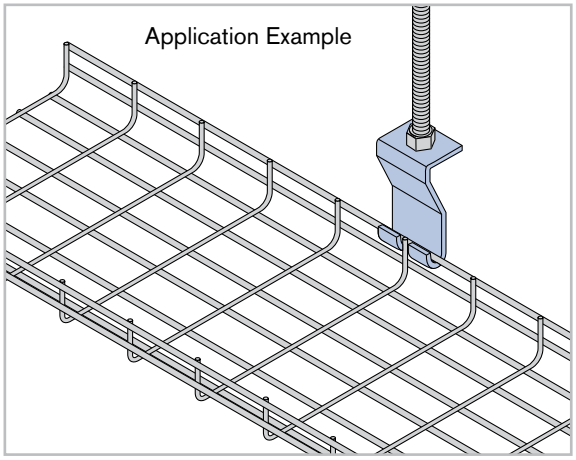
ACROFIL® – DROP ROD CLIPS

DROP ROD CLIP (AF-SIDECLIP)

Weight: 0.06kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all widths of tray
- Use AF-SIDECLIPM8 for 8mm Rod
  Use AF-SIDECLIPM10 for 10mm Rod

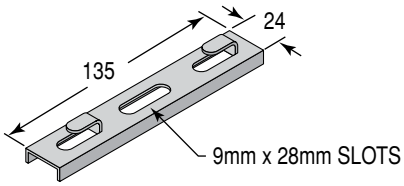


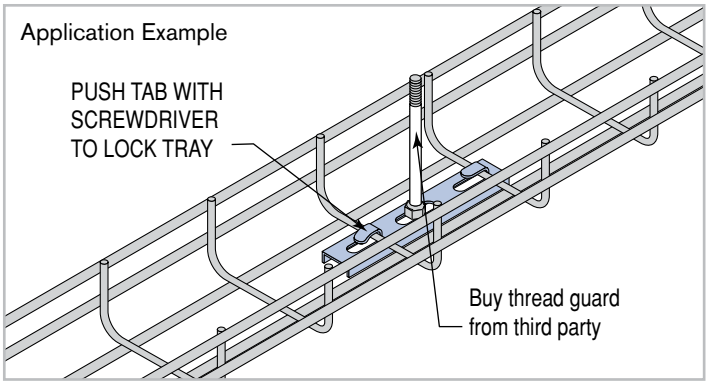


DROP ROD CLIP (AF-RODCLIP1)

Weight: 0.05kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all 100mm wide & 150mm wide tray

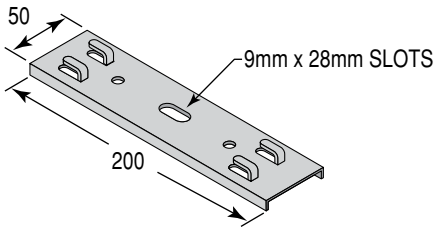


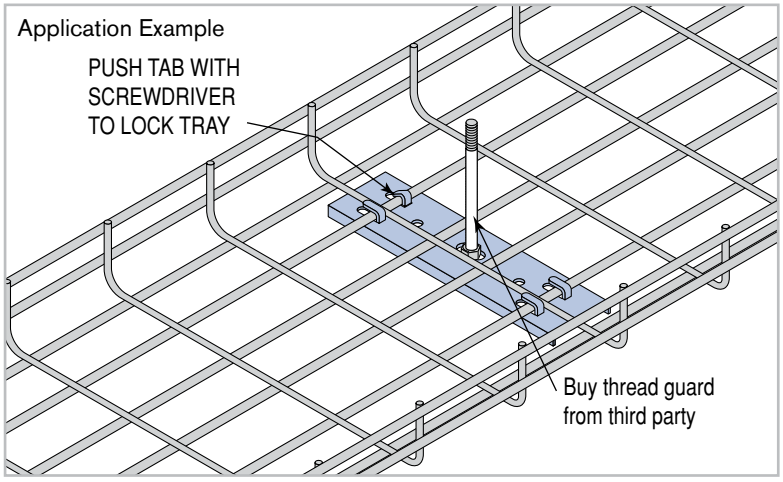


DROP ROD CLIP [AF-RODCLIP2]

Weight: 0.18kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all 200mm wide & 300mm wide tray

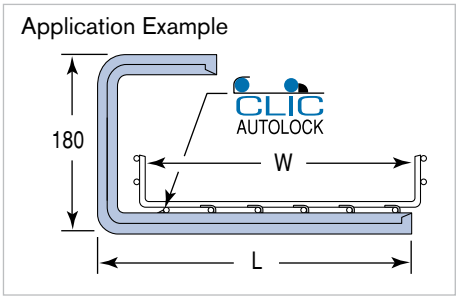


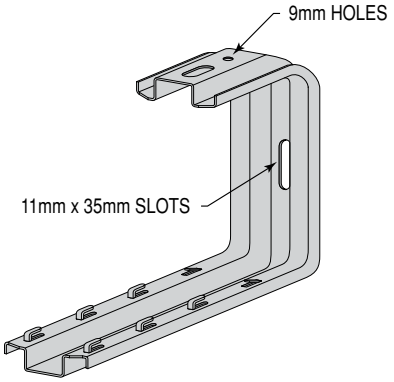


ACROFIL® – WALL & CEILING MOUNTS

CEILING CLIP [AF-CCA-(W)]

- For attaching tray to ceiling
- Standard finish Galvabond Z275
- Easy mounting of the cable tray using grips and autolock

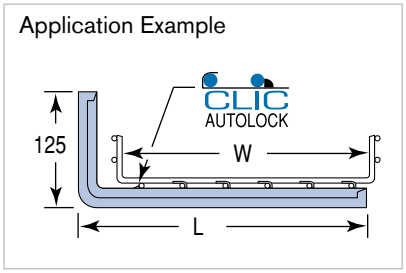


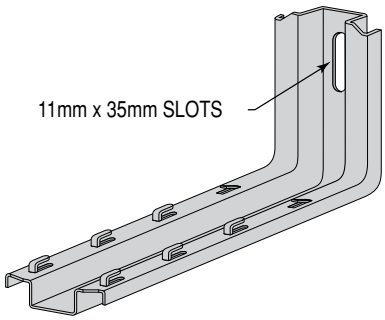


Part No.	Tray Size (W) (mm)	Length (L) (mm)	Weight (kg)	Load (kN)
AF-CCA-100	100	145	0.59	1.08
AF-CCA-150	150	195	0.67	0.78
AF-CCA-200	200	245	0.75	0.59
AF-CCA-300	300	345	0.90	0.39
AF-CCA-400	400	445	1.05	0.29

WALL CLIP [AF-CPA-(W)]

- For attaching tray to wall
- Standard finish Galvabond Z275
- Easy mounting of the cable tray using grips and autolock



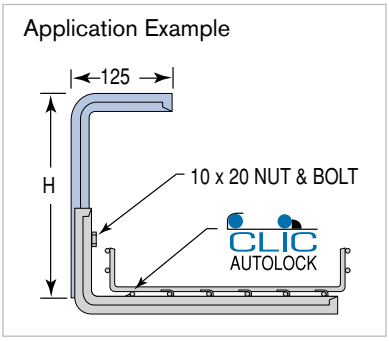


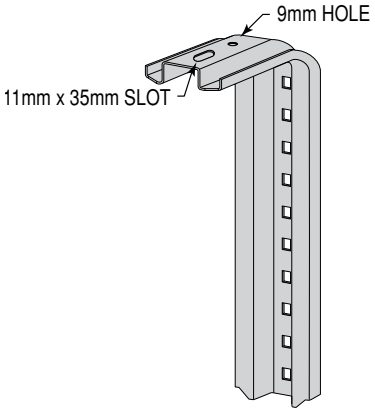
Part No.	Tray Size (W) (mm)	Length (L) (mm)	Weight (kg)	Load (kN)
AF-CPA-100	100	150	0.37	1.28
AF-CPA-150	150	200	0.44	1.28
AF-CPA-200	200	250	0.52	0.88
AF-CPA-300	300	350	0.67	0.59
AF-CPA-400	400	450	0.82	0.49

PENDANT [AF-PPA-(H)]

- Standard finish is Galvabond Z275
- For attaching tray to ceiling. Used with wall clip AF-CPA Series

Part No.	Height (H) (mm)	Weight (kg)
AF-PPA-150	150	0.32
AF-PPA-250	250	0.50
AF-PPA-350	350	0.59
AF-PPA-450	450	0.77
AF-PPA-550	550	0.91
AF-PPA-650	650	1.04



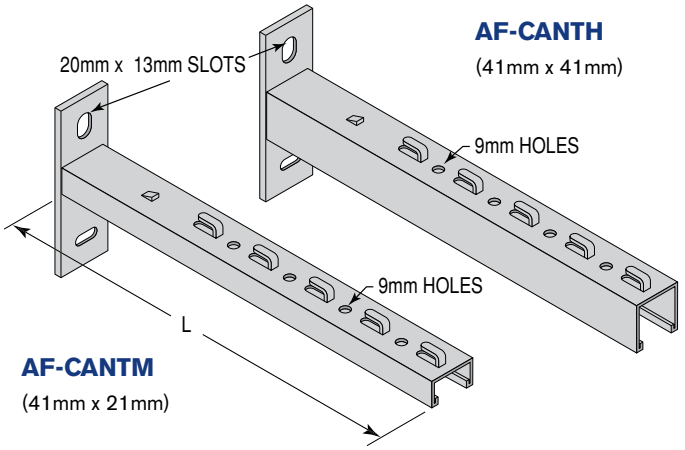


UNISTRUT®

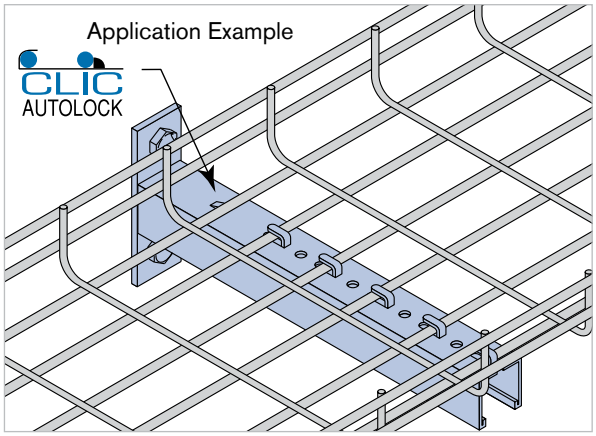
ACROFIL® – CANTILEVER & ZED FLOOR/WALL BRACKETS

CANTILEVER MEDIUM [AF-CANTM-(W)] & HEAVY [AF-CANTH-(W)]

- Standard finish is Hot Dipped Galvanised
- Cantilever arm support 41mm x 41mm or 41mm x 21mm strut
- Unique Auto-Lock system requires no hardware to fasten the tray to the supports
- Use Strut Profile to support other items below the support bracket using strut hardware



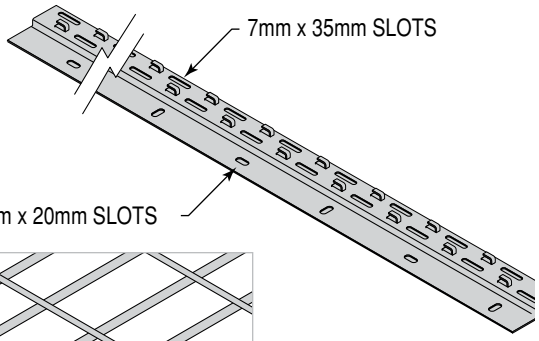
Part No.	Channel Size (mm)	Tray Width (W) (mm)	Length (L) (mm)	Weight (kg)	Load (kN)
AF-CANTM-150	41 x 21	150	180	0.45	2.45
AF-CANTM-200	41 x 21	200	230	0.52	1.77
AF-CANTM-300	41 x 21	300	330	0.66	1.57
AF-CANTH-200	41 x 41	200	230	0.72	4.41
AF-CANTH-300	41 x 41	300	330	0.95	3.34
AF-CANTH-400	41 x 41	400	430	1.29	2.65
AF-CANTH-500	41 x 41	500	530	1.52	2.65
AF-CANTH-600	41 x 41	600	630	1.78	2.16

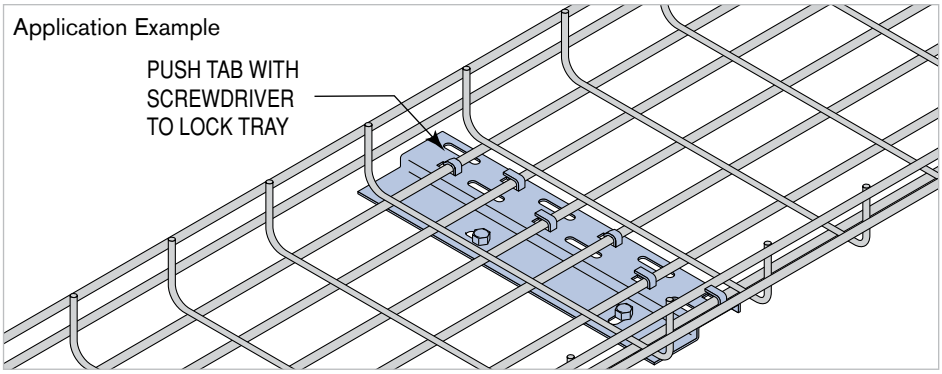


ZED [AF-ZBAR-3M]

Weight: 4.8kg/each

- ZED floor or wall mounted support is 13mm x 89mm
- Standard finish Galvabond Z275
- Support is 3m long, customer cuts to size as needed
- Unique grip system requires only a push of a screwdriver to fasten the tray to the supports



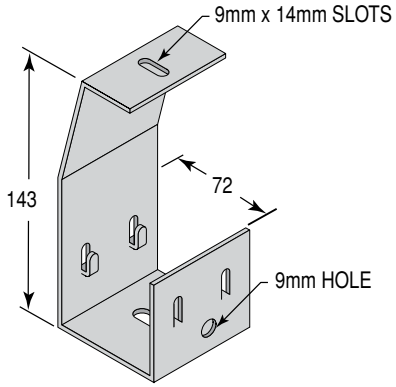


ACROFIL® – HANGERS

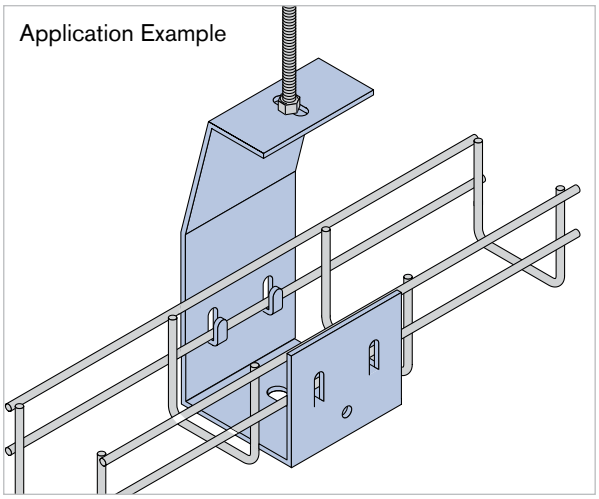
HANGER [AF-HGR-50]

- Standard finish is Galvabond Z275
- Ceiling or center hung with threaded rod

NOTE: For use with AF50-50 only



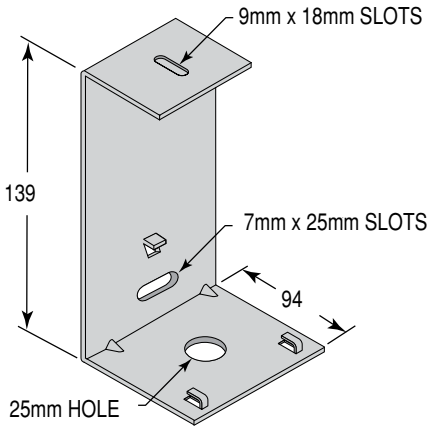
Application Example



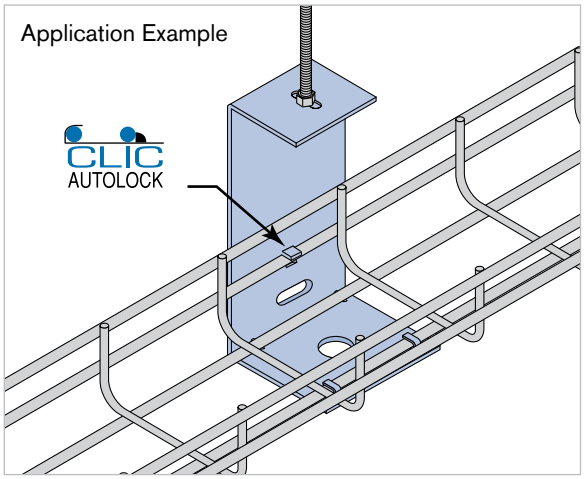
HANGER [AF-HGR-100]

- Standard finish is Galvabond Z275
- Ceiling or center hung with Unirod steel threaded rod

NOTE: For use with AF50-100 or AF100-100 only



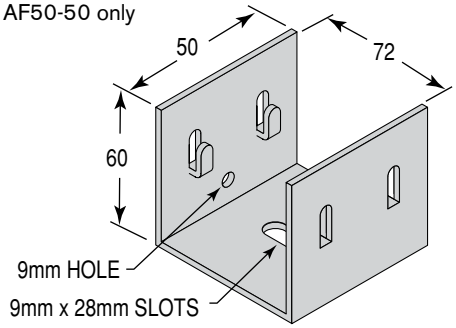
Application Example



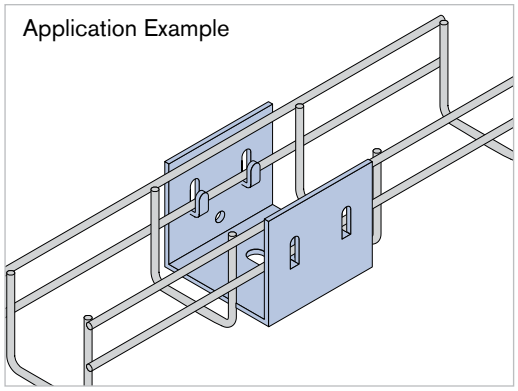
WALL BRACKET [AF-WB-50]

- Standard finish is Galvabond Z275

NOTE: For use with AF50-50 only



Application Example



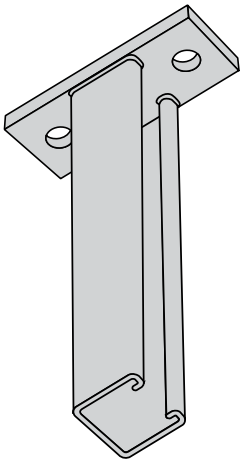
UNISTRUT®

ACROFIL® – HANGING BRACKETS AND PENDANTS

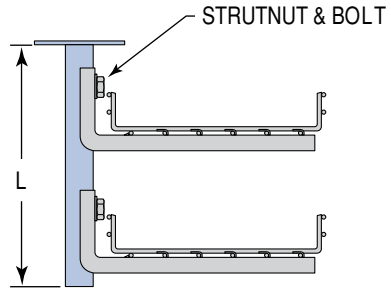
SINGLE CHANNEL PENDANT [P2663-(L)]

- Standard finish is Hot Dipped Galvanised

Part No.	Length (L) (mm)	Design Uniform Load (kN)	Weight (kg)
P2663-250	250	3.01	1.02
P2663-400	400	1.88	1.43
P2663-550	550	1.36	1.86
P2663-700	700	1.06	2.29



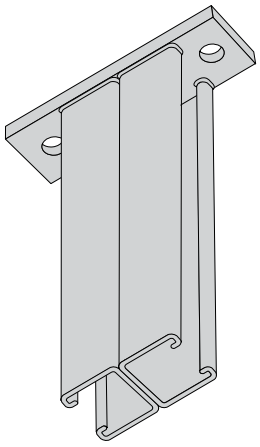
Application Example



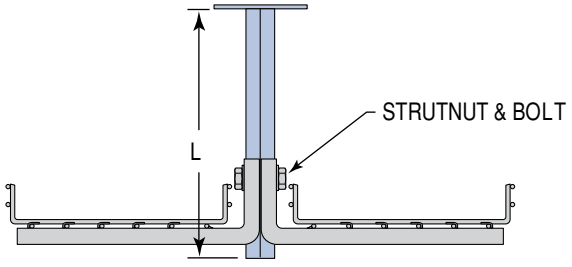
BACK-TO-BACK CHANNEL PENDANT [P2542 THRU P2546]

- Standard finish is Hot Dipped Galvanised

Part No.	Length (L) (mm)	Design Uniform Load (kN)	Weight (kg)
P2542	305	7.57	2.28
P2543	460	5.22	3.14
P2544	610	3.98	4.00
P2545	760	3.21	4.87
P2546	915	2.67	5.74



Application Example



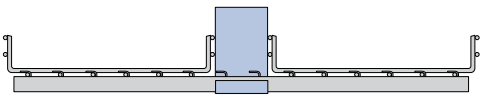
ACROFIL® – HANGING BRACKETS

HANGING BRACKET [AF-CB-MSB]

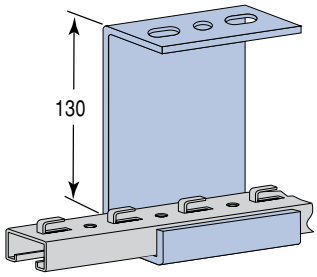
Weight: 0.66kg/each

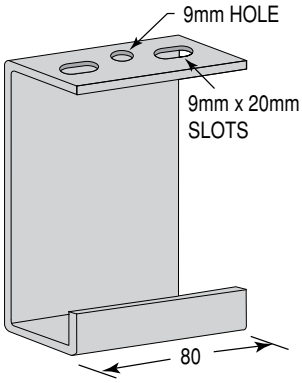
- Standard finish is Galvabond Z275
- For Use with:
  AF-MSB-3M Medium Support Bracket
  Strut see page 113.

Application Example



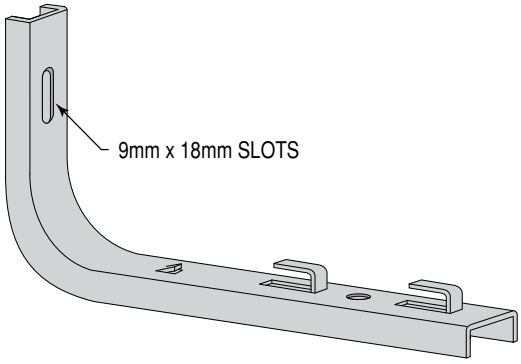
Application Example



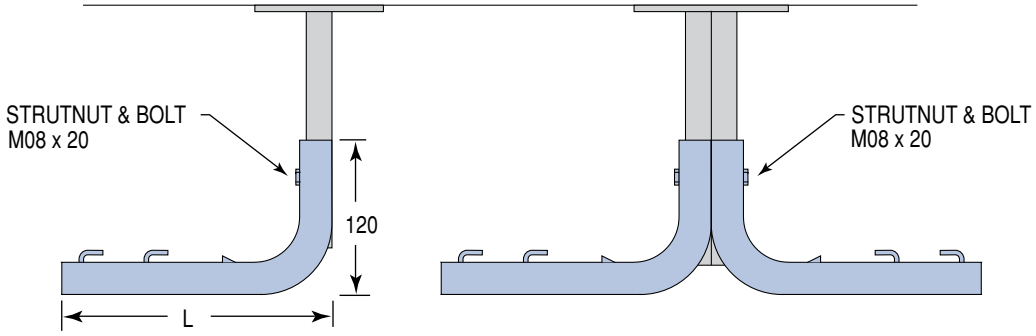


BRACKET [AF-CMA-(W)]

- Standard finish is Galvabond Z275
- Mounted on cantilever arms or channels
- Easy mounting of the bracket using grips and autolock
- Designed for use with new/existing 41mm strut framing



Application Example



Part No.	Tray Width (W) (mm)	Length (L) (mm)	Wt (kg)	Load (kN)
AF-CMA-100	100	152	0.38	1.27
AF-CMA-150	150	202	0.47	1.03
AF-CMA-200	200	252	0.56	0.78
AF-CMA-300	300	352	0.73	0.59
AF-CMA-400	400	452	0.88	0.39

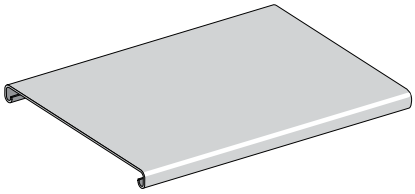
UNISTRUT®

ACROFIL® – ACCESSORIES

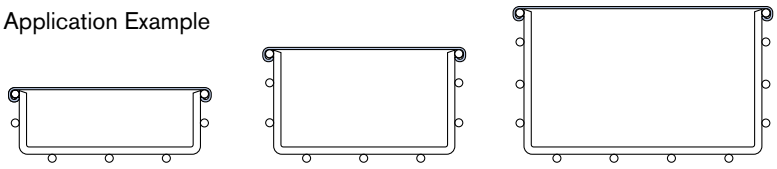
COVER [AF-CVR-(W)]

- Standard finish is Pregalvanised.
- Length is 3m

Part	Weight (kg)
AF-CVR-50	2.4
AF-CVR-100	3.6
AF-CVR-150	4.8
AF-CVR-200	6.0
AF-CVR-300	8.4
AF-CVR-400	16.2
AF-CVR-450	18.0
AF-CVR-500	19.8
AF-CVR-600	23.4



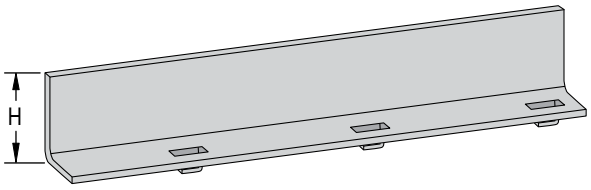
Application Example



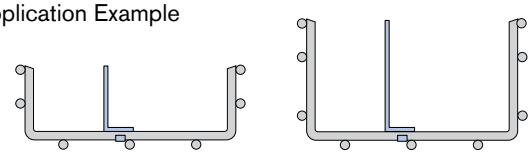
TRAY DIVIDERS [AF-DIV50] & [AF-DIV100]

- Standard finish is Galvabond Z275
- Locks into tray with auto-lock tabs (no hardware required)
- Cut “V” notches into bottom flange to make barriers for flat fittings

Part	Height (H) (mm)	Weight (kg)
AF-DIV-50	50	2.4
AF-DIV-100	100	3.6

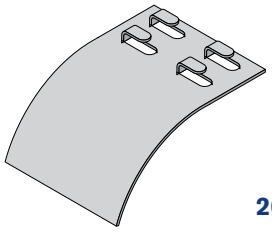


Application Example

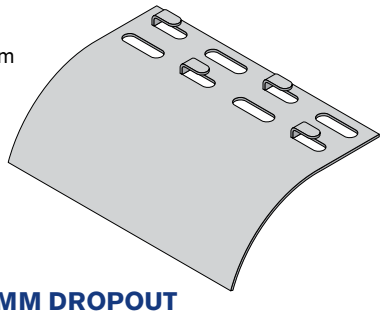


DROP OUT [AF-(W)DO]

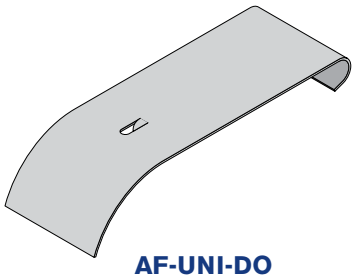
- Standard finish is Galvabond Z275
- AF-UNI-DO can be used in any 50mm x 100mm mesh opening or as a “side-out”



100MM DROPOUT



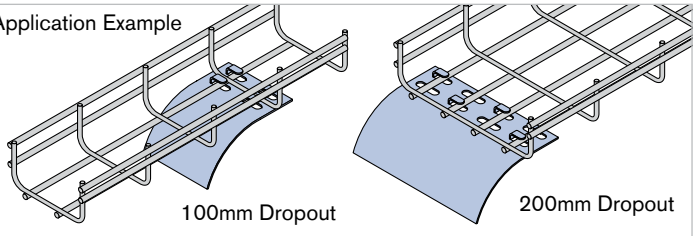
200MM DROPOUT



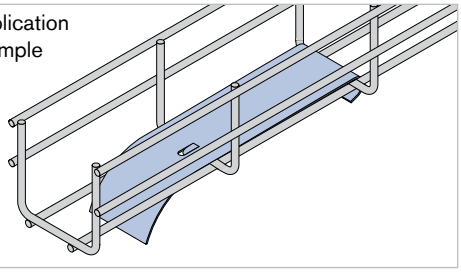
AF-UNI-DO

(50mm Universal Dropout)

Application Example



Application Example

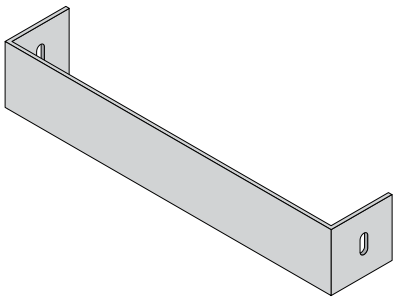


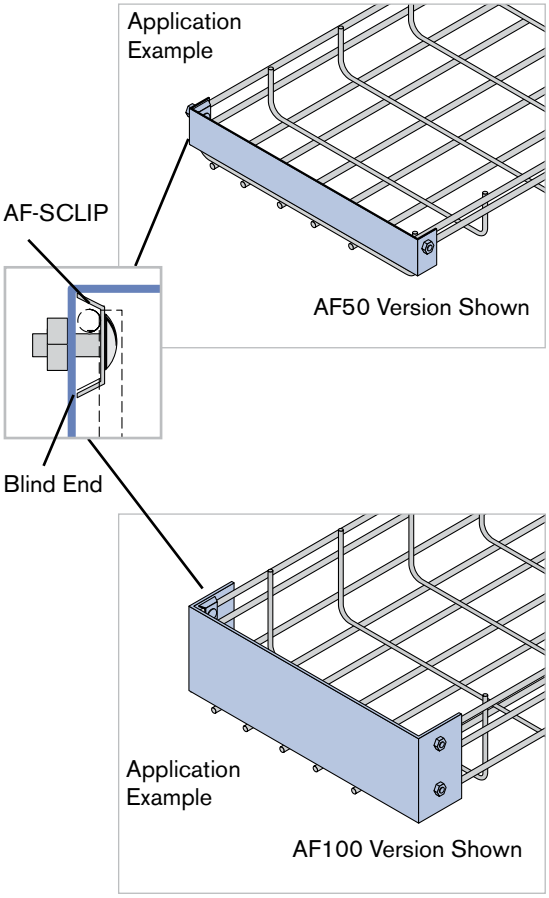
BLIND END [AF(H)-BE(W)]

- Standard finish is Galvabond Z275
- Standard use per blind end is:
  (2 pc) AF-KITCH3 (sold separately)

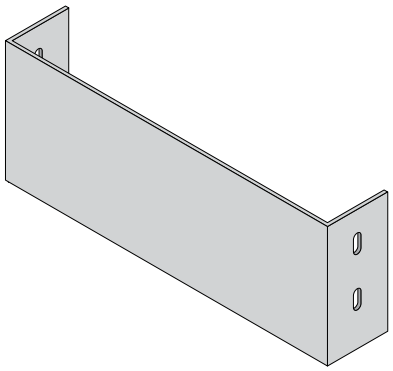
NOTES:

1. Always place nut on outside of tray

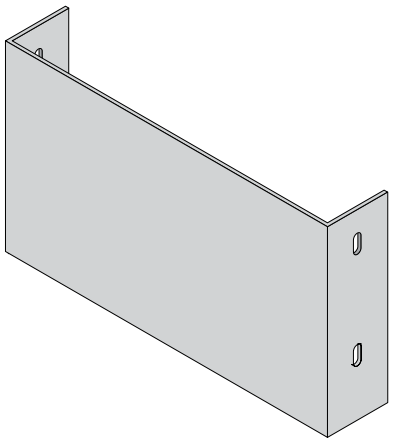




Part	Weight (kg)
AF50-BE100	0.08
AF50-BE150	0.10
AF50-BE200	0.13
AF50-BE300	0.18
AF50-BE400	0.23
AF50-BE450	0.26
AF50-BE500	0.29
AF50-BE600	0.32



Part	Weight (kg)
AF100-BE100	0.24
AF100-BE200	0.29
AF100-BE300	0.34
AF100-BE400	0.44
AF100-BE450	0.49
AF100-BE500	0.54
AF100-BE600	0.65



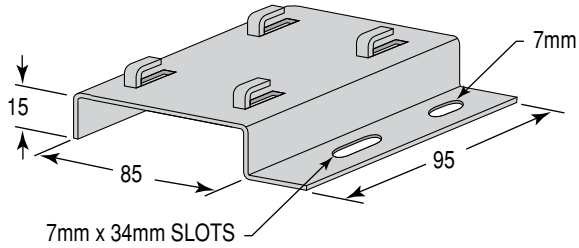
Part	Weight (kg)
AF150-BE300	0.51
AF150-BE400	0.64
AF150-BE600	0.95

UNISTRUT®

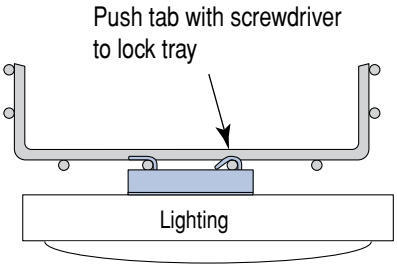
ACROFIL® – ACCESSORIES

LIGHTING BRACKET [AF-LIGHTB]

- Standard finish is Galvabond Z275



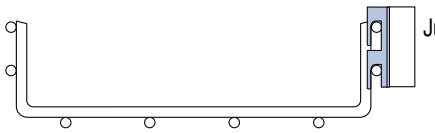
Application Example

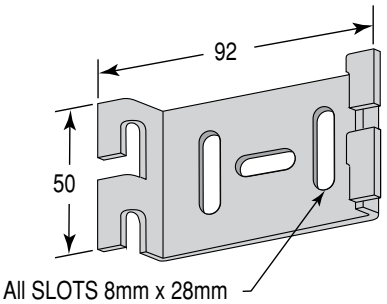


ELECTRICAL BOX BRACKET [AF-JBOX]

- Standard finish is Galvabond Z275

Application Example



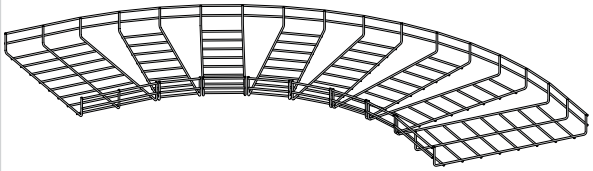


ACROFIL® – FITTINGS OVERVIEW

FITTINGS OVERVIEW

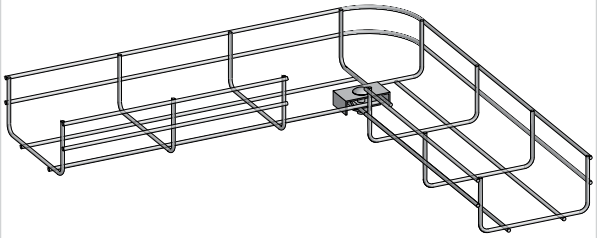
Fittings are typically fabricated on the job.
To determine the fitting hardware required to create a set of fittings, see the following pages

90° LONG RADIUS BEND



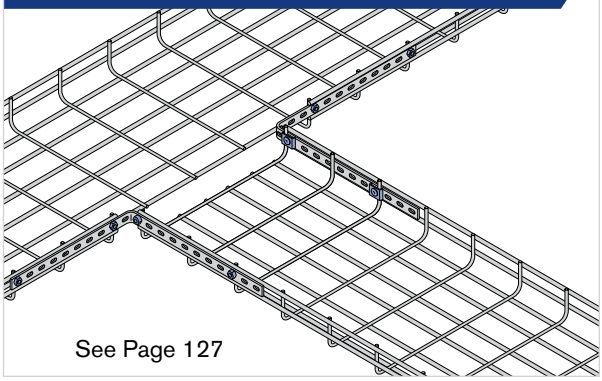
See Page 124

90° SHORT RADIUS BEND



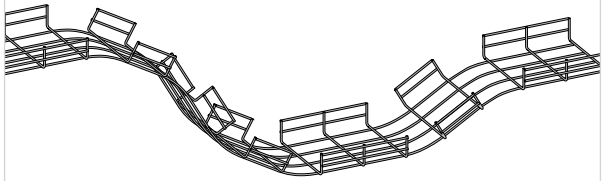
See Pages 125 - 126

TEE AND CROSS



See Page 127

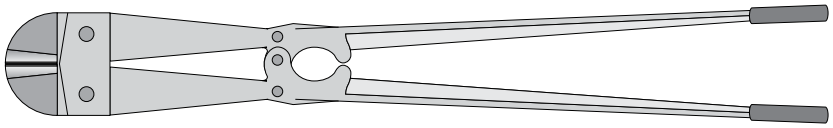
RISERS

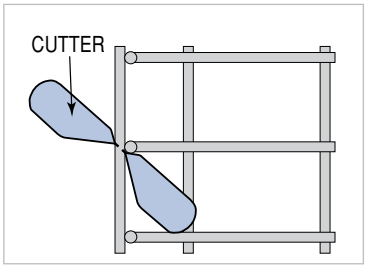


See Page 128

CUTTING TOOL [AF-CUTTOOL]

Fittings can be formed easily on-site by cutting the bottom and side wires. Cut the tray bars on an angle as shown in the illustration.





NOTE: When cutting, keep the remaining sharp edge away from the inside of the tray.

UNISTRUT®

ACROFIL® – 90° LONG RADIUS BENDS

90 DEGREES BENDS - LONG RADIUS

1. CUT THE BOTTOM AND SIDE WIRES

To form 90° bends in the tray, cut out the number of sections shown below based on the width of the tray used.

2. ASSEMBLE USING APPROPRIATE HARDWARE

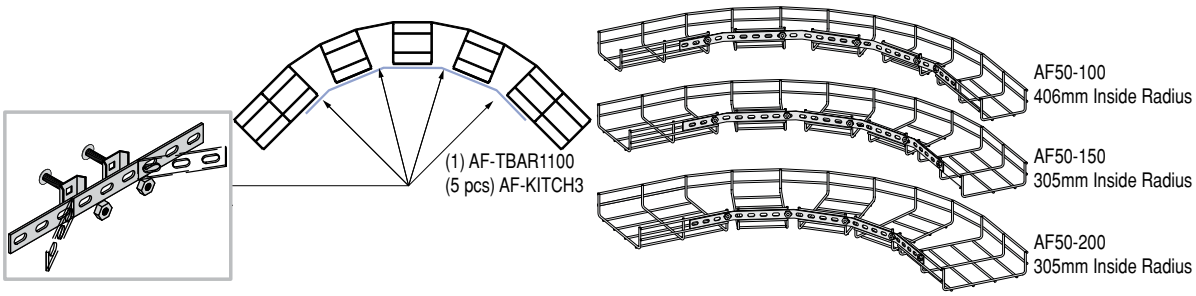
Standard hardware is shown with each bend size.

Advantages:

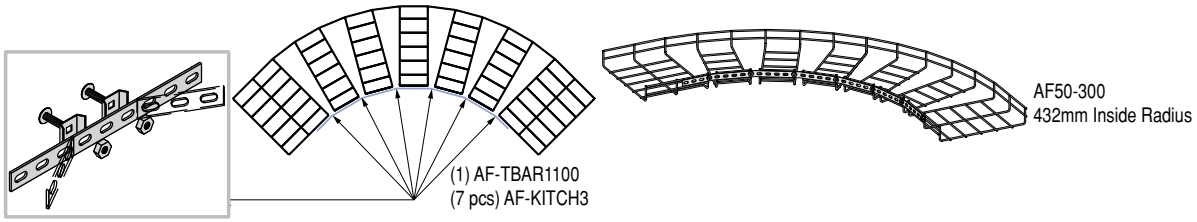
- Use as bonding jumper
- Vertical support of standing sections
- Adjustable radius allowances

NOTE: Always place nut on outside of tray

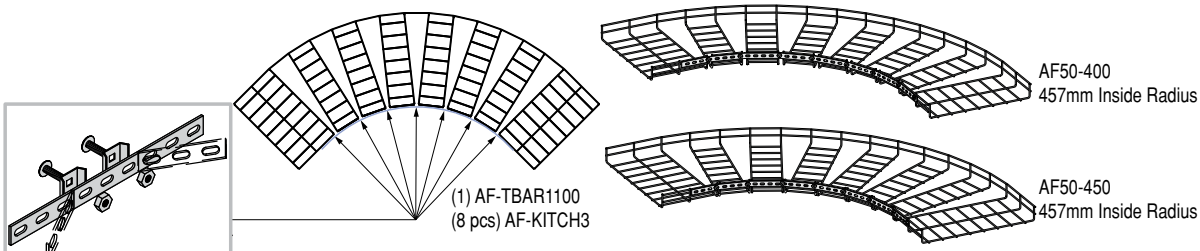
CUT OUT 4 SECTIONS OF MESH



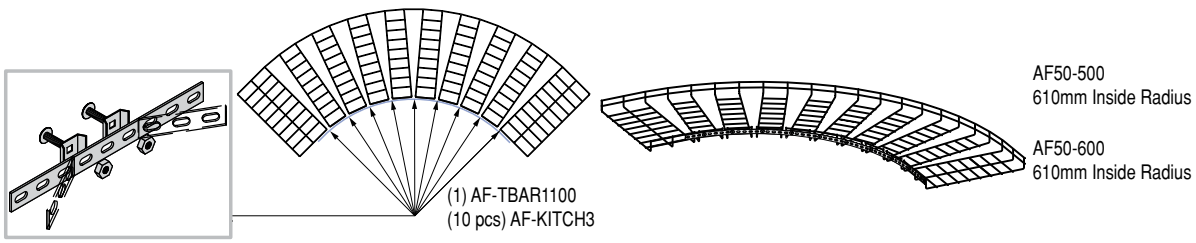
CUT OUT 6 SECTIONS OF MESH



CUT OUT 7 SECTIONS OF MESH



CUT OUT 9 SECTIONS OF MESH



ACROFIL® – 90° SHORT RADIUS BENDS

90° BENDS - FORMING INSTRUCTIONS

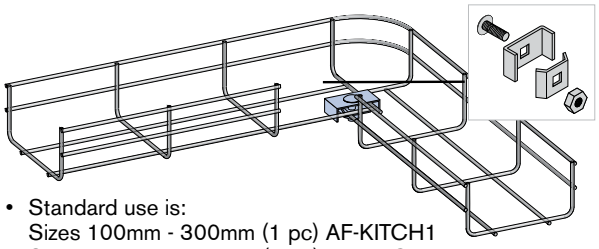
To form 90° bends in the tray, cut the wires shown in the color shaded area of the drawing which corresponds to the width of the tray used.

1. CUT THE BOTTOM AND SIDE WIRES

Bends can be formed easily on-site by cutting the bottom and side wires. The shaded areas indicated should be cut and removed. Then, simply bend ACROFIL® cable tray to form a 90° angle and you are ready to install. Make sure you use the appropriate hardware.

2. ASSEMBLE USING APPROPRIATE HARDWARE

AF-KITCH1

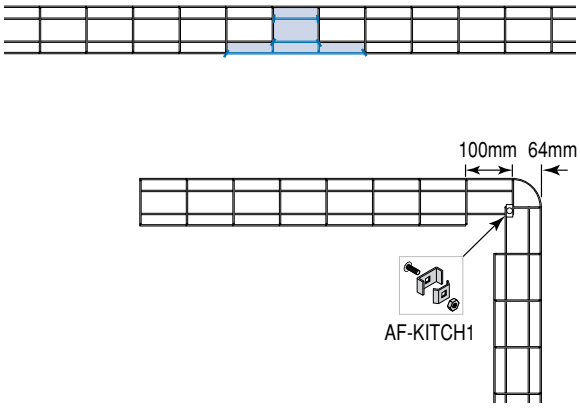


- Standard use is:
  Sizes 100mm - 300mm (1 pc) AF-KITCH1
  Sizes 400mm - 600mm (2 pc) AF-KITCH1

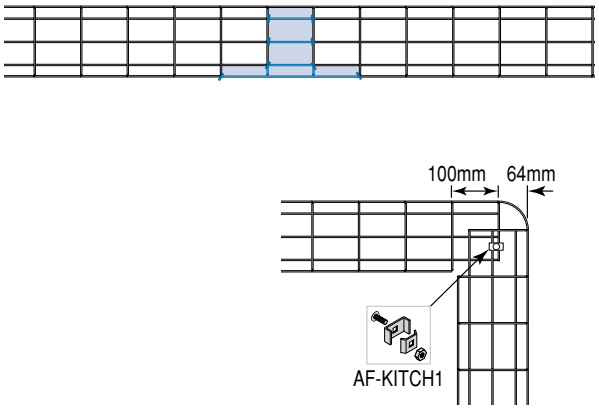
NOTE: Always place nut on outside of tray

90° BENDS - CUTTING DIAGRAMS

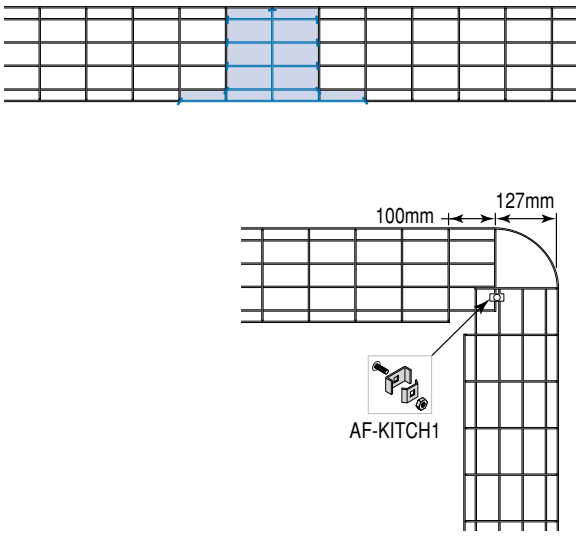
100mm



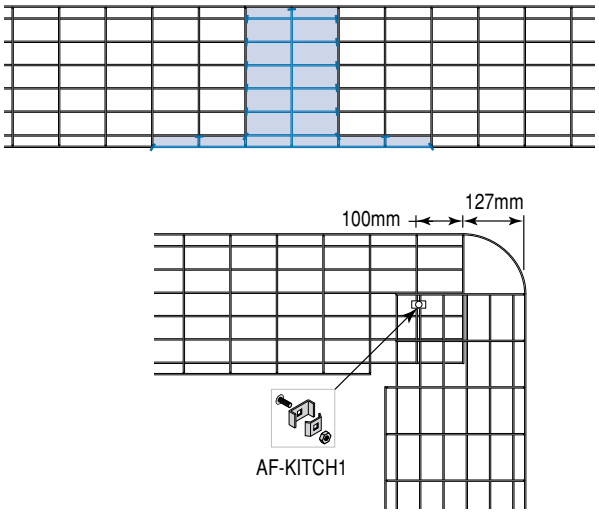
150mm



200mm



300mm

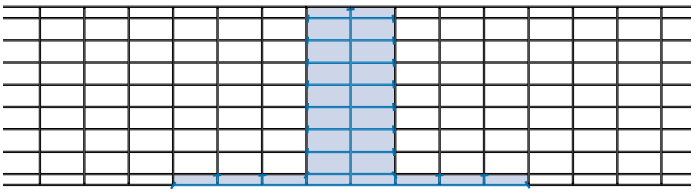


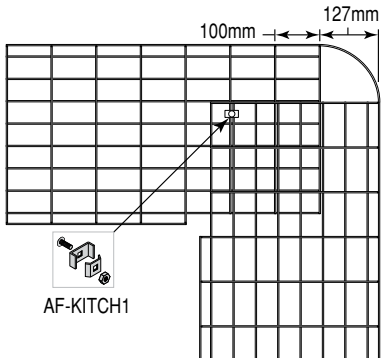
UNISTRUT®

ACROFIL® – 90° SHORT RADIUS BENDS

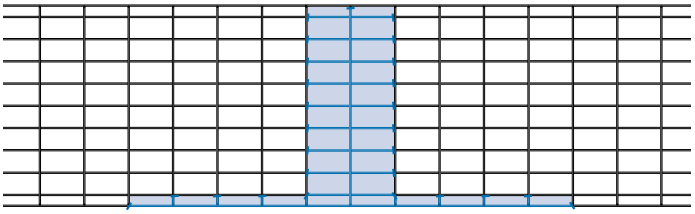
90° BENDS - CUTTING DIAGRAMS

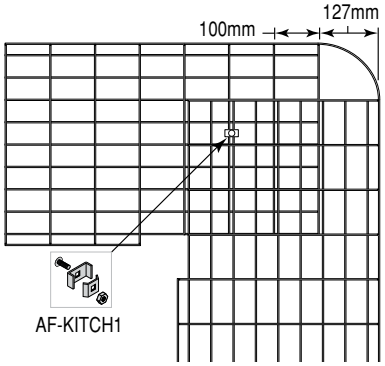
400MM



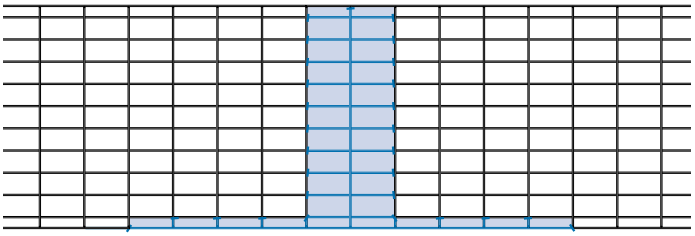


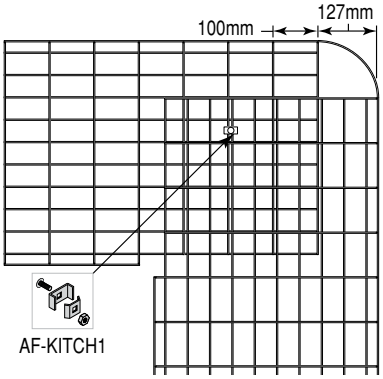
450MM



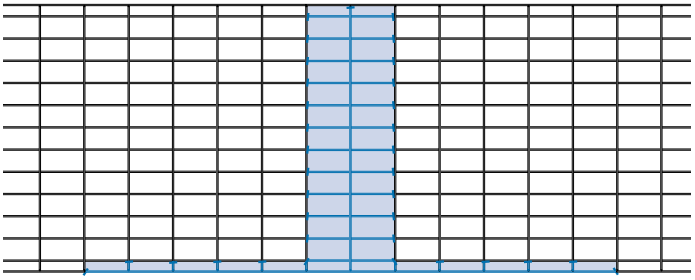


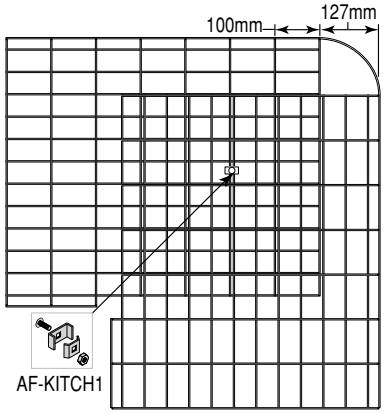
500MM





600MM





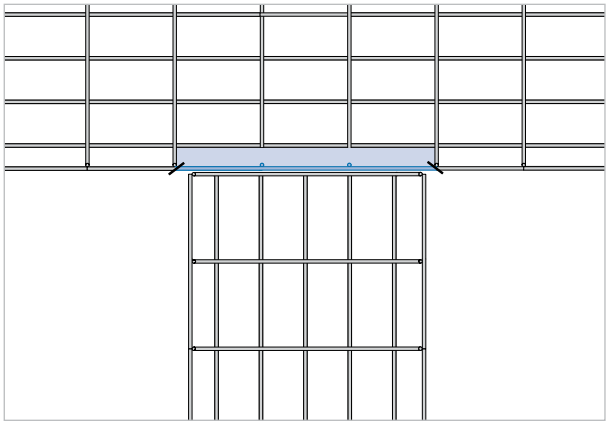
ACROFIL® – CROSS & TEE FITTINGS

STANDARD TEE

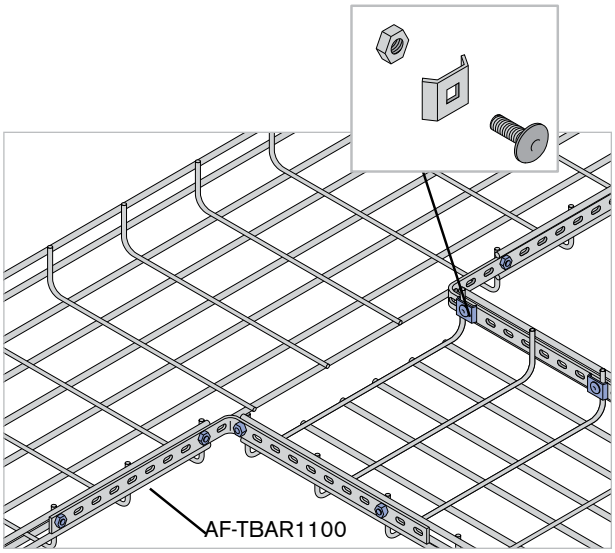
- Standard use per tee is:
  (2 pc) AF-TBAR550 or (1 pc) AF-TBAR1100 cut in half
  (8 pc) AF-KITCH3

NOTE: Always place nut on outside of tray

To form a tee, cut the wires marked in blue.



AF-KITCH3

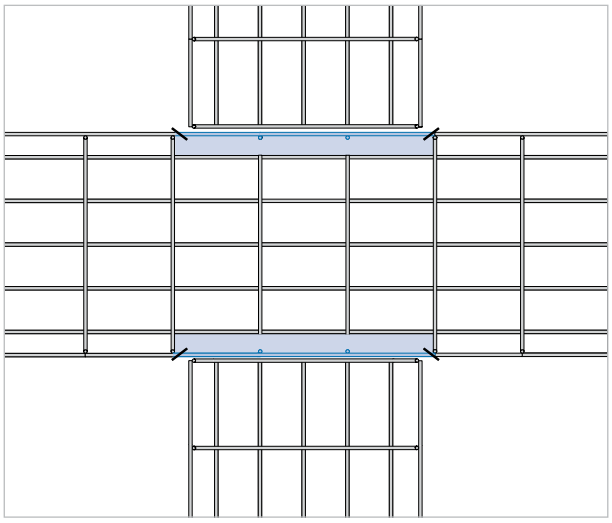


CROSS

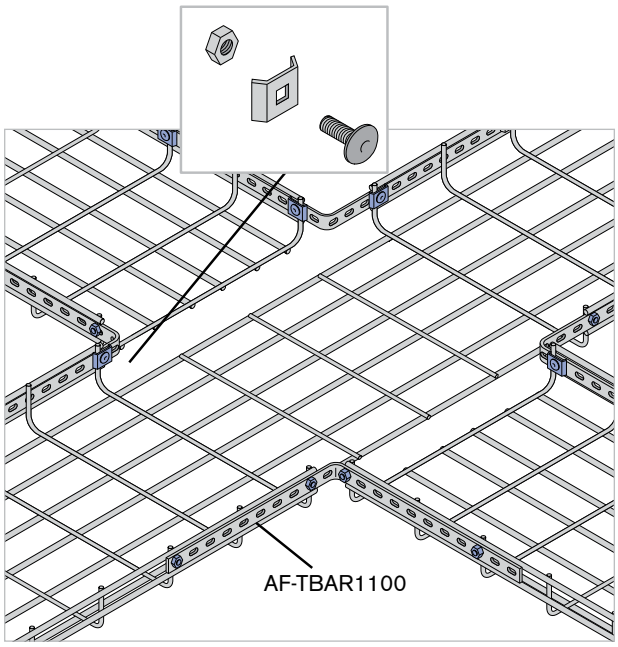
- Standard use per cross is:
  (4 pc) AF-TBAR550 or (2 pc) AF-TBAR1100 cut in half
  (16 pc) AF-KITCH3

NOTE: Always place nut on outside of tray

To form a cross, cut the wires marked in blue.



AF-KITCH3



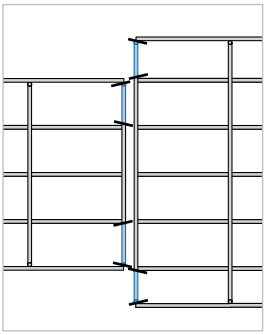
UNISTRUT®

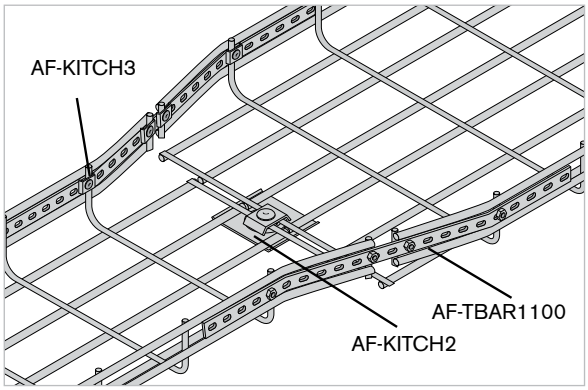
ACROFIL® – REDUCER, OFFSET FITTINGS & RISER

REDUCER

- Standard use per reducer is:
  (2 pc) AF-TBAR1100
  (8 pc) AF-KITCH3
  (1 pc) AF-KITCH2

NOTE: Always place nut on outside of tray

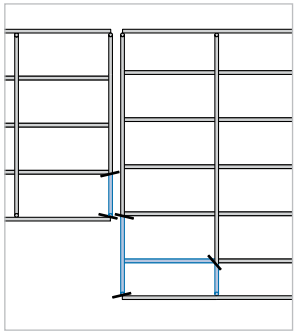


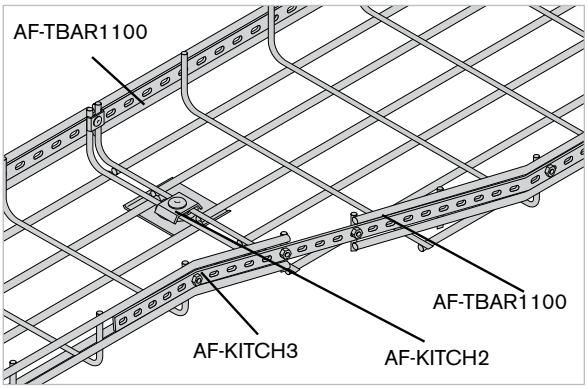


OFFSET

- Standard use per offset is:
  (2 pc) AF-TBAR1100
  (8 pc) AF-KITCH3
  (1 pc) AF-KITCH2

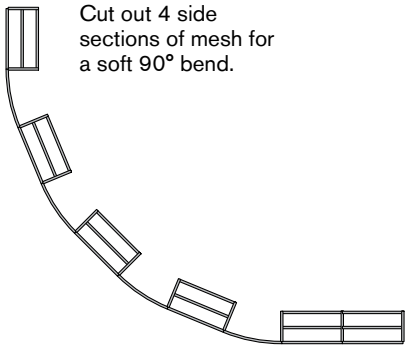
NOTE: Always place nut on outside of tray

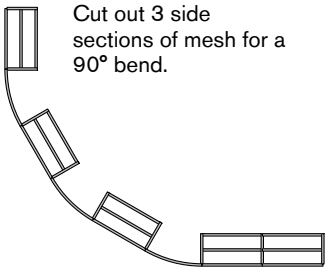


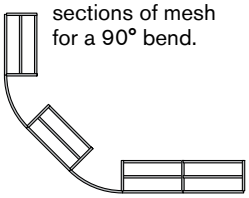


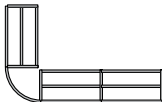
RISER

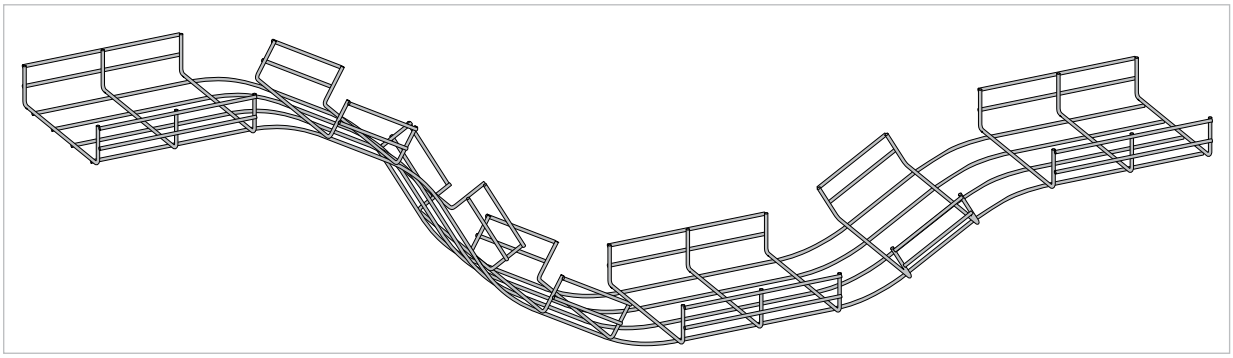
Risers and drops can be created to avoid different obstacles in the job path. Simply cut out the required number of side mesh sections and bend a vertical riser or drop to fit the application.











ACROFIL® – GROUNDING

GROUNDING

Unistrut® recommends use of a separate ground wire for equipment grounding.

Any non-conductive coating to ACROFIL® must be removed by the contractor/end-user to maintain electrical continuity.

Straight Sections

The grounding of two straight sections requires the use of
(2) AF-GCLIP's and
(2) AF-EG-CBN's.

These items consist of grounding clips and the appropriate hardware, for connecting to the trays. One clip should be placed on both sides of the tray, attached at the self-splicing bar.

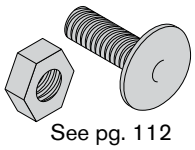
Fittings

Grounding of fittings requires special attention. Typically fittings are fabricated in the field by cutting straight sections, thus altering the cross sectional area of the tray. A bonding jumper, and or a AF-TBAR1100 Splice, along with the appropriate hardware must be used on either side of the fitting to ensure electrical continuity.

Straights

2 pcs of AF-GCLIP
2 pcs of AF-EG-CBN

AF-EG-CBN

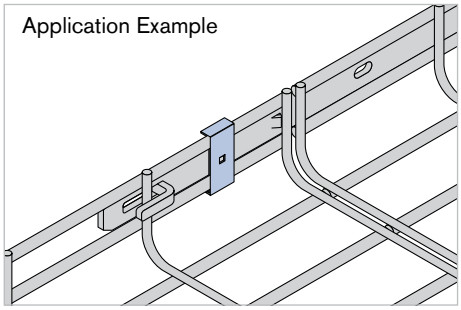


See pg. 112

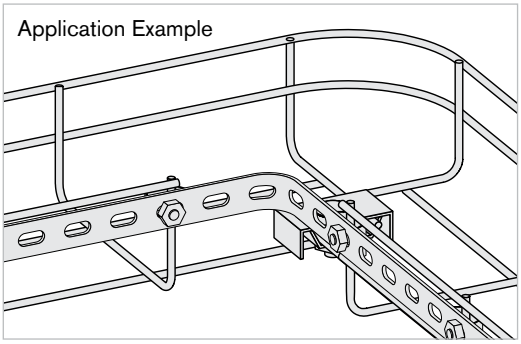
Fittings

AF-TBAR1100 and AF-KITCH3s

Application Example



Application Example

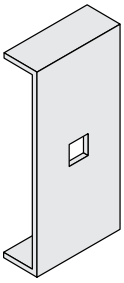


GROUNDING CLIP [AF-GCLIP]

- Standard finish is Galvabond Z275
- Sold in packs of 10
- Connection to splice bars requires a nut and bolt assembly (AF-EG-CBN) purchased separately
- Use on both sides of tray

NOTE: Always place nut on outside of tray

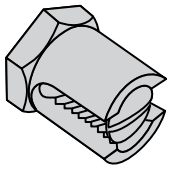
AF-GCLIP's must be utilized if the tray is to be utilized as an equipment ground conductor.

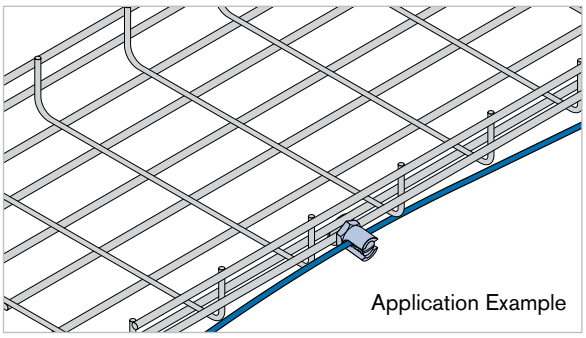


GROUNDING CLAMP/SPLIT BOLT

- Split bolts are utilised for the attachment of a separate ground wire.

NOTE: Always place nut on outside of tray





Application Example

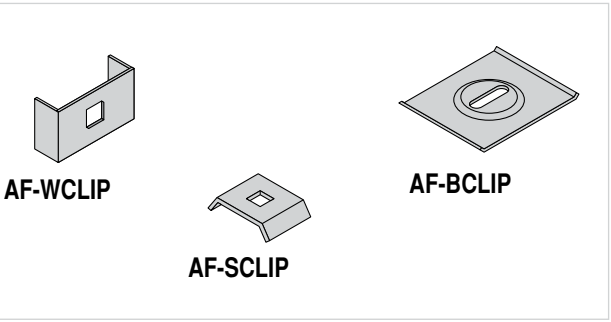
UNISTRUT®

ACROFIL® – HARDWARE

TRAY CLIPS (SEE PAGE 107 FOR CONNECTOR KITS)

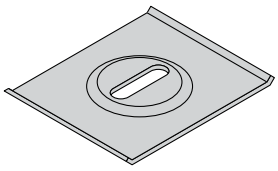
- Standard finish is Zinc Plated

Single Part	Weight (kg)	No./ Pkg
AF-SCLIP	0.09	10
AF-WCLIP	0.14	10
AF-BCLIP	0.42	10



AF-BCLIP

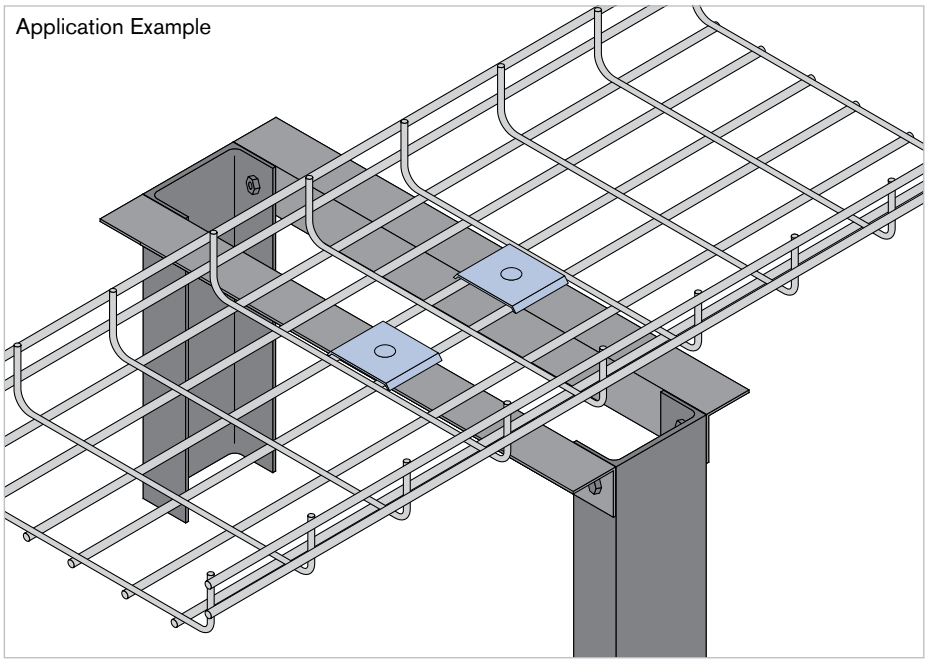
- AF-BCLIP used as a hold-down clip



Drill hole in aluminum angle of relay rack.

Use AF-BCLIP to hold ACROFIL® to relay rack using 6 x 20 round head machine screw and bolt and washer.

Application Example



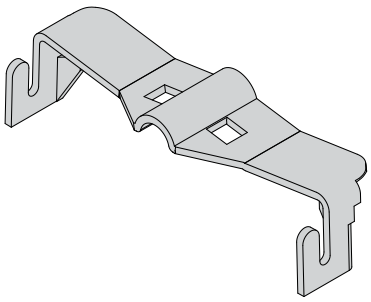
AFS41-FAST CLIP 304SS

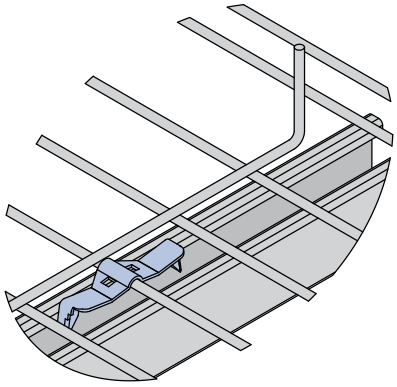
For quick and easy assembly use the AFS41 to secure Acrofil® Wire Basket to strut or strut type cantilever without the need for fixing hardware.

No fixing tools required.

Perfect for use when space is limited.

- Use 2 clips with 300mm or smaller Acrofil® Wire Basket.
- Use 3 clips with 400mm or wider Acrofil® Wire Basket.





ACROFIL® – SPECIFICATION

1.0 ACCEPTABLE MANUFACTURES

Provide "ACROFIL®" Wire Basket type of cable management system as manufactured by Unistrut® or engineered approved equal.

All cable trays shall be installed in a neat uniform fashion.Installing contractor shall field modify tray system to accommodate the exact routing requirements.

2.0 MATERIAL/FINISHES

Wire basket tray to be fabricated from high strength steel wires.

2.1 Acceptable finishes

2.1.a Standard Finish

Zinc Plated Steel in accordance with AS 1789

2.1.b Other Finishes

Hot Dipped Galvanised – Steel in accordance with AS/NZS 4680

Pregalvanised Galvabond – AS 1397 with a coating class of Z275.

SS – AISI 316L stainless steel.

3.0 - STRAIGHT SECTIONS

Straight sections shall be manufactured from high strength steel wires forming 50mm X 100mm openings and shall conform to the following dimensions.

3.1 Length

Straight sections shall be supplied in 3m lengths.

3.2 Width

Widths shall be 50, 100, 150, 200, 300, 400, 450, 500, or 600 as called out on drawings. (mm)

3.3 - Load depths

The load depths shall include 50mm & 100mm as required.

4.0 SPLICES

All straight sections shall be supplied with pre-installed, auto-locking, splices plates, where possible, as per Unistrut® "ACROFIL®". Trays design shall allow for a snap together type connection and shall require no nut and bolt assembly.

5.0 FITTINGS

All fittings shall be fabricated in the field as required,
per manufacturer's recommendations. Radius of the fittings shall be based on the "minimum bending" radius of the cables being installed.

6.0 ACCESSORIES

Accessories such as blind ends, dropouts, and barriers, etc... shall be installed as specified on drawings.

7.0 SUPPORTS

Supports shall include, but are not limited to, center type, trapeze type, wall supports, and floor supports.

7.1 Auto Locking

All supports shall be supplied with an Auto locking feature, requiring no special tools for attachment of the trays.

7.2 Finish

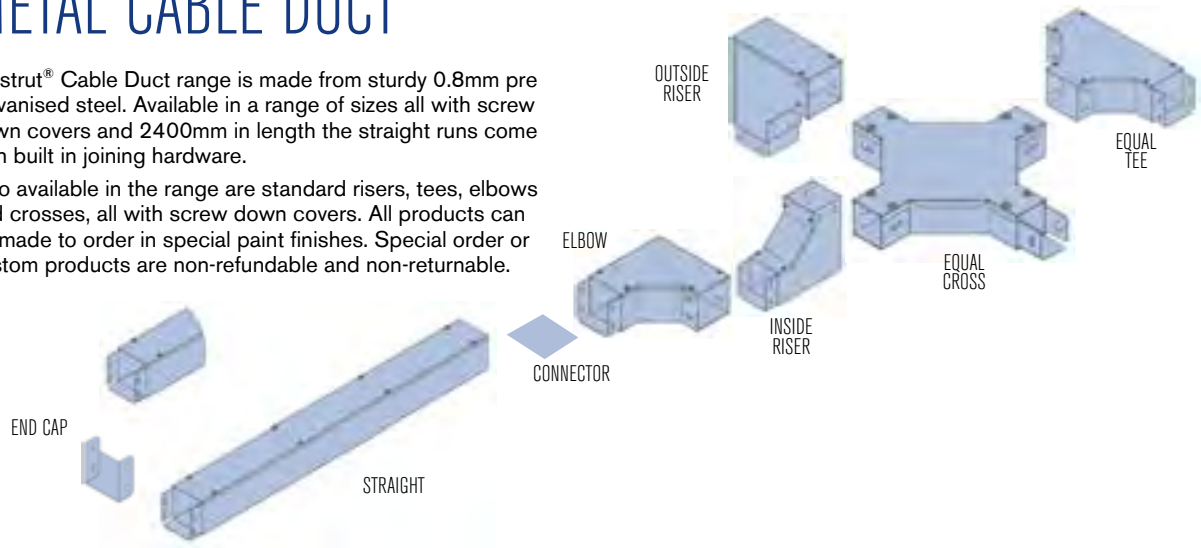
All supports, including threaded rod and associated hardware shall be zinc plated coated to AS 1789.

UNISTRUT®

METAL CABLE DUCT

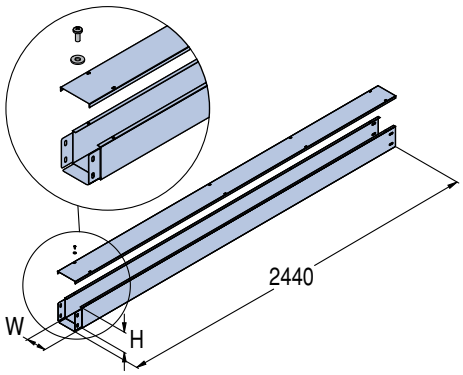
Unistrut® Cable Duct range is made from sturdy 0.8mm pre galvanised steel. Available in a range of sizes all with screw down covers and 2400mm in length the straight runs come with built in joining hardware.

Also available in the range are standard risers, tees, elbows and crosses, all with screw down covers. All products can be made to order in special paint finishes. Special order or custom products are non-refundable and non-returnable.



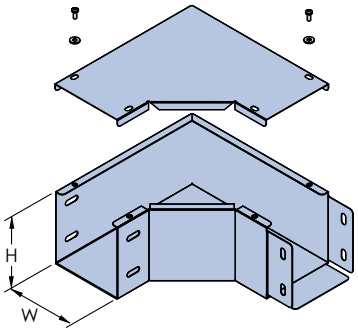
CABLE DUCT STRAIGHT LENGTH

Part No.	Width	Height	Length
UD5050GB	50mm	50mm	2440mm
UD7575GB	75mm	75mm	2440mm
UD10050GB	100mm	50mm	2440mm
UD100100GB	100mm	100mm	2440mm
UD150100GB	150mm	100mm	2440mm
UD150150GB	150mm	150mm	2440mm



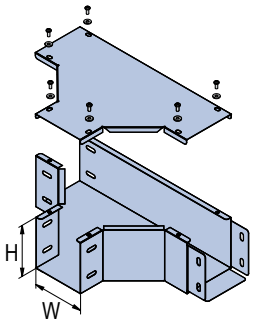
CABLE DUCT ELBOW

Part No.	Width	Height	Radius
UDE5050GB	50mm	50mm	70mm
UDE7575GB	75mm	75mm	70mm
UDE10050GB	100mm	50mm	70mm
UDE100100GB	100mm	100mm	70mm
UDE150100GB	150mm	100mm	70mm
UDE150150GB	150mm	150mm	70mm



CABLE DUCT EQUAL TEE

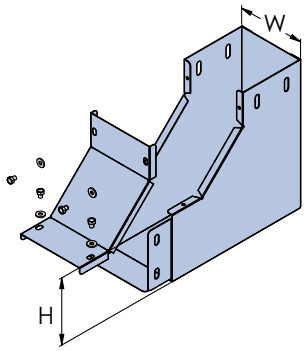
Part No.	Width	Height	Radius
UDT5050GB	50mm	50mm	70mm
UDT7575GB	75mm	75mm	70mm
UDT10050GB	100mm	50mm	70mm
UDT100100GB	100mm	100mm	70mm
UDT150100GB	150mm	100mm	70mm
UDT150150GB	150mm	150mm	70mm



METAL CABLE DUCT

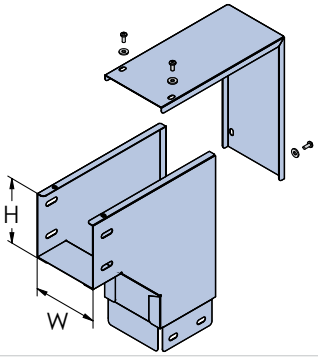
CABLE DUCT INSIDE RISER

Part No.	Width	Height	Radius
UDRI5050GB	50mm	50mm	70mm
UDRI7575GB	75mm	75mm	70mm
UDRI10050GB	100mm	50mm	70mm
UDRI100100GB	100mm	100mm	70mm
UDRI150100GB	150mm	100mm	70mm
UDRI150150GB	150mm	150mm	70mm



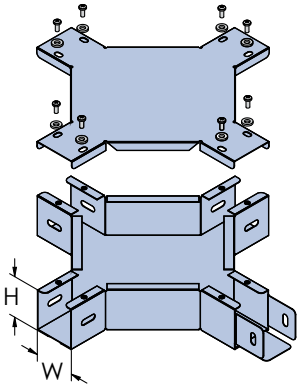
CABLE DUCT OUTSIDE RISER

Part No.	Width	Height	Radius
UDRO5050GB	50mm	50mm	70mm
UDRO7575GB	75mm	75mm	70mm
UDRO10050GB	100mm	50mm	70mm
UDRO100100GB	100mm	100mm	70mm
UDRO150100GB	150mm	100mm	70mm
UDRO150150GB	150mm	150mm	70mm



CABLE DUCT EQUAL CROSS

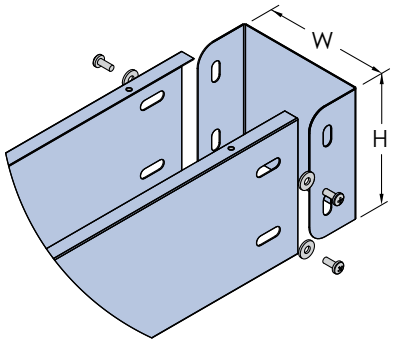
Part No.	Width	Height	Radius
UDC5050GB	50mm	50mm	70mm
UDC7575GB	75mm	75mm	70mm
UDC10050GB	100mm	50mm	70mm
UDC100100GB	100mm	100mm	70mm
UDC150100GB	150mm	100mm	70mm
UDC150150GB	150mm	150mm	70mm



CABLE DUCT END CAP

Part No.	Width	Height
UDEC5050GB	50mm	50mm
UDEC7575GB	75mm	75mm
UDEC10050GB	100mm	50mm
UDEC100100GB	100mm	100mm
UDEC150100GB	150mm	100mm
UDEC150150GB	150mm	150mm

Use when cutting straight lenghts for splicing



UNISTRUT®

CABLE CLEATS PICTORIAL INDEX

FAULT RATED CLEATS

Cable Cleats/Trefoil & Single Cleat are designed to support and retain cables within a cable tray system in various conditions. The main function is to secure cables and prevent damage in short circuit conditions, Cable Cleats need to be tested under these conditions. Unistrut® now have a range available that are tested to world standards. Unistrut® Cable Cleats are tested and comply to IEC 61914 – the TC and SC range of Trefoil cleats for 13mm to 128mm and single cleats 13mm to 150mm in market demanded design.

NON FAULT RATED CLEATS

Unistrut® also have a range of Non Faulted Rated Cleats. These are used to bundle low voltage cables and conduits.

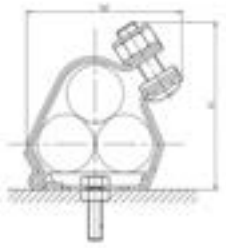
INSTALLATION NOTES

The cleats should be installed properly to secure the cables. Every cleat should be restrained to the tray, the bend radius should be 8-12 times the cable diameter. The cleats should always be installed at the beginning, middle and end of the bend. The distance of the cleats at the bend should be no more than 300mm.

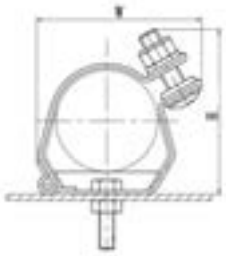
HOW TO SELECT THE CORRECT CLEAT

1. **Know the cable**
   - What type of cable is being used, single or multi-conductor?
   - Outer diameter of the cable?
   - What is the arrangement of the cable–single or Trefoil?
   - If an earth cable is installed, know the diameter.
2. **Know the system**
   - What is the available short circuit current (RMS or Peak)?
   - What type and brand of cable support system is being used?

FAULT RATED CLEATS

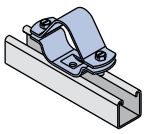


TREFOIL CABLE CLEAT
PG. 135

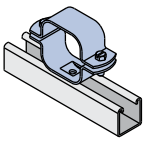


SINGLE CABLE CLEAT
PG. 135

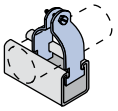
NON FAULT RATED CLEATS



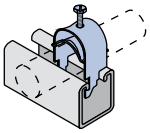
TF SERIES – TREFOIL [ZP]
PG. 138



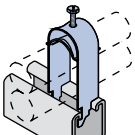
QF SERIES QUADFOIL [ZP]
PG. 138



CONDUIT CLAMP AND SHEATHED CABLE CLAMP
PG. 138 & 139



KS2026-1 SERIES SINGLE CABLE CLAMP
PG. 139

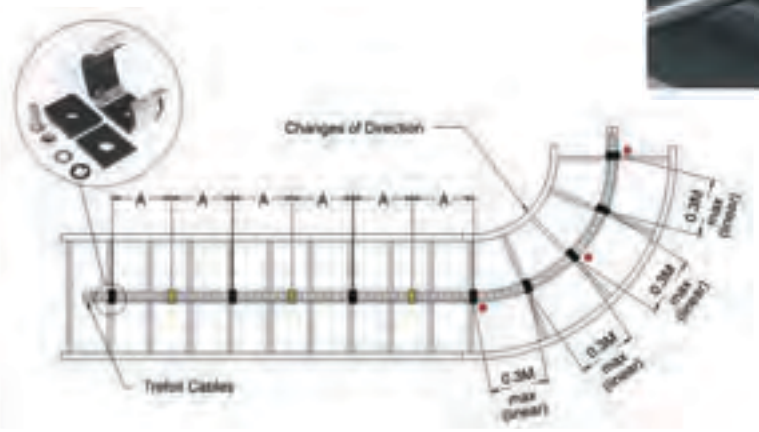


KS2026-2 SERIES DOUBLE CABLE CLAMP
PG. 139

UNICLEATS - FAULT RATED CLEATS

FAULT RATED CLEATS

PERFORMANCE OF THE CABLE CLEATS	
Resistance to electromechanical force at 300mm spacing	230ka at 300mm spacing
Lateral load test	Ave 25 kg
Temperature range	-40°c ~ 120°c
Needle Flame test 650°c	30 sec
UV Resistance test	1000hrs
Cleat Material	Composite
Frame	54mm* 2.0mm 316SS
Nut & Bolt	316SS
Integral Pad	Halogen Free
Mounting Bolt	Provided



SINGLE CONDUCTOR SHORT CIRCUIT WITHSTAND TABLE

Max Cable Cleat Spacing (A)		Spacing Between Conductor Centres (mm)																				
		23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61
mm	In	IP peak (KA)																				
225	8.8589	179	187	194	203	209	216	220	229	234	240	246	250	255	261	266	271	276	281	286	291
300	11.81	155	163	168	174	181	187	192	198	203	209	214	215	220	225	230	235	239	244	248	252
450	17.72	128	133	137	144	148	152	157	161	165	170	174	178	180	184	189	192	195	199	202	206
600	23.62	110	115	119	124	128	132	135	139	143	148	150	153	156	160	163	166	169	172	175	178
675	26.57	104	108	113	117	121	124	128	132	135	139	143	147	147	150	154	156	159	162	165	168
900	35.43	89	93	97	102	105	108	110	115	117	121	124	127	128	130	133	135	138	140	143	145

UNISTRUT®

UNICLEATS – FAULT RATED CLEATS

UNICLEAT TREFOIL CABLE CLEAT

Part Number	Cable Range mm	Height of Cleat "H" mm	Width of Cleat "W" mm	Weight of Cleat kg/100
TC-1323SS	13-23	73	68	34
TC-2125SS	21-25	75	72	41
TC-2329SS	23-29	80	79	44
TC-2531SS	25-31	83	82	44.5
TC-2733SS	27-33	84	85	45
TC-2935SS	29-35	89	90	44.5
TC-3238SS	32-38	92	96	46
TC-3541SS	35-41	98	100	48
TC-3844SS	38-44	100	106	50
TC-4248SS	42-48	104	113	50.5
TC-4551SS	45-51	107	120	52
TC-4753SS	47-53	110	122	52.5
TC-4955SS	49-55	113	125	53
TC-5157SS	51-57	115	127	54.5
TC-5359SS	53-59	118	135	55.5
TC-5561SS	55-61	122	138	57.5
TC-5763SS	57-63	125	141	60
TC-5965SS	59-65	126	145	61.5
TC-6167SS	61-67	131	148	62.5
TC-6369SS	63-69	134	153	65.5
TC-6571SS	65-71	139	155	68.5
TC-6773SS	67-73	143	156	70
TC-6975SS	69-75	146	161	71.5
TC-7177SS	71-77	150	164	72.5
TC-7379SS	73-79	154	166	75
TC-7581SS	75-81	157	170	76.5
TC-7783SS	77-83	160	174	78.5
TC-7985SS	79-85	162	178	80
TC-8187SS	81-87	168	181	80.5
TC-8389SS	83-89	172	185	81
TC-8896SS	88-96	180	195	81.8
TC-96103SS	96-103	189	203	83.5
TC-103111SS	103-111	198	206	83.5
TC-111119SS	111-119	207	215	85
TC-119128SS	119-128	216	223	87.5

UNICLEATS – FAULT RATED CLEATS

UNICLEAT SINGLE CABLE CLEAT

Part Number	Cable Range mm	Height of Cleat "H" mm	Width of Cleat "W" mm	Weight of Cleat kg/100
SC-2832SS	28-32	60	57	25
SC-3034SS	30-34	61	59	25.5
SC-3236SS	32-36	63	61	26.5
SC-3438SS	34-38	65	63	28.5
SC-3640SS	36-40	67	64	30
SC-3842SS	38-42	69	65	31
SC-4044SS	40-44	70	68	31.5
SC-4246SS	42-46	71	69	32.5
SC-4448SS	44-48	73	72	33.5
SC-4650SS	46-50	74	73	34.5
SC-4852SS	48-52	75	77	36.5
SC-5054SS	50-54	78	78	38
SC-5256SS	52-56	79	80	40
SC-5458SS	54-58	80	82	41.2
SC-5660SS	56-60	81	85	42.5
SC-5862SS	58-62	82	87	43.5
SC-6064SS	60-64	85	88	45
SC-6266SS	62-66	87	90	46
SC-6468SS	64-68	89	91	47
SC-6670SS	66-70	90	92	48.5
SC-6872SS	68-72	92	94	49
SC-7074SS	70-74	95	97	50
SC-7276SS	72-76	97	99	51
SC-7478SS	74-78	98	102	52.5
SC-7680SS	76-80	100	104	53.5
SC-7882SS	78-82	102	106	55
SC-8084SS	80-84	105	107	56.6
SC-8286SS	82-86	107	110	58.5
SC-8488SS	84-88	109	111	60
SC-8690SS	86-90	110	113	60.5
SC-9094SS	90-94	115	121	62.5
SC-94118SS	94-118	133	139	65
SC-118130SS	118-130	140	144	70.5
SC-127150SS	127-150	161	166	76..5

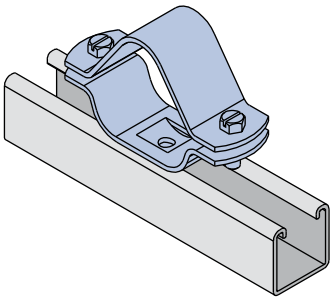
UNISTRUT®

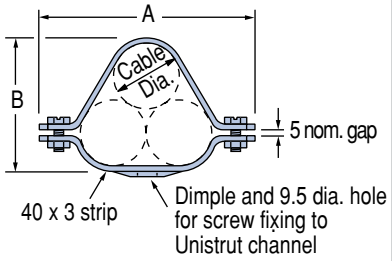
UNICLEATS - NON FAULTED RATED CLEATS RANGE

TF SERIES - TREFOIL [ZP]

Specifically designed for fixing directly to Unistrut® channels.

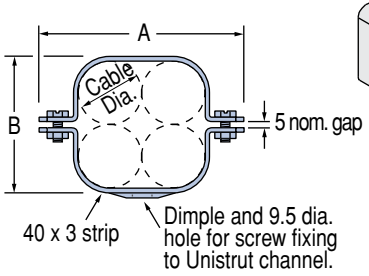
Cable Dia.	Dim. A	Dim. B	Part No.
20	92	43	TF20
22	96	47	TF22
24	100	51	TF24
27	106	56	TF27
30	112	62	TF30
33	118	68	TF33
37	126	75	TF37
41	134	83	TF41
45	142	90	TF45

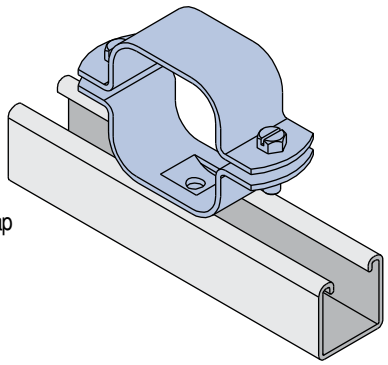




QF SERIES QUADFOIL [ZP]

Cable Dia.	Dim. A	Dim. B	Part No.
20	92	46	QF20
22	96	50	QF22
24	100	54	QF24
27	106	60	QF27
30	112	66	QF30
33	118	72	QF33
37	126	80	QF37
41	134	88	QF41
45	142	96	QF45



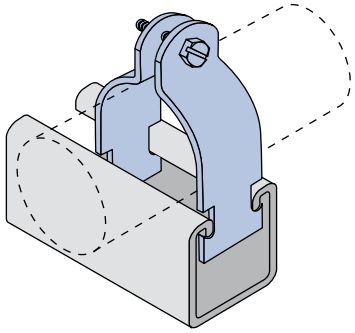


Specifically designed for fixing directly to Unistrut® channels.

Slotted hex head screws included

CONDUIT CLAMP

Part No	Conduit Nom. Size	Conduit Actual Size	Mass Kg/100
P2027	16	15.8	4.5
P2028	20	19.8	5.0
P2030	25	24.8	6.4
P2032	32	31.8	7.3
P2034	40	39.8	8.2
P2037	50	49.8	12.7
P2042	63	62.8	15.9
P2046	65	75.3	18.6
P2050	80	88.9	21.3
P2058	100	114.3	30.4
P2070-62	150	160.2	44.5



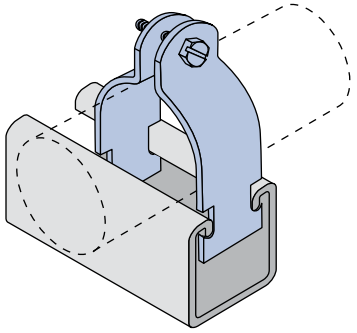
Slotted hex head screw and nut included

UNICLEATS - NON FAULTED RATED CLEATS RANGE

SHEATHED CABLE CLAMP

Part No	Sheathed Cable O.D	Mass Kg/100
P2024	8	3.6
P2025	11	3.6
P2026	14	4.1
P2027	17	4.5
P2028	19	5.0
P2029	22	5.4
P2030	25	6.4
P2031	29	6.8
P2032	32	7.3
P2033	35	7.7
P2034	38	8.2
P2035	43	8.6
P2036	44	10.6
P2037	49	12.7

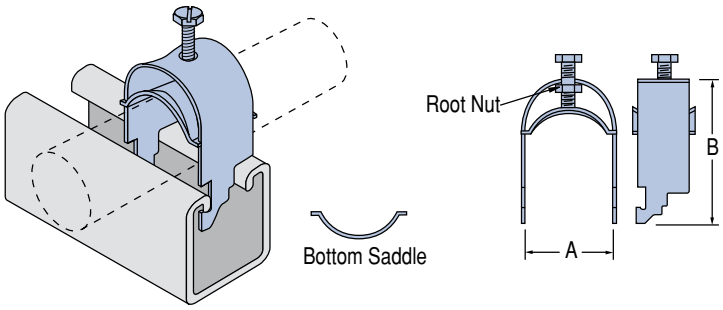
Part No.	Sheathed Cable O.D	Mass Kg/100
P2038	51	14.1
P2039	54	14.5
P2040	57	15.0
P2041	60	15.4
P2042	64	15.9
P2043	67	16.8
P2044	70	17.2
P2046	76	18.6
P2047	79	19.5
P2048	83	20.4
P2049	86	20.9
P2052	95	26.3
P2055	105	28.1



Slotted hex head screw and nut included

KS2026-1 SERIES – SINGLE CABLE CLAMP

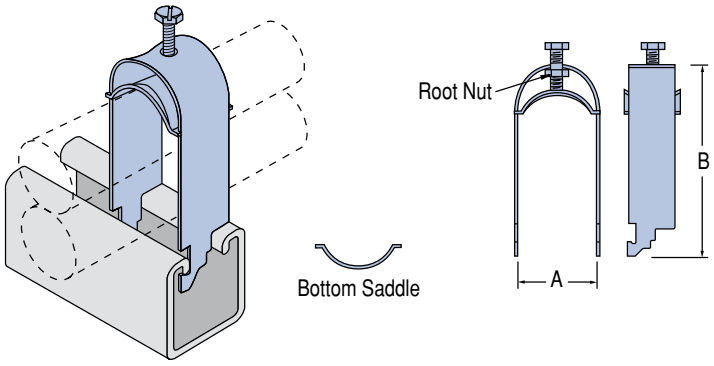
Part No.	Cable Dia.	Dim. A	Dim. B	Mass Kg/100
KS2026-1	13	16	50	5.1
KS2028-1	19	22	58	6.2
KS2030-1	25	29	66	6.8
KS2032-1	32	35	71	8.0
KS2034-1	38	44	78	14.1
KS2036-1	44	51	86	16.0
KS2038-1	51	57	92	17.2
KS2040-1	57	64	98	19.0
KS2042-1	64	70	105	20.8
KS2044-1	70	76	113	22.8
KS2046-1	76	83	122	24.0



NOTE: Bottom Saddle if required can be ordered separately

KS2026-2 SERIES – DOUBLE CABLE CLAMP

Part No.	Cable Dia.	Dim. A	Dim. B	Mass Kg/100
KS2026-2	13	16	64	6.1
KS2028-2	19	22	76	7.5
KS2030-2	25	29	91	9.0
KS2032-2	32	35	102	9.7
KS2034-2	38	44	118	18.2
KS2036-2	44	51	128	20.2
KS2038-2	51	57	143	22.8
KS2040-2	57	64	156	26.0
KS2042-2	64	70	170	28.0
KS2044-2	70	76	185	31.6
KS2046-2	76	83	198	33.6



NOTE: Bottom Saddle if required can be ordered separately

UNISTRUT®

SPRINKLER AND PIPE SUPPORT - PICTORIAL INDEX

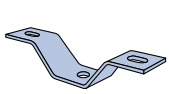
PIPE SUPPORTS

The Unistrut® pipe support systems covers an extensive range of hangers, pipe clips, pipe clamps ferrules and cushioning, hanger fittings, beam clamps, beam attachments, and support brackets. The range covers from small bore tubing through to pipes in excess of 600mm diameter.

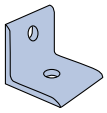
SPRINKLER PIPE SUPPORTS

In addition to our standard range of pipe supports for general industry, mechanical services and others, the Unistrut® range also includes pipe supports specifically designed for the fire protection industry.

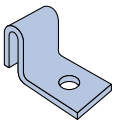
SPRINKLER PIPE SUPPORTS



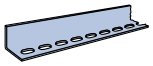
F11000
"U" BRACKET [HG]
PG. 142



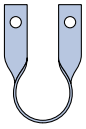
F12000
ANGLE BRACKET [HG]
PG. 142



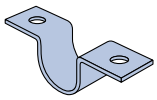
F13000
SLOTTED ANGLE [HG]
PG. 142



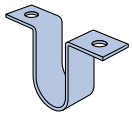
F15000 SERIES
SLOTTED ANGLE



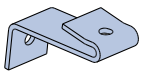
F16000
LIGHT DUTY TWIST CLIP
PG. 144



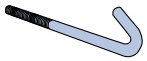
F31000
LIGHT DUTY PIPE
SADDLE CLAMPS [ZP]
PG. 144



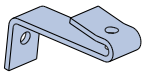
F32000
LIGHT DUTY DEEP SADDLE
PG. 144



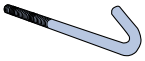
F21000
HEAVY DUTY BEAM CLAMP
PG. 145



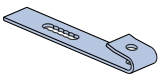
F23000
HEAVY DUTY HOOK BOLT
PG. 145



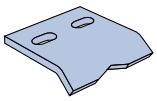
F22000
LIGHT DUTY BEAM CLAMP
PG. 146



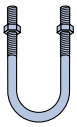
F24000
LIGHT DUTY HOOK BOLT
PG. 146 & 147



F25000
ANGLE IRON CLAMP PLATE
PG. 147



F40000
PIPE BEAM CLAMP
PG. 148

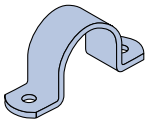


F41000
"U" BOLTS
PG. 148

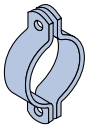
PIPE SUPPORTS - LIGHT DUTY

UN1
LIGHT DUTY ONE-PIECE
PIPE CLAMPS
PG. 149

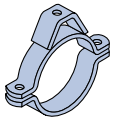
UN3
LIGHT DUTY PEAR HANGER
PG. 149



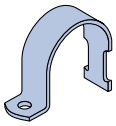
UN4
LIGHT DUTY PIPE CLAMPS
PG. 150



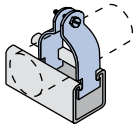
UN6
LIGHT DUTY TWO-PIECE
PIPE CLAMPS
PG. 150



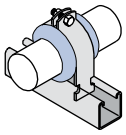
UN8
LIGHT DUTY
TWO-PIECE PIPE CLAMPS
PG. 151



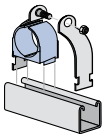
UN10
LIGHT DUTY SINGLE
BOLT STRUT CLAMP
PG. 151



P2024
PIPE SUPPORTS
PG. 152

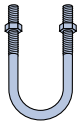


P2600
UNI-CUSHION®
PG. 152

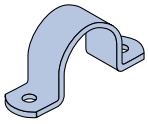


CUSH-A-CLAMP®
PG. 153

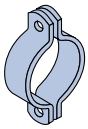
PIPE SUPPORTS - MEDIUM DUTY



UN14
"U" BOLTS
PG. 154

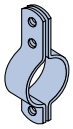


UN15
MEDIUM DUTY
SADDLE CLAMP
PG. 154

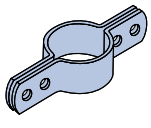


UN16
MEDIUM DUTY
TWO-PIECE PIPE CLAMP
PG. 155

UN18
MEDIUM DUTY
TWO-PIECE PIPE CLAMP
PG. 155



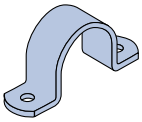
UN20
MEDIUM DUTY
THREE BOLT PIPE CLAMP
PG. 156



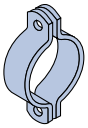
UN21
MEDIUM DUTY
VERTICAL PIPE CLAMP
PG. 156

SPRINKLER AND PIPE SUPPORT - PICTORIAL INDEX

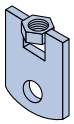
PIPE SUPPORTS - HEAVY DUTY AND ACCESSORIES



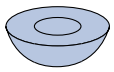
UN30
HEAVY DUTY
SADDLE CLAMP
PG. 157



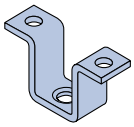
UN31
HEAVY DUTY
TWO-PIECE PIPE CLAMP
PG. 157



UN35
EYE NUTS [HG]
PG. 157

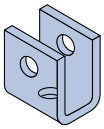


UN37
SPHERICAL WASHER
FOR UN38 [M]
PG. 157

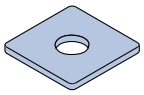


UN38
SWIVEL CAGE [HG]
PG. 157

ACCESSORIES AND BEAM ATTACHMENTS

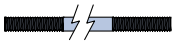


UN39
WELD ON BRACKET [PL]
PG. 158

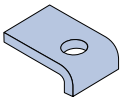


UN40
SQUARE WASHER [HG]
PG. 158

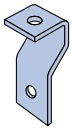
UN42
TURNBUCKLES [HG]
PG. 158



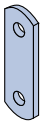
UN43
MACHINE THREADED ROD
PG. 158



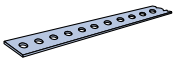
UN44
BEAM CLIP
PG. 159



UNCL
CLEVIS HANGER [HG
PG. 159

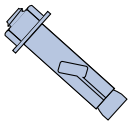


UNPL
LINK PLATE [HG]
PG. 159

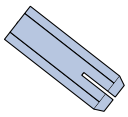


UHS
HANGER STRAP [GB/ZP
PG. 159

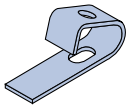
4029706
WEBFIX BOLT SIDE HANGER
PG. 160



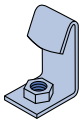
DYNABOLT
PG. 160



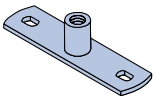
DROP IN ANCHOR
PG. 160



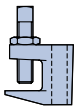
Z10
Z PURLIN CLAMP [GB]
PG. 160



PF2010
PURLIN CLIP [ZP]
PG. 160



RH1200
ROD HANGER MOUNTAIN
PLATES
PG. 161



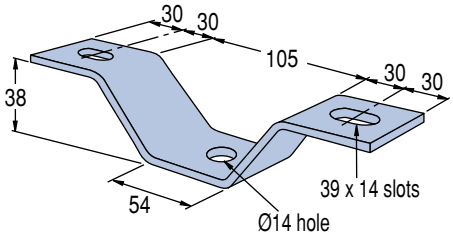
FL
BEAM CLAMP [ZP]
PG. 161

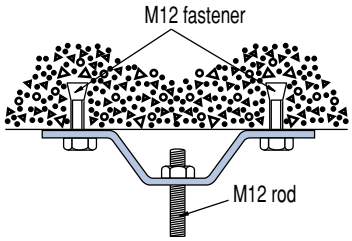
UNISTRUT®

SPRINKLER PIPE SUPPORTS – ANGLE & U BRACKETS

F11000 – "U" BRACKET [HG]

Part No	Material	Kg	
F11000	32 x 6	0.30	25

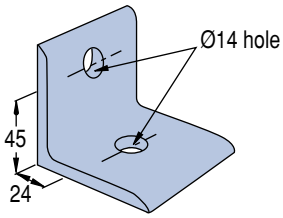


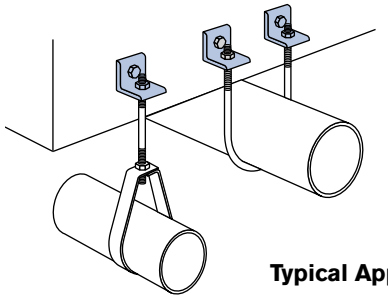


Typical Application

F12000 – ANGLE BRACKET [HG]

Part No	Material	Kg	
F12000	65 x 65 x 6 x 60	0.30	25

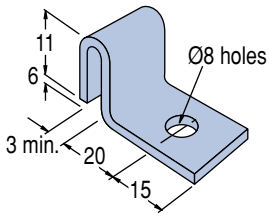


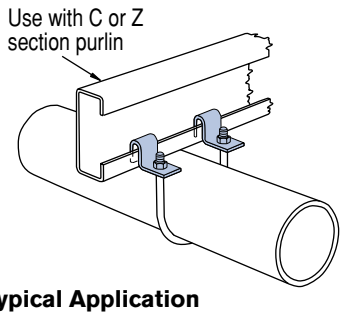


Typical Application

F13000 – PURLIN CLAMP [HG]

Part No	Material	Kg	
F13000	20 x 3	0.30	100





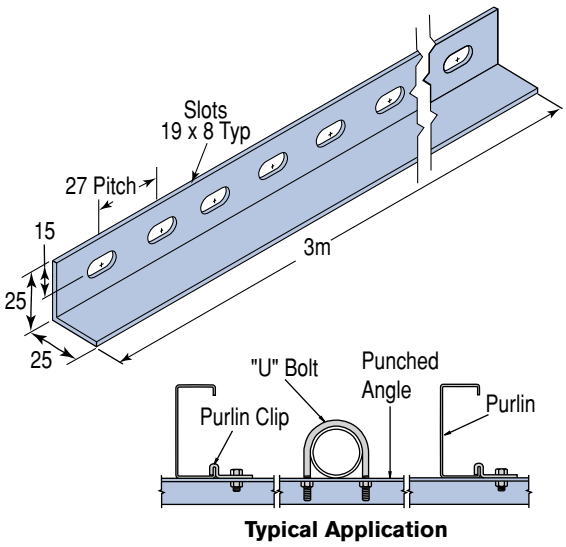
Typical Application

SPRINKLER PIPE SUPPORTS – SLOTTED ANGLES

F15000 – SLOTTED ANGLE [ZP]

Material: 25x25x3 Angle
Length: 3 metres
Mass: 1.00 kg/m

Distance Between Supports	Uniformly Distributed Loading		Mid-Span Point Load	
	Max. Permissable Loading kN	Deflection mm	Max. Permissable Loading kN	Deflection mm
500mm	0.93	1.1	0.46	0.9
1000mm	0.46	4.5	0.23	3.5
1500mm	0.30	9.7	0.15	7.7
2000mm	0.23	17.6	0.11	13.5

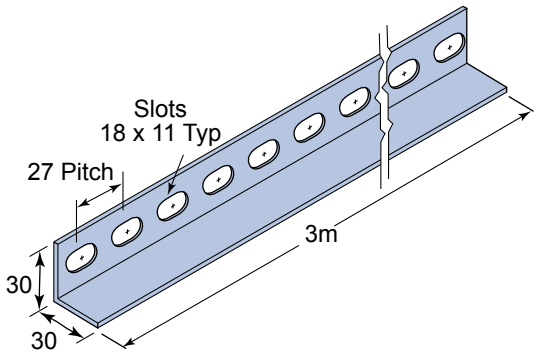


Typical Application

F15030 – SLOTTED ANGLE [HG]

Material: 30x30x2.5 Angle
Length: 3 metres

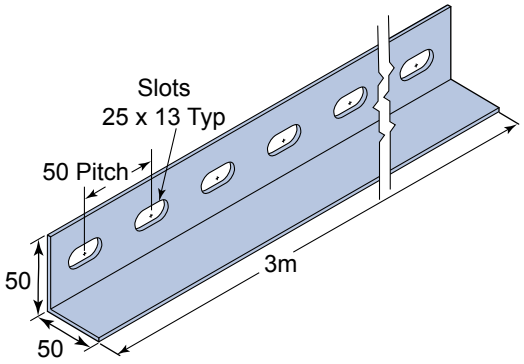
Distance Between Supports	Uniformly Distributed Loading		Mid-Span Point Load	
	Max. Permissable Loading kN	Deflection mm	Max. Permissable Loading kN	Deflection mm
500mm	3.84	1	1.9	1.5
1000mm	0.96	4	0.5	3.2
1500mm	0.43	8.7	0.21	4.5
2000mm	0.24	15.3	0.12	6.13



F15050 – SLOTTED ANGLE [ZP]

Material: 50x50x3 Angle
Length: 3 metres

Distance Between Supports	Uniformly Distributed Loading		Mid-Span Point Load	
	Max. Permissable Loading kN	Deflection mm	Max. Permissable Loading kN	Deflection mm
500mm	26.88	0.6	13.44	2
1000mm	3.36	2.4	1.68	2
1500mm	2.25	5.5	1.12	4.4
2000mm	1.68	9.7	0.84	7.8



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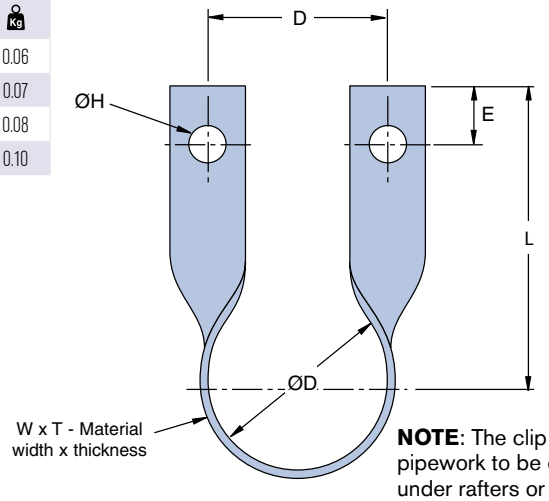
SPRINKLER PIPE SUPPORTS – CLIPS AND SADDLES

F16000 – LIGHT DUTY TWIST CLIP

Part No	Finish	D	L	E	ØH	W x T	Kg
F16025	GB	34mm	65	15	8	25 X 1.6	0.06
F16032	GB	43mm	70	15	8	25 X 1.6	0.07
F16040	GB	48mm	72	15	8	25 X 1.6	0.08
F16050	ZP	60mm	85	15	11	25 X 3	0.10



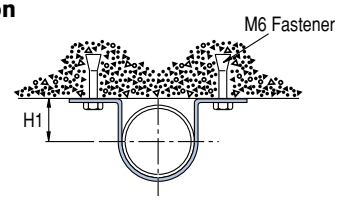
Standard finish: GB
Description: Twist Clip

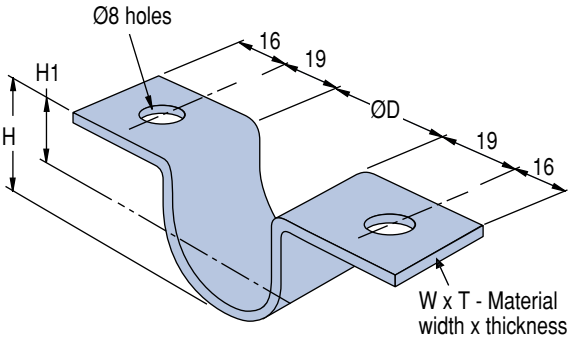
NOTE: The clip detail is for pipework to be erected hard under rafters or floor joists.

F31000 – LIGHT DUTY PIPE SADDLE CLAMPS [ZP]

Part No	ØD	H	H1	H1	Kg
F31025	34	41	24.0	29 X 1.5	0.04
F31032	43	51	29.5	29 X 1.5	0.05
F31040	48	52	28.0	29 X 1.5	0.05
F31050	60	67	37.0	29 X 1.5	0.11

Typical Application



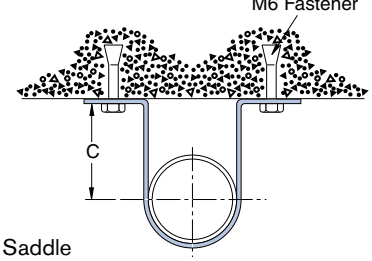


Standard finish: Zinc Plated

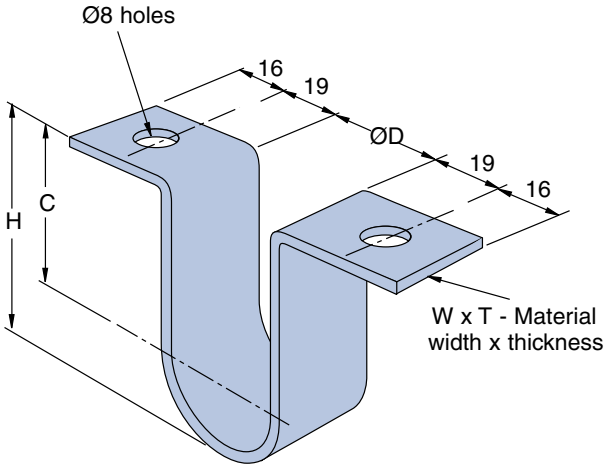
F32000 – LIGHT DUTY DEEP SADDLE

Part No	Finish	ØD	H	C	W x T	Kg
F32025	GB	34mm	68	51	25 X 1.6	0.06
F32032	GB	43mm	75	53.5	25 X 1.6	0.07
F32040	GB	48mm	79	55	25 X 1.6	0.08
F32050	ZP	60mm	86	56	25 X 3	0.13

Typical Application



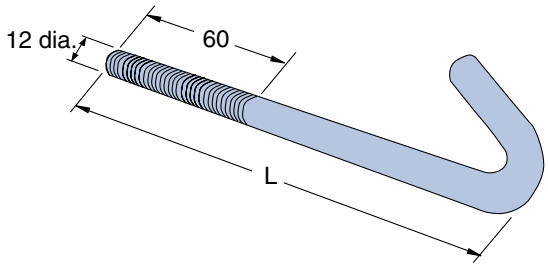
Description: Saddle



SPRINKLER PIPE SUPPORTS – BEAM CLAMPS

F23000 – HEAVY DUTY HOOK BOLT

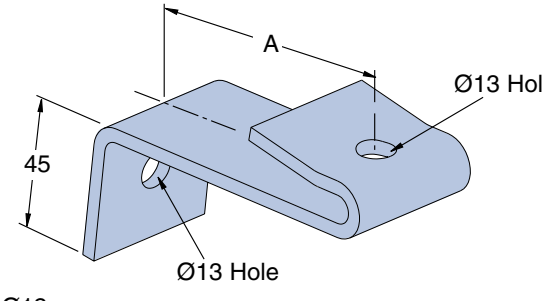
Standard Finish: Zinc Plated



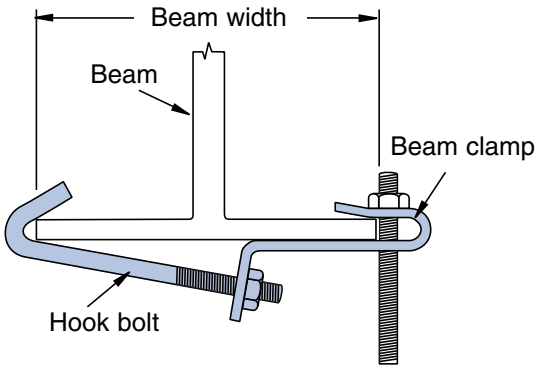
Hex Nut included

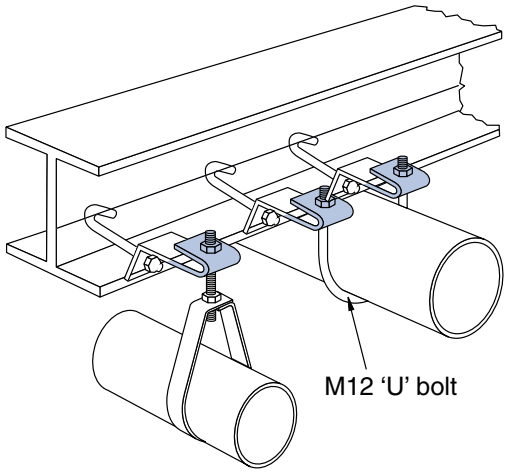
F21000 – HEAVY DUTY BEAM CLAMP

Standard Finish: Hot Dipped Galvanised
Material: 50 x 5 Strip



Typical Application





Beam Width	HOOK BOLT			BEAM CLAMP		
	Part No.	L	Mass kg	Part No.	A	Mass kg
64	F23075	75	0.10	F21050	50	0.29
76	F23075	75	0.10	F21050	50	0.29
89	F23100	100	0.12	F21050	50	0.29
102	F23100	100	0.12	F21050	50	0.29
127	F23075	75	0.10	F21100	100	0.39
135	F23075	75	0.10	F21100	100	0.39
145	F23100	100	0.12	F21100	100	0.39
152	F23100	100	0.12	F21100	100	0.39
165	F23100	100	0.12	F21100	100	0.39
170	F23100	100	0.12	F21100	100	0.39
180	F23135	135	0.13	F21100	100	0.39
190	F23135	135	0.13	F21100	100	0.39
210	F23135	135	0.13	F21100	100	0.39
230	F23135	135	0.13	F21150	150	0.48
255	F23175	175	0.17	F21150	150	0.48
265	F23175	175	0.17	F21150	150	0.48
270	F23175	175	0.17	F21150	150	0.48

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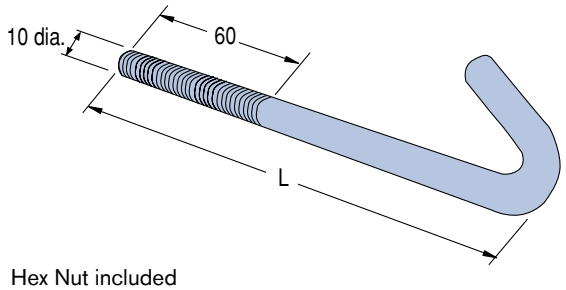
SPRINKLER PIPE SUPPORTS – BEAM CLAMPS

F24000 – LIGHT DUTY HOOK BOLT

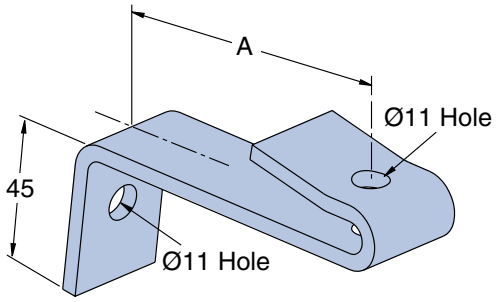
Standard Finish: Zinc Plated



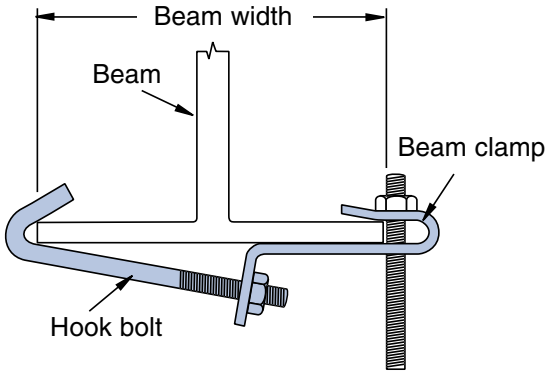
Hex Nut included

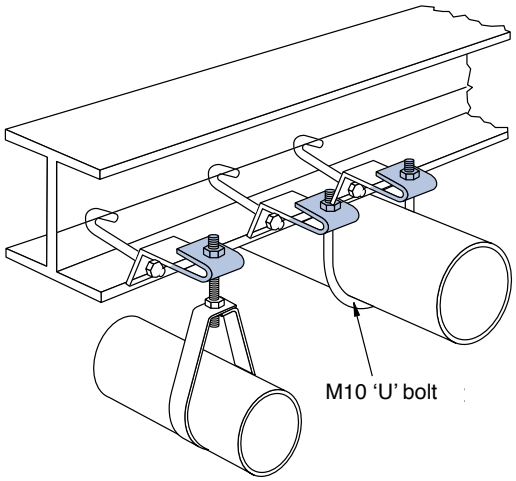
F22000 – LIGHT DUTY BEAM CLAMP

Standard Finish: Hot Dipped Galvanised
Material: 32 x 5 Strip



Typical Application



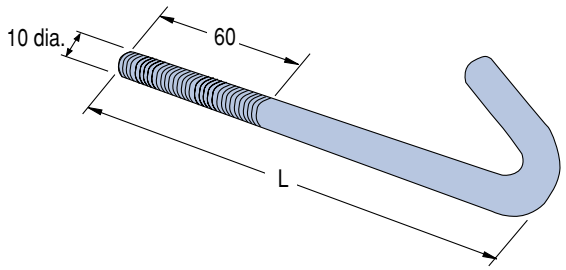


Beam Width	HOOK BOLT			BEAM CLAMP		
	Part No.	L	Mass kg	Part No.	A	Mass kg
64	F24075	75	0.07	F22050	50	0.22
76	F24075	75	0.07	F22050	50	0.22
89	F24100	100	0.08	F22050	50	0.22
102	F24100	100	0.08	F22050	50	0.22
127	F24075	75	0.07	F22100	100	0.30
135	F24075	75	0.07	F22100	100	0.30
145	F24100	100	0.08	F22100	100	0.30
152	F24100	100	0.08	F22100	100	0.30
165	F24100	100	0.08	F22100	100	0.30
170	F24100	100	0.08	F22100	100	0.30
180	F24135	135	0.09	F22100	100	0.30
190	F24135	135	0.09	F22100	100	0.30
210	F24135	135	0.09	F22100	100	0.30
230	F24135	135	0.09	F22150	150	0.31
255	F24175	175	0.11	F22150	150	0.31
265	F24175	175	0.11	F22150	150	0.31
270	F24175	175	0.11	F22150	150	0.31

SPRINKLER PIPE SUPPORTS – ANGLE IRON CLAMPS

F24000 – LIGHT DUTY HOOK BOLT

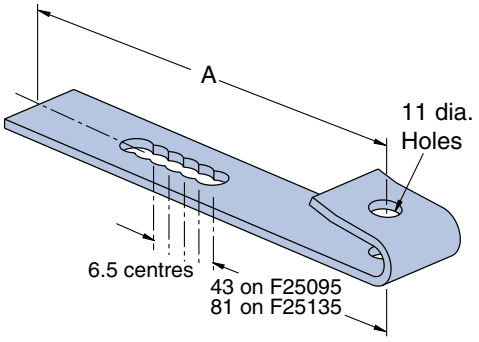
Standard Finish: Zinc Plated



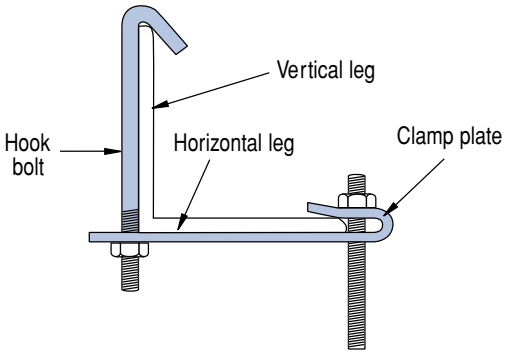
Hex Nut included

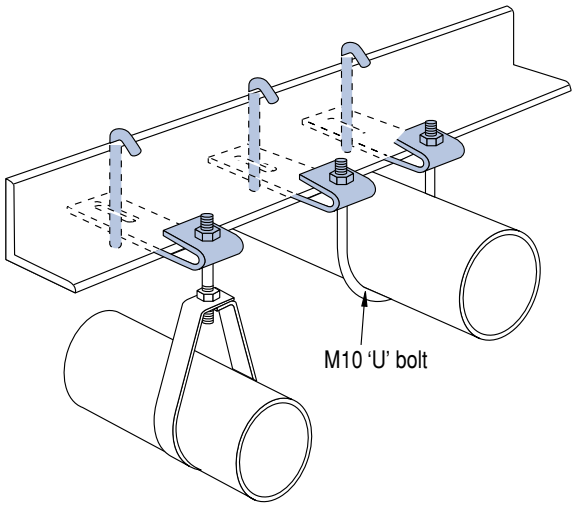
F25000 – ANGLE IRON CLAMP PLATE

Standard Finish: Hot Dipped Galvanised
Material: 32 x 3 Strip



Typical Application





Angle Size	HOOK BOLT			Angle Size	CLAMP PLATE		
Width Leg	Part No.	L	Mass kg	Horizontal Leg	Part No.	A	Mass kg
32	F24075	75	0.07	32	F25095	95	0.11
38	F24075	75	0.07	38	F25095	95	0.11
44	F24075	75	0.07	44	F25095	95	0.11
51	F24075	75	0.07	51	F25095	95	0.11
57	F24075	75	0.07	57	F25095	95	0.11
64	F24100	100	0.08	64	F25095	95	0.11
76	F24100	100	0.08	76	F25135	135	0.14
89	F24135	135	0.09	89	F25135	135	0.14
102	F24135	135	0.09	102	F25135	135	0.14
127	F24175	175	0.11				
152	F24175	175	0.11				

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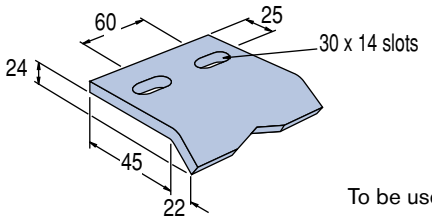
SPRINKLER PIPE SUPPORTS – PIPE BEAM CLAMP

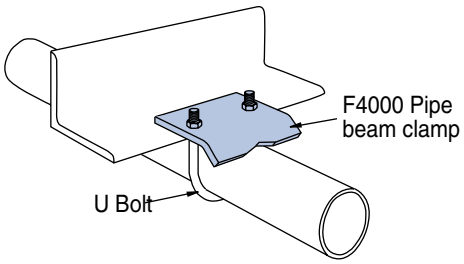
F40000 – PIPE BEAM CLAMP

Part No	Finish	Description
F40000	ZP	Beam Clamp

Note:
Standard Finish: Zinc Plated
Material: 110 x 5
Mass: 0.29kg



To be used with 'U' bolts

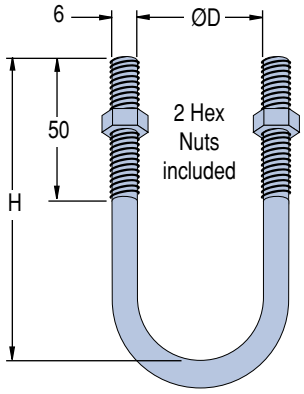


Typical Application

Standard finish: Zinc plated

F41000 – "U" BOLTS

Part No	Finish	Size	Description
F41034	ZP	34mm ØD	U BOLT
F41043	ZP	43mm ØD	U BOLT
F41048	ZP	48mm ØD	U BOLT
F41060	ZP	60mm ØD	U BOLT
F41076	ZP	76mm ØD	U BOLT
F41089	ZP	89mm ØD	U BOLT
F41114	ZP	114mm ØD	U BOLT
F41140	ZP	140mm ØD	U BOLT
F41165	ZP	165mm ØD	U BOLT

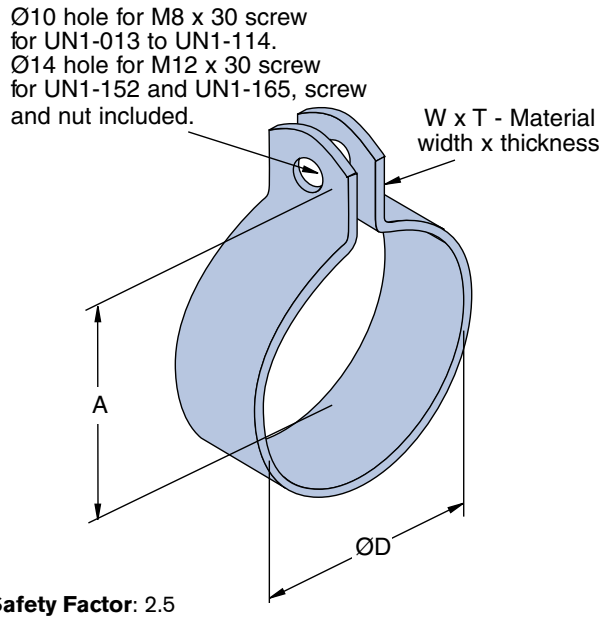


Standard finish: Zinc plated

PIPE SUPPORTS – LIGHT DUTY

UN1 - LIGHT DUTY ONE-PIECE PIPE CLAMPS

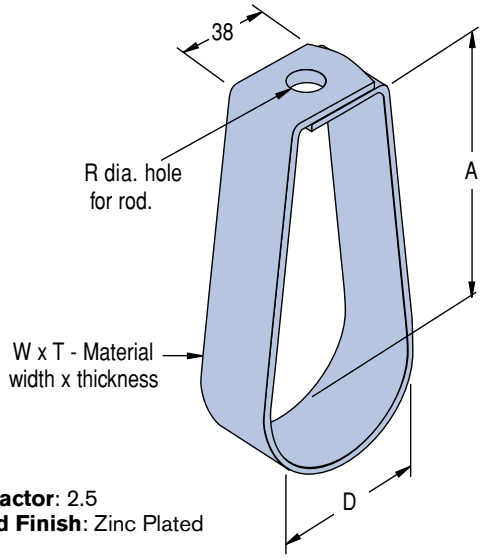
Part No.	Finish	A	ØD	W x T
UN1-013	GB	20	13MM	25 x 1
UN1-016	GB	22	16MM	25 x 1
UN1-019	GB	23	19MM	25 x 1
UN1-021	GB	24	21MM	25 x 1
UN1-025	GB	26	25MM	25 x 1
UN1-027	GB	27	27MM	25 x 1
UN1-032	GB	30	32MM	25 x 1
UN1-034	GB	31	34MM	25 x 1
UN1-038	GB	33	38MM	32 x 1.6
UN1-043	GB	36	43MM	32 x 1.6
UN1-048	GB	38	48MM	32 x 1.6
UN1-051	GB	40	51MM	32 x 1.6
UN1-060	GB	45	60MM	32 x 1.6
UN1-064	GB	48	64MM	32 x 1.6
UN1-076	GB	54	76MM	32 x 1.6
UN1-089	GB	60	89MM	32 x 2
UN1-102	GB	66	102MM	32 x 2
UN1-114	GB	73	114MM	32 x 2
UN1-152	GB	91	152MM	40 x 3
UN1-165	GB	98	165MM	40 x 3



Safety Factor: 2.5
Standard Finish: Galvabond

UN3 - LIGHT DUTY PEAR HANGER

Part No.	Dimensions				Load Capacity	Mass kg
	D	A	R	W x T		
UN3-27	27	64	12	32 x 1.6	0.88 kN	0.09
UN3-34	34	67	12	32 x 1.6	0.88 kN	0.09
UN3-38	38	70	12	32 x 1.6	0.88 kN	0.10
UN3-43	43	73	12	32 x 1.6	0.88 kN	0.10
UN3-48	48	75	12	32 x 1.6	0.88 kN	0.10
UN3-51	51	77	12	32 x 1.6	0.88 kN	0.10
UN3-60	60	81	12	32 x 1.6	0.88 kN	0.12
UN3-76	76	89	14	32 x 2	1.27 kN	0.18
UN3-89	89	102	14	32 x 2	1.27 kN	0.18
UN3-102	102	108	14	32 x 2	1.27 kN	0.18
UN3-114	114	114	14	32 x 2	1.27 kN	0.19
UN3-140	140	203	14	40 x 3	2.65 kN	0.52
UN3-152	152	210	14	40 x 3	2.65 kN	0.54
UN3-165	165	222	14	40 x 3	2.65 kN	0.58



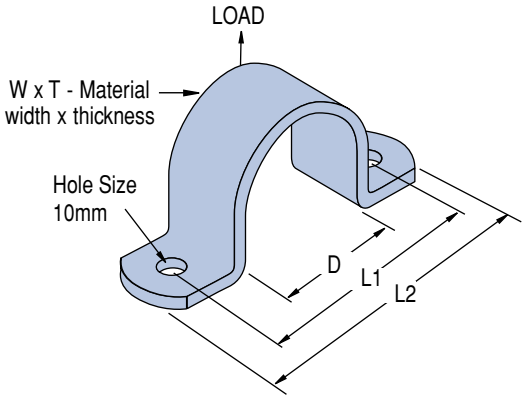
Safety Factor: 2.5
Standard Finish: Zinc Plated

UNISTRUT®

PIPE SUPPORTS – LIGHT DUTY

UN4 - LIGHT DUTY PIPE CLAMPS

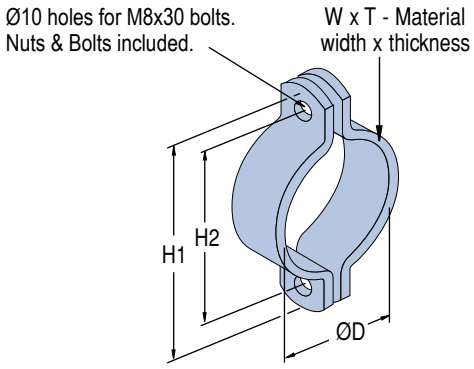
Part No.	D	W x T	L1 mm	L2 mm	Kg	
UN4-016	16	25x3	56	80	0.04	50
UN4-019	19	25x3	59	83	0.04	50
UN4-021	21	25x3	61	85	0.05	25
UN4-025	25	25x3	65	89	0.06	25
UN4-027	27	25x3	67	91	0.07	25
UN4-032	32	25x3	72	96	0.07	25
UN4-034	34	25x3	74	98	0.08	25
UN4-038	38	25x3	78	102	0.08	50
UN4-043	43	25x3	83	107	0.08	50
UN4-048	48	25x3	88	112	0.09	50
UN4-051	51	25x3	91	115	0.09	50
UN4-060	60	25x3	100	124	0.12	50
UN4-064	64	25x3	104	128	0.12	50
UN4-073	73	25x3	113	137	0.12	25
UN4-076	76	25x3	116	140	0.14	25
UN4-089	89	25x3	129	153	0.16	25
UN4-095	95	25x3	135	159	0.17	25
UN4-102	102	25x3	142	166	0.18	25
UN4-114	114	25x3	154	178	0.18	30
UN4-127	127	25x3	167	191	0.20	30
UN4-140	140	25x3	180	204	0.20	30
UN4-152	152	25x3	192	216	0.20	30
UN4-165	165	25x3	205	229	0.24	30



Working Load: 0.75 kN
Safety Factor: 2.5
Standard Finish: Galvanised

UN6 - LIGHT DUTY, TWO-PIECE PIPE CLAMPS

Part No.	ØD	W x T	H1 mm	H2 mm	Kg	
UN6-019	19	25x3	83	59	0.10	25
UN6-021	21	25x3	85	61	0.10	25
UN6-025	25	25x3	89	65	0.11	25
UN6-027	27	25x3	91	67	0.11	25
UN6-032	32	25x3	96	72	0.14	25
UN6-034	34	25x3	98	74	0.14	25
UN6-038	38	25x3	102	78	0.15	25
UN6-043	43	25x3	107	83	0.15	25
UN6-048	48	25x3	112	88	0.15	25
UN6-051	51	25x3	115	91	0.15	25
UN6-060	60	25x3	124	100	0.15	25
UN6-064	64	25x3	128	104	0.19	25
UN6-073	73	25x3	137	113	0.19	25
UN6-076	76	25x3	140	116	0.19	25
UN6-089	89	25x3	153	129	0.21	25
UN6-102	102	25x3	166	142	0.23	25
UN6-114	114	25x3	178	154	0.26	25
UN6-127	127	25x3	191	167	0.28	25
UN6-140	140	25x3	204	180	0.31	25
UN6-152	152	25x3	216	192	0.33	25
UN6-165	165	25x3	229	205	0.37	25

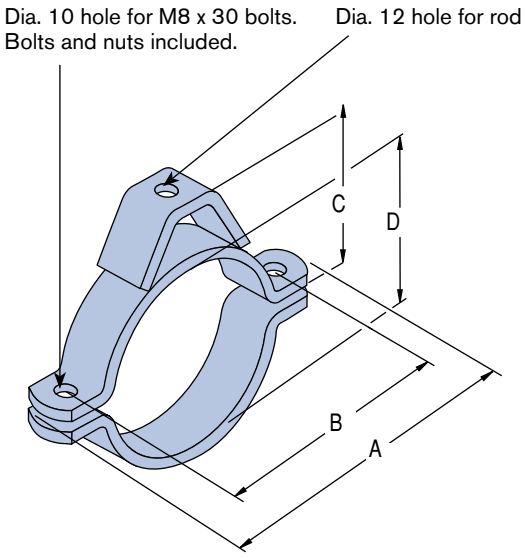


Working Load: 2.88 kN
Safety Factor: 2.5
Standard Finish: Galvanised

PIPE SUPPORTS – LIGHT DUTY

UN8 - LIGHT DUTY TWO-PIECE PIPE CLAMPS

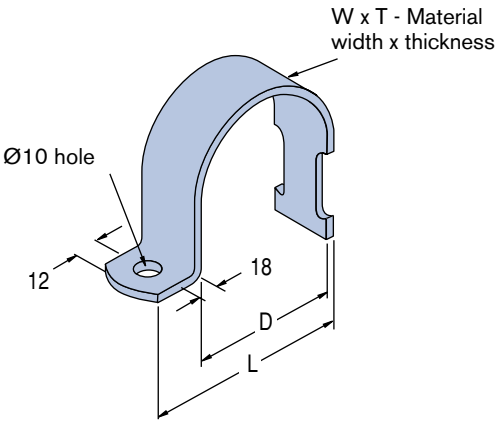
Part No.	Dimensions				Kg
	D	A	B	C	
UN8-019	19	83	59	47	0.17
UN8-021	21	85	61	47	0.17
UN8-025	25	89	65	47	0.19
UN8-027	27	91	67	47	0.19
UN8-032	32	96	72	52	0.19
UN8-034	34	98	74	54	0.20
UN8-038	38	102	78	56	0.21
UN8-043	43	107	83	60	0.21
UN8-048	48	112	88	63	0.21
UN8-051	51	115	91	65	0.21
UN8-060	60	124	100	70	0.21
UN8-064	64	128	104	72	0.26
UN8-073	73	137	113	77	0.27
UN8-076	76	140	116	79	0.28
UN8-089	89	153	129	86	0.30
UN8-102	102	166	142	93	0.31
UN8-114	114	178	154	99	0.34
UN8-127	127	191	167	105	0.37
UN8-140	140	204	180	112	0.38
UN8-152	152	216	192	118	0.41
UN8-165	165	229	203	125	0.41



Material: 20 x 3
Working Load: 1.32 kN
Safety Factor: 2.5
Standard Finish: Galvanised

UN10 – LIGHT DUTY SINGLE BOLT STRUT CLAMP

Part No.	D mm	L mm	W x T	Kg
UN10-016	16	51	32 x 1.6	0.02
UN10-017	17	52	32 x 1.6	0.02
UN10-021	21	56	32 x 1.6	0.03
UN10-025	25	60	32 x 1.6	0.04
UN10-027	27	62	32 x 1.6	0.04
UN10-032	32	67	32 x 1.6	0.04
UN10-034	34	69	32 x 1.6	0.05
UN10-038	38	73	32 x 1.6	0.05
UN10-043	43	78	32 x 1.6	0.06
UN10-048	48	83	32 x 1.6	0.06
UN10-051	51	86	32 x 1.6	0.07
UN10-060	60	95	32 x 1.6	0.14
UN10-064	64	99	32 x 1.6	0.15
UN10-076	76	111	32 x 1.6	0.18
UN10-089	89	124	32 x 1.6	0.18
UN10-102	102	137	32 x 1.6	0.20
UN10-114	114	149	32 x 2.4	0.24
UN10-140	140	175	32 x 2.4	0.28
UN10-152	152	187	32 x 2.4	0.31
UN10-165	165	200	32 x 2.4	0.34



Standard Finish: Zinc Plated

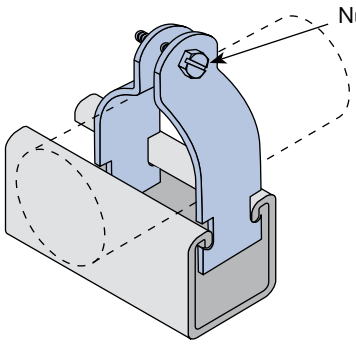
UNISTRUT®

PIPE SUPPORTS – LIGHT DUTY

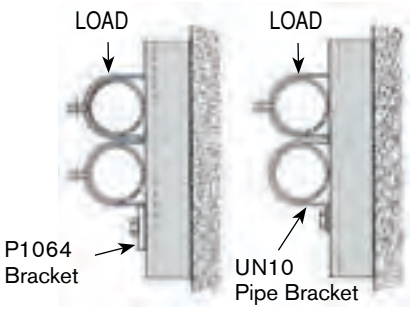
P2024 PIPE SUPPORTS

Part No GB	D mm	Kg
P2024	8	0.04
P2025	11	0.04
P2026	14	0.04
P2027	17	0.05
P2028	19	0.05
P2029	22	0.05
P2030	25	0.06
P2031	29	0.07
P2032	32	0.07
P2033	35	0.08
P2034	38	0.08
P2035	43	0.09
P2036	44	0.11
P2037	49	0.13
P2038	51	0.14
P2039	54	0.15
P2040	57	0.15
P2041	60	0.15
P2042	64	0.16
P2043	67	0.17
P2044	70	0.17
P2045	73	0.18
P2046	76	0.19
P2047	79	0.20
P2048	83	0.21
P2049	86	0.21
P2050	90	0.21

Part No GB	D mm	Kg
P2051	92	0.25
P2052	95	0.26
P2053	98	0.27
P2054	102	0.28
P2055	105	0.28
P2056	108	0.29
P2057	111	0.30
P2058	114	0.30
P2059	117	0.32
P2060	121	0.33
P2062	127	0.34
P2064	133	0.35
P2066	140	0.36
P2068	146	0.41
P2070	152	0.43
P2070-62	159	0.45
P2070-64	165	0.46
P2070-66	171	0.47
P2070-70	178	0.49
P2070-74	191	0.53
P2070-80	203	0.56
P2070-84	216	0.59
P2070-225	225	0.62
P2070-230	230	0.63
P2070-240	240	0.65
P2070-250	250	0.68
P2070-260	260	0.71



Also available in Hot Dipped Galvanised Finish.



NOTE: When used in the application illustrated, it is recommended that the lower clamp be supported against possible slippage. Where P2024 series clamps are restraining pipework subject to vibration, the use of P2600 UNI-CUSHION® is recommended.

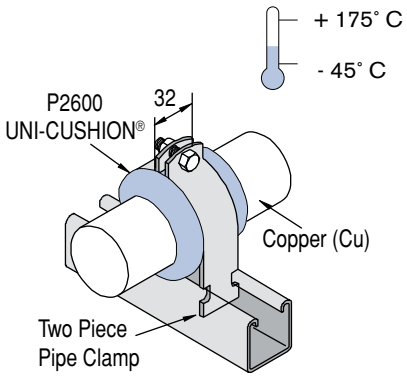
Standard Finish: Zinc Plated

P2600 UNI-CUSHION® AND CUTTING GUIDE

O.D. Size mm	Use with Clamp	UNI-CUSHION® Length mm
6.4	P2025	22.2
9.5	P2026	27
12.7	P2027	38.1
15.9	P2028	54
19.1	P2029	57.2
22.2	P2030	76.2
25.4	P2031	82.6
28.6	P2032	92.1
31.8	P2033	101.6
34.9	P2034	114.3
38.1	P2035	123.8
41.3	P2036	133.4
44.5	P2037	139.7
47.6	P2038	152.4
50.8	P2039	165.1
54	P2040	171.5

O.D. Size mm	Use with Clamp	UNI-CUSHION® Length in mm
57.2	P2041	184.2
60.3	P2042	190.5
63.5	P2043	203.2
66.7	P2044	209.6
69.9	P2045	222.3
73	P2046	235
76.2	P2047	241,3
79.4	P2048	254
82.6	P2049	266.7
85.7	P2050	273.1
88.9	P2051	279.4
92.1	P2052	285.8
95.3	P2053	292.1
98.4	P2054	298.5
101.6	P2055	304.8
104.8	P2056	317.5

O.D. Size mm	Use with Clamp	UNI-CUSHION® Length mm
108	P2057	330.2
111.1	P2058	342.9
114.3	P2059	355.6
117.5	P2060	362
123.8	P2062	381
130.2	P2064	406.4
136.5	P2066	419.1
142.9	P2068	444.5
149.2	P2070	463.6
155.6	P2070-62	482.6
161.9	P2070-64	501.7
168.3	P2070-66	520.7
174.6	P2070-70	539.8
187.3	P2070-74	577.9
200	P2070-80	622.3



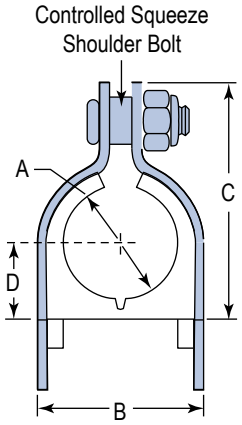
Part No.	W mm	T mm		Kg
P2600	32	2.0	7.6m	1.7

- Shock absorption
- Protection from corrosion and abrasion
- Allowance for expansion and contraction
- Sound and vibration isolation
- Stability in use from -45°C to +175°C
- Flexible elastomer material
- Packaged in handy 7.6m dispenser pack

PIPE SUPPORTS – LIGHT DUTY

CUSH-A-CLAMP®

TUBE SERIES ASSEMBLY							
Part No.	Copper & Steel Tube OD Size	Copper Water Pipe (Nominal)	Dimensions				/100
			"A" (mm)	"B" (mm)	"C" (mm)	"D" (mm)	
004T008	1/4"		6.4	15.7	24.9	6.9	4.5
006T010	3/8"	1/4"	9.4	20.8	28.7	8.4	5.0
008T012	1/2"	3/8"	12.7	23.9	34.0	10.2	5.9
010T014	5/8"	1/2"	15.7	26.9	39.1	11.7	6.4
012T016	3/4"	5/8"	19.1	30.5	42.7	13.2	6.4
014T018	7/8"	3/4"	22.1	33.3	46.2	14.7	6.8
016T020	1"		25.4	36.6	49.5	16.5	7.7
018T022	1-1/8"	1"	28.4	39.9	52.8	17.8	8.2
020T024	1-1/4"		31.8	43.2	56.1	19.6	8.2
022T026	1-3/8"	1-1/4"	34.8	46.2	59.4	21.1	9.1
024N028	1-1/2"		38.1	49.5	62.7	22.9	15.0
026N030	1-5/8"	1-1/2"	41.1	52.6	66.0	24.4	15.9
028N032	1-3/4"		44.5	55.9	69.3	25.9	16.8
030N034	1-7/8"		47.5	58.9	72.6	27.7	17.7
032N036	2"		50.8	62.2	77.2	29.2	20.9
034N040	2-1/8"		53.8	65.3	82.0	32.3	21.3
038N044	2-3/8"		60.2	71.6	93.2	35.8	22.2
040N046	2-1/2"		63.5	74.7	96.3	37.1	23.1
042N048	2-5/8"		66.5	78.0	99.6	38.9	24.9
046N052	2-7/8"		72.9	84.3	105.9	42.2	25.9
050N054	3"		76.2	90.7	112.3	45.2	27.2
050N056	3-1/8"		79.2	90.7	112.3	45.2	27.2
053N060	3-5/16"		84.1	100.6	120.7	48.3	28.1
056N062	3-1/2"		88.9	100.3	121.7	50.0	24.9
058N064	3-5/8"		91.9	106.7	126.7	51.6	31.8
064N072	4"		101.6	113.0	137.7	57.9	39.9
066N074	4-1/8"		104.6	116.1	140.7	59.4	42.6
069N076	4-5/16"		110.2	126.0	148.3	61.0	45.4
072N080	4-1/2"		114.3	125.7	150.4	64.3	49.9
082N090	5-1/8"		130.0	141.5	166.1	72.1	56.7
098N106	6-1/8"		155.4	166.9	191.5	84.8	59.0



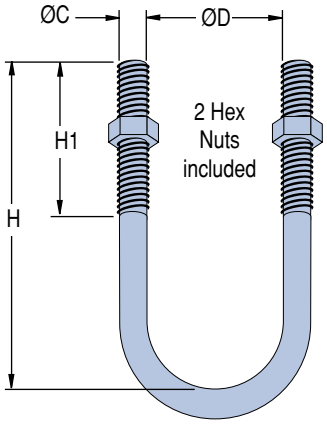
PIPE SERIES ASSEMBLY							
Part No.	Nominal Pipe Size	Dimensions				/100
		"A" (mm)	"B" (mm)	"C" (mm)	"D" (mm)	
009N012	1/4"	13.7	24.9	34.0	10.9	5.9
011N014	3/8"	17.0	28.7	39.1	12.4	6.4
014N018	1/2"	21.3	32.8	46.2	14.7	6.8
017N022	3/4"	26.7	38.1	49.5	17.8	7.7
021N026	1"	33.3	44.7	59.4	20.6	8.6
027N032	1-1/4"	42.2	55.1	69.3	25.1	15.9
030N034	1-1/2"	48.3	59.7	72.6	27.7	17.7
038N044	2"	60.2	71.6	93.2	35.8	22.2
046N052	2-1/2"	72.9	84.3	105.9	42.2	25.9
056N062	3"	88.9	100.3	121.7	50.0	24.9
064N072	3-1/2"	101.6	113.0	137.7	57.9	39.9
072N080	4"	114.3	125.7	150.4	64.3	49.9

UNISTRUT®

PIPE SUPPORTS – MEDIUM DUTY

UN14 – "U" BOLTS

Part No	ØD	H mm	H1 mm	ØC mm	Kg
UN14-021	21	65	50	10	0.09
UN14-027	27	77	50	10	0.10
UN14-034	34	85	50	10	0.12
UN14-043	43	93	50	10	0.13
UN14-048	48	100	50	10	0.14
UN14-051	51	103	50	10	0.14
UN14-060	60	110	50	10	0.16
UN14-076	76	127	50	12	0.28
UN14-089	89	140	50	12	0.30
UN14-102	102	152	50	12	0.35
UN14-114	114	165	50	12	0.38
UN14-140	140	190	50	12	0.40
UN14-165	165	215	50	12	0.44
UN14-168	168	220	50	12	0.48
UN14-219	219	295	75	16	1.13
UN14-273	273	370	100	20	2.20
UN14-324	324	420	100	20	2.52
UN14-356	356	455	100	20	2.74
UN14-406	406	505	100	20	3.05
UN14-457	457	555	100	24	4.87
UN14-508	508	605	100	24	5.32
UN14-610	610	710	100	24	6.28

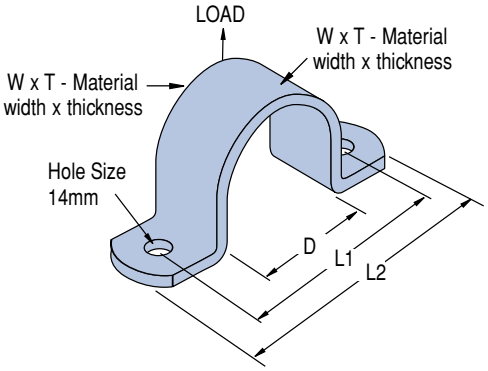


Standard Finish: Galvanised

UN15 – MEDIUM DUTY SADDLE CLAMP

Part No.	D	L1	L2	WxT	Working Load	Kg	
UN15-021	21	75	115	40x5	2.46kN	0.14	25
UN15-027	27	81	121	40x5	2.46kN	0.20	25
UN15-034	34	88	128	40x5	2.46kN	0.28	25
UN15-043	43	97	137	40x5	2.46kN	0.34	25
UN15-048	48	102	142	40x5	2.46kN	0.34	25
UN15-051	51	105	145	40x5	2.46kN	0.34	25
UN15-060	60	114	154	40x5	2.46kN	0.40	25
UN15-076	76	130	170	40x5	2.46kN	0.46	20
UN15-089	89	143	183	40x5	2.46kN	0.54	25
UN15-102	102	156	196	40x5	2.46kN	0.58	20
UN15-114	114	170	210	40x6	3.57kN	0.65	20
UN15-140	140	196	236	40x6	3.57kN	0.75	10
UN15-152	152	208	248	50x6	4.44kN	1.17	10
UN15-165	165	221	261	50x6	4.44kN	1.25	10
UN15-168	168	224	264	50x6	4.44kN	1.27	10
UN15-203	203	259	299	50x6	4.44kN	1.48	10
UN15-219	219	275	315	50x6	4.44kN	1.58	5

Safety Factor: 2.5



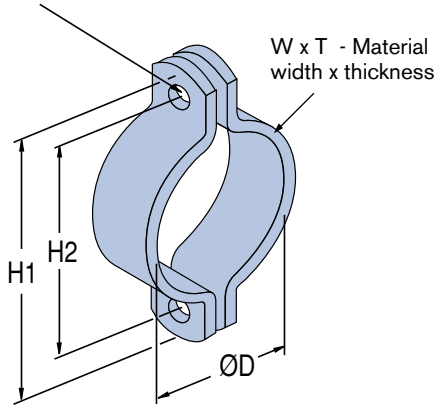
Safety Factor: 2.5
Standard Finish: Galvanised

PIPE SUPPORTS – MEDIUM DUTY

UN16 – MEDIUM DUTY, TWO-PIECE PIPE CLAMP

Part No.	ØD	H1	H2	WxT	Kg	
UN16-060	60	154	114	40x5	0.72	10
UN16-076	76	170	130	40x5	0.84	10
UN16-089	89	183	143	40x5	1.02	10
UN16-102	102	196	156	40x5	1.12	10
UN16-114	114	210	170	40x6	1.17	10
UN16-127	127	221	181	40x6	1.25	10
UN16-140	140	234	194	40x6	1.31	10
UN16-152	152	246	206	40x6	1.38	10
UN16-165	165	259	219	40x6	1.46	5
UN16-178	178	272	232	40x6	1.54	5
UN16-190	190	284	244	40x6	1.64	5
UN16-203	203	297	257	40x6	1.69	5
UN16-219	219	313	273	40x6	1.78	5
UN16-230	230	324	284	40x6	1.84	5
UN16-240	240	334	294	40x6	1.92	5
UN16-250	250	344	304	40x6	2.00	5
UN16-273	273	367	327	40x6	2.18	4
UN16-324	324	418	378	40x6	2.59	4

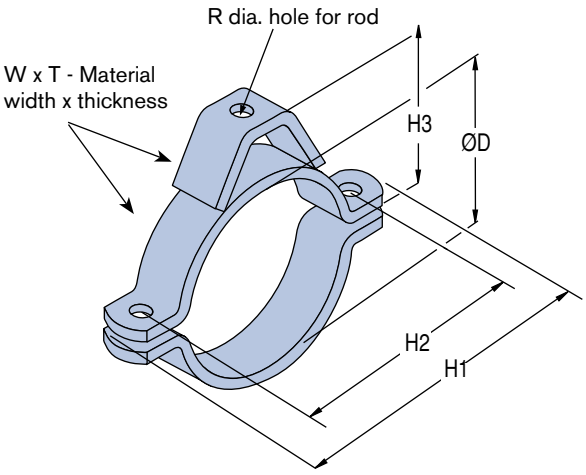
Ø14 holes for M12x45 bolts.
Nuts & Bolts included.



Working Load: 7.20 kN
Safety Factor: 2.5
Standard Finish: Galvanised

UN18 – MEDIUM DUTY, TWO-PIECE PIPE CLAMPS

Part No.	ØD	H1	H2	H3	R	WxT	Working Load	Kg
UN18-060	60	154	114	75	12	40x5	1.77kN	0.72
UN18-076	76	170	130	88	14	40x5	3.53kN	0.84
UN18-089	89	183	143	99	14	40x5	3.53kN	1.02
UN18-102	102	196	156	108	14	40x5	3.53kN	1.12
UN18-114	114	210	170	116	14	40x6	3.53kN	1.17
UN18-127	127	221	181	124	18	40x6	4.51kN	1.25
UN18-140	140	234	194	132	18	40x6	4.51kN	1.31
UN18-152	152	246	206	139	18	40x6	4.51kN	1.38
UN18-165	165	259	219	146	18	40x6	4.51kN	1.46
UN18-178	178	272	232	153	18	40x6	4.51kN	1.54
UN18-203	203	297	257	167	18	40x6	4.51kN	1.69
UN18-219	219	313	273	175	18	40x6	4.51kN	1.78
UN18-230	230	324	284	181	18	40x6	4.51kN	1.84



All sizes have a 14mm dia. hole to suit M12 x 45 bolts.
Nuts and bolts included.

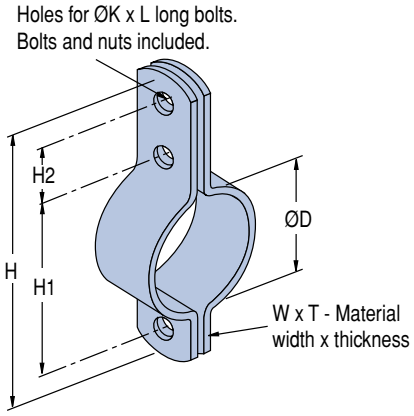
Safety Factor: 2.5
Standard Finish: Galvanised

UNISTRUT®

PIPE SUPPORTS – MEDIUM DUTY

UN20 – MEDIUM DUTY, THREE BOLT PIPE CLAMP

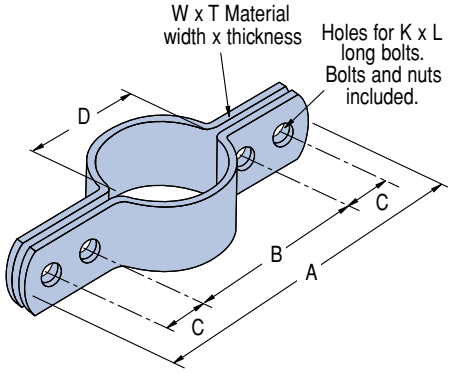
Part No	ØD	H	H1	H2	W x T	ØK x L	Working Load	Kg
UN20-021	21	159	71	48	25x5	M10x30	5.02kN	0.34
UN20-027	27	165	77	48	25x5	M10x30	5.02kN	0.36
UN20-034	34	176	88	48	40x6	M12x45	7.24kN	0.58
UN20-043	43	185	97	48	40x6	M12x45	7.24kN	0.62
UN20-048	48	190	102	48	40x6	M12x45	7.24kN	0.64
UN20-060	60	210	122	48	50x6	M16x50	11.52kN	1.57
UN20-076	76	226	138	48	50x6	M16x50	11.52kN	1.69
UN20-089	89	239	151	48	50x6	M16x50	11.52kN	1.79
UN20-114	114	339	200	75	75x10	M20x60	20.10kN	5.17
UN20-140	140	365	226	75	75x10	M20x60	20.10kN	5.65
UN20-165	165	390	251	75	75x10	M20x60	20.10kN	6.13
UN20-219	219	444	305	75	75x10	M24x60	28.80kN	7.83
UN20-273	273	498	359	75	75x10	M24x60	28.80kN	8.83
UN20-324	324	549	410	75	75x10	M24x60	28.80kN	9.77
UN20-356	356	628	464	100	75x16	M30x80	45.18kN	17.04
UN20-406	406	678	514	100	75x16	M30x80	45.18kN	18.5
UN20-457	457	763	587	100	75x20	M36x100	45.18kN	24.95
UN20-508	508	814	638	100	75x20	M36x100	45.18kN	26.83
UN20-610	610	916	740	100	75x20	M36x100	45.18kN	30.61



Safety Factor: 2.5
Standard Finish: Galvanised

UN21 - MEDIUM DUTY VERTICAL PIPE CLAMP

Part No.	Dimensions						Load Capacity	Mass kg
	D	A	B	C	W x T	K x L		
UN21-21	21	207	71	48	32 x 5	M10 x 35	1.11kN	0.75
UN21-27	27	213	77	48	32 x 5	M10 x 35	1.11kN	0.77
UN21-34	34	220	84	48	32 x 5	M10 x 35	1.11kN	0.80
UN21-43	43	229	93	48	32 x 5	M10 x 35	1.11kN	0.84
UN21-48	48	238	102	48	40 x 6	M12 x 40	1.80kN	1.19
UN21-60	60	250	114	48	40 x 6	M12 x 40	1.80kN	1.26
UN21-76	76	266	130	48	50 x 6	M12 x 40	2.22kN	1.63
UN21-89	89	278	143	48	50 x 6	M12 x 40	2.22kN	1.73
UN21-114	114	304	168	48	50 x 6	M12 x 40	2.22kN	1.91
UN21-140	140	330	194	48	50 x 6	M12 x 40	2.22kN	2.11
UN21-165	165	468	254	75	75 x 10	M16 x 60	9.71kN	6.72
UN21-219	219	519	305	75	75 x 10	M16 x 60	9.71kN	7.65
UN21-273	273	573	359	75	75 x 10	M16 x 60	9.71kN	8.65
UN21-324	324	624	410	75	75 x 10	M16 x 60	10.79kN	9.83
UN21-356	356	662	448	75	75 x 10	M16 x 60	10.79kN	10.17
UN21-406	406	712	498	75	90 x 12	M20 x 75	11.77kN	15.87
UN21-457	457	779	565	75	90 x 12	M20 x 75	11.77kN	17.23
UN21-508	508	830	616	75	90 x 12	M20 x 75	11.77kN	18.58

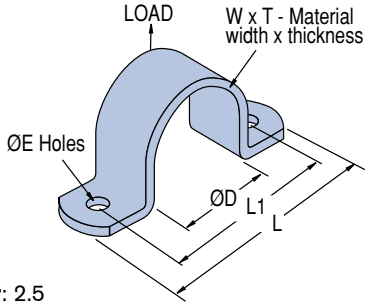


Safety Factor: 2.5
Standard Finish: Galvanised

PIPE SUPPORTS – HEAVY DUTY AND ACCESSORIES

UN30 – HEAVY DUTY, SADDLE CLAMP

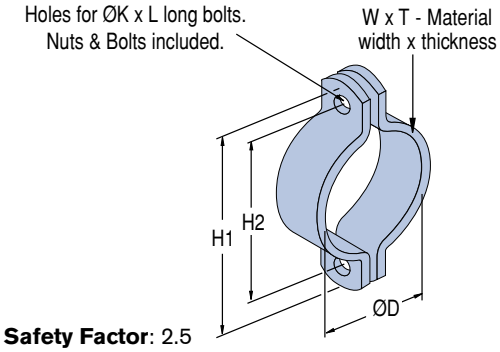
Part No	ØD	L1	L	ØE	W x T	Working Load	Kg
UN30-168	168	260	324	22	75x10	10.87kN	3.22
UN30-219	219	310	375	22	75x10	10.87kN	4.21
UN30-273	273	364	428	22	75x10	10.87kN	4.81
UN30-324	324	415	479	22	75x10	10.87kN	5.80
UN30-356	356	447	511	22	75x10	10.87kN	6.10
UN30-406	406	497	561	26	90x12	18.78kN	9.90
UN30-457	457	548	612	26	90x12	18.78kN	11.00
UN30-508	508	600	663	26	90x12	18.78kN	12.12



Safety Factor: 2.5
Standard Finish: Galvanised

UN31 – HEAVY DUTY, TWO-PIECE PIPE CLAMP

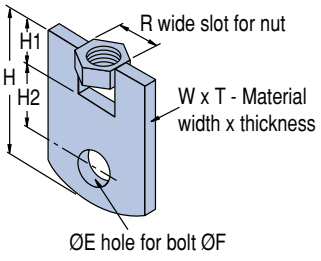
Part No	ØD	H1	H2	W x T	ØK x L	Working Load	Kg
UN31-168	168	318	254	75x10	M20 x 60	20.10kN	5.00
UN31-219	219	369	305	75x10	M20 x 60	20.10kN	6.00
UN31-273	273	423	359	75x10	M20 x 60	20.10kN	7.00
UN31-324	324	474	410	75x10	M20 x 60	20.10kN	8.00
UN31-356	356	512	448	75x12	M24 x 75	28.93kN	11.00
UN31-406	406	562	498	75x12	M24 x 75	28.93kN	12.00
UN31-457	457	629	565	75x16	M30 x 90	45.18kN	19.00
UN31-508	508	680	616	75x16	M30 x 90	45.18kN	20.00
UN31-610	610	782	718	75x16	M30 x 90	45.18kN	23.00



Safety Factor: 2.5
Standard Finish: Galvanised

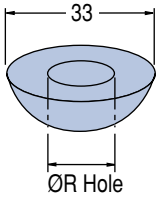
UN35 – EYE NUTS [HG]

Part No	H	H1	H2	ØE	ØF	R	W x T	Working Load	Kg
UN35-12-M10	70	20	30	14	12	18	40 x 6	3.60 kN	0.13
UN35-16-M12	80	25	30	18	16	20	75 x 10	5.80 kN	0.47
UN35-20-M16	90	30	35	22	20	25	90 x 12	9.72 kN	0.76
UN35-24-M20	90	30	35	26	24	31	90 x 12	14.48 kN	0.76
UN35-30-M24	120	35	50	32	30	37	100 x 20	21.84 kN	1.88
UN35-36-M30	140	40	60	38	36	47	130 x 20	32.56 kN	2.86

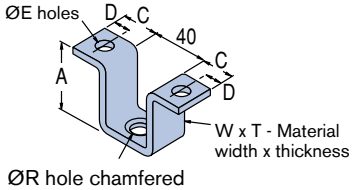


UN37 – SPHERICAL WASHER FOR UN38 [MI]

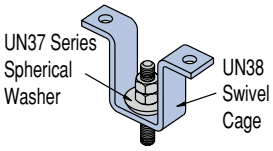
Part No	ØR	Kg	
UN37-06	08	0.10	100
UN37-10	12	0.09	100
UN37-12	14	0.09	100
UN37-16	18	0.07	50



UN38 – SWIVEL CAGE [HG]



ØR hole chamfered 120° x 3 deep max



Typical Application

Part No	A	C	D	ØE	ØR	W x T	Kg	
UN38-06	65	31	12	10	08	25x5	0.20	25
UN38-10	65	31	12	10	12	25x5	0.20	25
UN38-12	65	47	20	14	14	40x6	0.35	20
UN38-16	100	47	20	14	18	50x6	0.52	10

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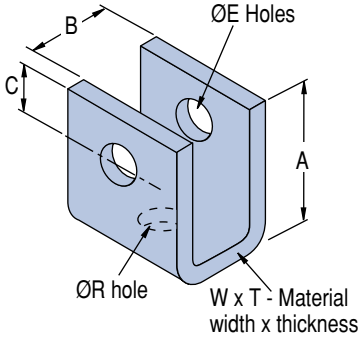
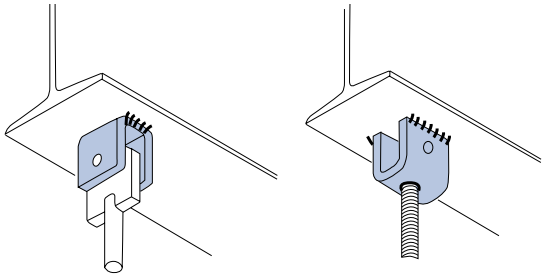
PIPE SUPPORTS – ACCESSORIES AND BEAM ATTACHMENTS

UN39 – WELD ON BRACKET [PL]

Part No	A	B	C	ØE	ØR	W x T	Working Load	Kg	
UN39-10	75	32	22	14	12	75x10	1.04kN	1.15	10
UN39-12	75	32	22	18	14	75x10	1.76kN	1.14	10
UN39-16	75	40	25	22	18	75x10	2.56kN	1.16	10
UN39-20	90	40	28	26	22	75x10	4.32kN	1.30	10

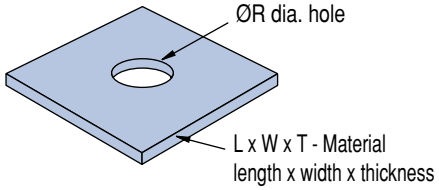




Typical Applications

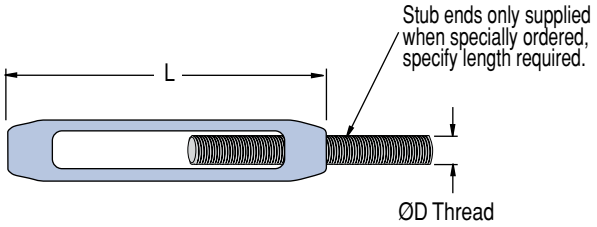
UN40 – SQUARE WASHER [HG]

Part No.	ØR	Dimensions L x W x T	Kg /100	
UN40-12	18	75 x 75 x 6	26.0	100
UN40-16	22	75 x 75 x 6	25.0	100
UN40-20	26	75 x 75 x 10	41.0	100



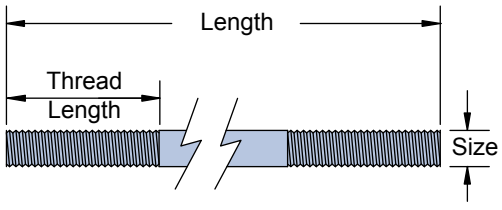
UN42 – TURNBUCKLES [HG]

Part No	L	ØD	Working Load	Kg
UN42-10	160	M10	2.45 kN	0.2
UN42-12	200	M12	4.41 kN	0.3
UN42-16	200	M16	7.45 kN	0.5
UN42-20	215	M20	10.78 kN	0.7



UN43 – MACHINE THREADED ROD

When ordering please specify: Size, Length, Thread one end or both ends, Thread length
Standard Finish: Hot Galvinised and Plain
Sizes Available: M10, M12 M16, M20, M24, M30, M36

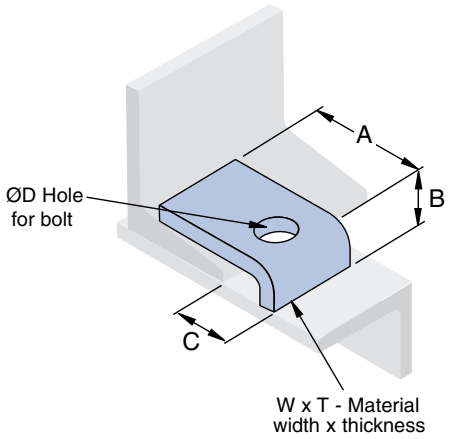


PIPE SUPPORTS – ACCESSORIES AND BEAM ATTACHMENTS

UN44 – BEAM CLIP

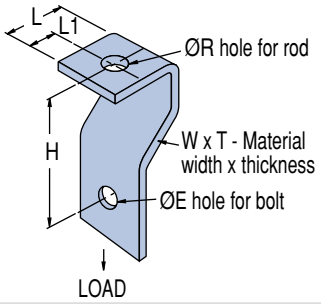
Part No.	ØD	A	B	C	W x T	Kg
UN44-16	18	65	25	32	50x10	0.3
UN44-20	22	75	30	40	75x12	0.5
UN44-24	26	80	30	45	75x12	0.5

Note:
Standard Finish: Hot Dipped Galvinised



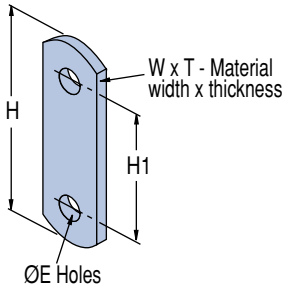
UNCL – CLEVIS HANGER [HG]

Part No	L	L1	H	ØE	ØR	WxT	Working Load	Kg
UNCL-10	35	15	70	10	12	25 x 5	1.75 kN	0.08
UNCL-12	45	20	75	14	14	40 x 5	2.17 kN	0.20
UNCL-16	48	20	100	14	18	50 x 5	2.55 kN	0.32
UNCL-20	62	32	112	22	22	75 x 10	9.08 kN	1.08



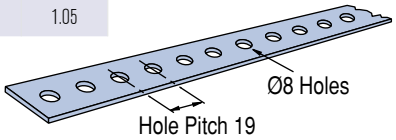
UNLP – LINK PLATE [HG]

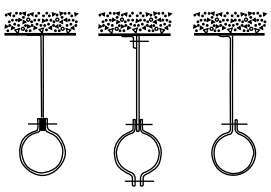
Part No	H	H1	ØE	WxT	Kg
UNLP08	64	36	10	25 x 3	0.03
UNLP10	64	36	12	25 x 5	0.05
UNLP12	120	80	14	40 x 6	0.23
UNLP16	120	80	18	50 x 6	0.28
UNLP20	190	126	22	75 x 10	1.11



UHS – HANGER STRAP [GB/ZP]

Part No	Finish	W x T	ØR	Length	Bundle	Kg /3m
UHS25	ZP	25 x 3.0	8	3 METRES	10	1.40
UHS32	GB	32 x 1.6	8	3 METRES	10	1.05




Typical Application

UNISTRUT®

PIPE SUPPORTS – ACCESSORIES AND BEAM ATTACHMENTS

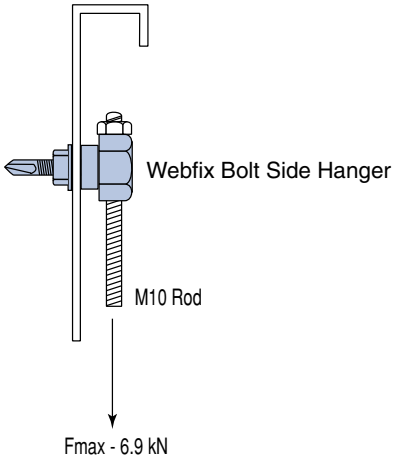
4029706 – WEBFIX BOLT SIDE HANGER

The one piece side hanging Webfix Bolt Side Hanger is attached through the side (web) of the purlin and ensures that the hanging tension load is transferred through the web and not onto the purlin lip.

The 10mm internal thread easily accommodates the matching diameter threaded rod and can be used to support cable tray.

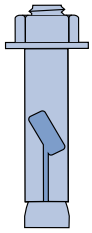
Webfix Vertical bolts and fixing sockets for concrete and wood / metal are available on request.

Size: 1/4"-20 X 25 With Nuts



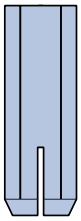
DYNABOLTS

Part No.	Description	Finish
HBD084	HBD084 DYNA BOLT 8 X 40	ZP
HBD104	HBD104 DYNA BOLT 10 X 40	ZP
HBD105	HBD105 DYNA BOLT 10 X 50 ZA	ZA
HBD106	HBD106 DYNA BOLT 10 X 60	ZP
HBD1260	HBD1260 DYNA BOLT 12 X 60	ZP



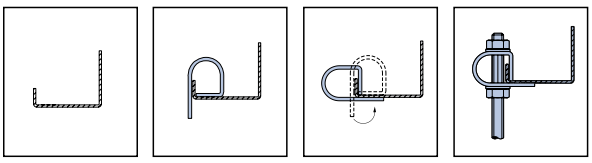
DROP IN ANCHOR

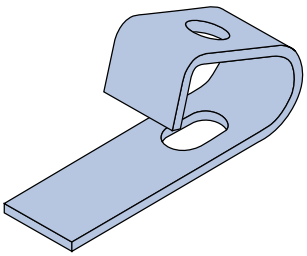
Part No.	Size	Finish	Mass kg/100
HAD06	M6 X 25	ZP	0.7
HAD08	M8 X 30	ZP	1.2
HAD10	M10 X 40	ZP	2.3
HAD12	M12 X 50	ZP	4.5

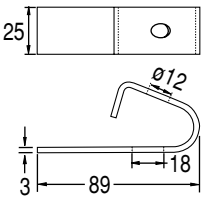


Z10 - Z PURLIN CLAMP [GB]

Part No.	Kg /100	
Z10	0.085	100

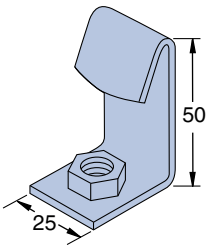






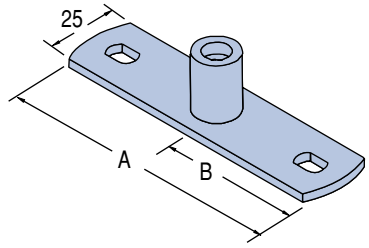
PF2010 PURLIN CLIP [ZP]

Part No	Description	Finish
PF2010	PF2010 PURLIN CLIP M10 25W 3T ZP	ZP

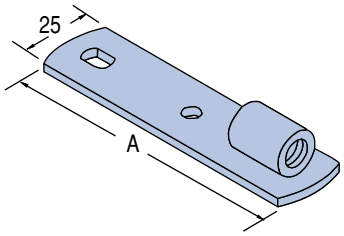


PIPE SUPPORTS – ACCESSORIES AND BEAM ATTACHMENTS

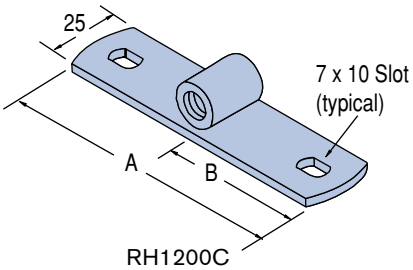
RH1200 – ROD HANGER MOUNTING PLATE



RH1200A
Central Mounting Plate



RH1200B
Vertical Mounting Plate

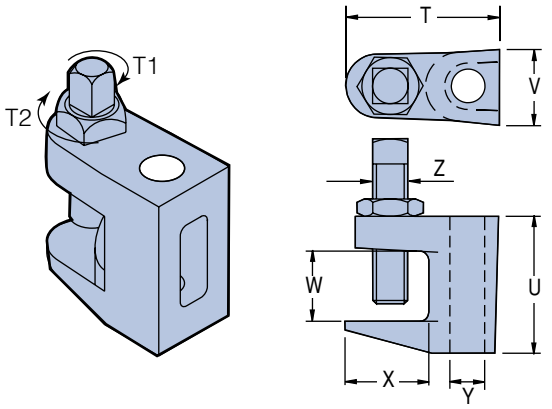


RH1200C
Horizontal Mounting Plate

Part No	Description	Thread Size	Dim "A"	Dim "B"
RH1200A-M8	RH1200A-M8 ROD HANGER CENTRAL MOUNT ZP	M8	75mm	37.5mm
RH1200A-M10	RH1200A-M10 ROD HANGER CENTRAL MOUNT ZP	M10	100mm	50mm
RH1200A-M12	RH1200A-M12 ROD HANGER CENTRAL MOUNT ZP	M12	100mm	50mm
RH1200B-M8	RH1200B M8 ROD HANGER VERTICAL MOUNT ZP	M8	75mm	-
RH1200B-M10	RH1200B M10 ROD HANGER VERTICAL MOUNT ZP	M10	100mm	-
RH1200B-M12	RH1200B M12 ROD HANGER VERTICAL MOUNT ZP	M12	100mm	-
RH1200C-M8	RH1200C M8 ROD HANGER HORIZONTAL MOUNT ZP	M8	75mm	37.5mm
RH1200C-M10	RH1200C M10 ROD HANGER HORIZONTAL MOUNT ZP	M10	100mm	50mm
RH1200C-M12	RH1200C M12 ROD HANGER HORIZONTAL MOUNT ZP	M12	100mm	50mm

Other finishes available. Made to order and minimum order quantities may apply.

FL – BEAM CLAMP [ZP]



Part No.	FMax Kn	T1 Nm	T2 Nm	T mm	U mm	V mm	W mm	X mm	Y mm	Z mm	
FL210D	2.4	8	22	45	40	22	19	22	11	10	50
FL312D	3.1	8	22	50	46	25	23	28	13	10	50
FL412D	3.1	8	22	53	51	26	28	27	13	10	50

The simplest, quickest and most cost-effective method of suspending building services from steel beams and suitable for use with parallel or tapered flange beams, the FL can be supplied with the back hole drilled to accept threaded rod. The FL uses a grade 8.8 cup point setscrew to provide a maximum bite into steelwork and maximum load performance.

UNISTRUT®

PIPE WEIGHTS

COPPER TUBE

Nom. Size	Actual Size O.D.	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
15	12.7 x 0.9	0.30	0.39
18	15.9 x 1.0	0.43	0.58
20	19.1 x 1.0	0.52	0.75
25	25.4 x 1.2	0.83	1.25
32	31.8 x 1.2	1.05	1.72
40	38.1 x 1.2	1.27	2.27
45	44.5 x 1.2	1.48	2.87
50	50.8 x 1.2	1.70	3.57
65	63.5 x 1.2	2.14	5.07
80	76.2 x 1.6	3.42	7.60
90	88.9 x 1.6	4.00	9.76
100	101.6 x 1.6	4.58	12.18
125	127.0 x 1.6	5.74	17.77
150	152.4 x 2.0	8.58	25.86
175	177.8 x 2.0	10.03	33.74
200	203.2 x 2.0	11.48	42.63

PRESSURE PIPE – ANSI SCH 80 - API XS (UP TO 200 NS)

Nom. Size	Actual Size O.D x Wall.	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
8	13.7 x 3.02	0.80	0.85
10	17.1 x 3.20	1.10	1.19
15	21.3 x 3.73	1.62	1.77
20	26.7 x 3.91	2.20	2.47
25	33.4 x 4.55	3.24	3.69
32	42.1 x 4.85	4.47	5.20
40	48.2 x 5.10	5.41	6.55
50	60.3 x 5.54	7.50	9.40
65	73.0 x 7.01	11.41	14.14
80	88.9 x 7.62	15.27	19.40
90	101.6 x 8.10	18.63	24.36
100	114.3 x 8.56	22.32	29.73
125	141.3 x 9.53	30.97	42.69
150	168.3 x 11.00	42.56	59.38
200	219.1 x 12.70	64.50	93.90
250	273.1 x 15.09	95.80	142.10
300	323.8 x 17.49	131.80	197.30
350	355.6 x 19.05	159.20	235.40
400	406.4 x 21.44	203.90	306.60
450	457.2 x 23.88	254.55	386.20
500	508.0 x 26.19	311.17	473.80
600	609.6 x 30.96	442.08	677.40

PRESSURE PIPE – ANSI SCH 40 - API STD. WT. (UP TO 250 NS)

Nom. Size	Actual Size O.D. x Wall	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
8	13.7 x 2.24	0.63	0.69
10	17.1 x 2.31	0.90	1.00
15	21.3 x 2.77	1.27	1.30
20	26.7 x 2.87	1.68	2.00
25	33.4 x 3.38	2.50	3.06
32	42.1 x 3.56	3.38	4.35
40	48.2 x 3.68	4.05	5.37
50	60.3 x 3.91	5.44	7.50
65	73.0 x 5.16	8.63	11.71
80	88.9 x 5.49	11.29	15.90
90	101.6 x 5.74	13.50	19.80
100	114.3 x 6.02	16.07	24.28
125	141.3 x 6.55	21.77	34.69
150	168.3 x 7.11	28.26	46.80
200	219.1 x 8.18	42.55	74.61
250	273.0 x 9.27	60.20	110.90
300	323.8 x 10.31	75.90	151.90
350	355.6 x 11.10	93.70	180.70
400	406.4 x 12.70	123.50	237.30
450	457.2 x 14.27	156.20	300.80
500	508.0 x 15.10	183.00	361.80
600	609.6 x 17.48	254.50	513..70

GALVANISED PIPE

Nom. Size N.B. Med.	Actual Size O.D. x Wall	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
8	13.5 x 2.3	0.68	0.74
10	17.2 x 2.3	0.89	1.01
15	21.3 x 2.6	1.27	1.47
20	26.9 x 2.6	1.65	2.02
25	33.7 x 3.2	2.52	3.11
32	42.4 x 3.2	3.24	4.26
40	48.3 x 3.2	3.73	5.11
50	60.3 x 3.6	5.24	7.46
65	76.1 x 3.6	6.69	10.42
80	88.9 x 4.0	8.68	13.82
100	114.3 x 4.5	12.4	21.11
125	139.7 x 4.9	16.5	29.75
150	165.1 x 4.9	19.6	38.55

PVC PRESSURE PIPE - CLASS 12

Nom. Size	Actual Size O.D. x Wall	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
15	21.2 x 1.5	0.14	0.40
20	26.6 x 1.6	0.20	0.63
25	33.4 x 1.9	0.30	0.99
32	42.2 x 2.4	0.40	1.50
40	48.1 x 2.8	0.60	2.02
50	60.2 x 3.4	0.90	3.14
65	75.2 x 4.2	1.40	4.90
80	88.7 x 5.0	1.90	6.76
100	114.1 x 6.3	3.10	11.19
125	140.0 x 7.7	4.60	16.79
150	160.0 x 8.8	6.10	22.03
200	225.0 x 11.1	10.80	34.10

PVC PRESSURE PIPE - CLASS 6

Nom. Size	Actual Size O.D. x Wall	Mass of Pipe Kg/m	Mass of Pipe filled with water kg/m
40	48.1 x 1.6	0.30	1.88
50	60.2 x 1.8	0.50	3.02
65	75.2 x 2.2	0.70	4.64
80	88.7 x 2.6	1.00	6.48
100	114.1 x 3.3	1.60	10.68
125	140.0 x 4.0	2.50	16.18
150	160.0 x 4.5	3.20	21.11
200	225.0 x 5.8	5.70	41.47

CAST IRON PIPES – CLASS K9

Nominal Size	Actual Size O.D. x Wall	Mass of Pipe Kg/m	Pipe and Water Kg/m	Concrete Lining Thickness	Mass of Lined Pipe Kg/m	Mass of Lined Pipe and Water Kg/m
80	95.5 x 6.0	12.36	17.84	6.0	15.64	19.66
100	121.9 x 6.1	16.55	26.00	6.0	21.09	28.59
150	177.3 x 6.3	25.09	46.39	6.0	31.82	50.13
200	232.2 x 6.4	34.18	71.89	8.0	46.18	78.67
225	259.1 x 6.6	39.45	86.94	8.0	52.91	94.42
250	286.0 x 6.8	44.73	103.00	8.0	60.00	111.63
300	345.4 x 7.2	57.09	143.24	10.0	81.45	157.42
375	426.2 x 7.9	79.27	211.55	10.0	109.45	229.15
400	507.0 x 8.6	107.82	290.24	10.0	138.73	312.08
500	560.3 x 9.0	117.82	347.95	10.0	158.91	373.16

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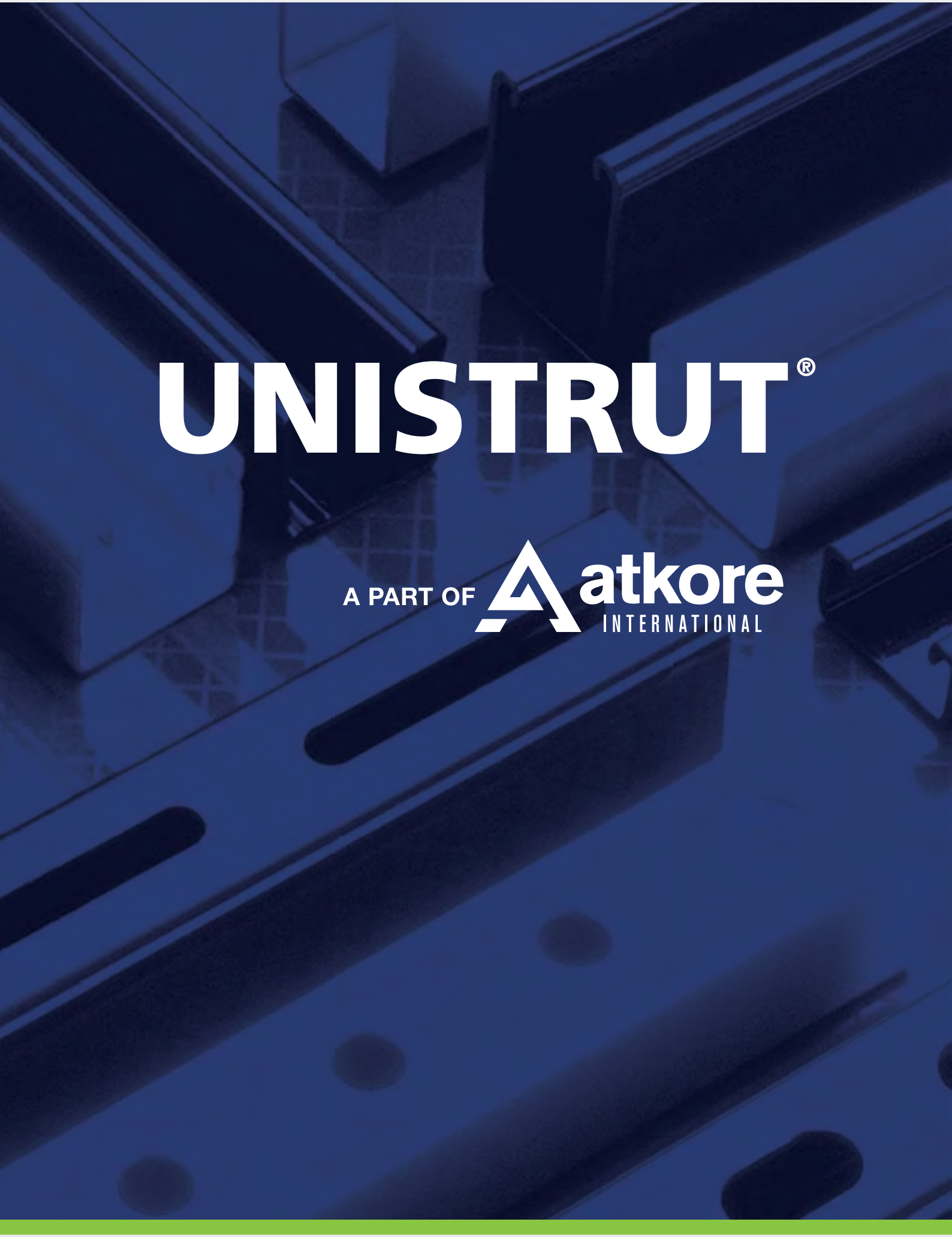
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