REAL SAFETY®

It's all about people

FRP CABLE TRAY SYSTEM

Company profile: Real Safety

Real Safety was established in 2005 and are experts in anti-slip FRP safety solutions and non-metallic construction materials.

Having recently been ISO 9001 Certified, Real Safety offer High-quality composite solutions and excellent service, complying with customer specifications as well as various National and International standards. Our solutions include conceptual design, prototype development, testing, manufacturing, logistic support, installation and comprehensive after sales service.

We are based in Esbjerg, the maritime and energy capital of Denmark and have license-manufacturing plants in Italy, Turkey and India. The manufacturing plants have excellent state-of-the-art facilities spread over approximately 25.000 sq. m, which includes raw material inspection, manufacturing, fabrication, Testing Lab, Packaging etc.

Vision:

Preventing risk and accidents is more important than ever, offshore and onshore, across industries. It is Real Safety's vision to become the world's preferred partner for innovative, environmentally-friendly, custom-made solutions, which reduces the risk of accidents happening for people. Both at work or within the public space.

Mission:

Our Mission is to create "Best practice" standards within our field of expertise: Non-Metallic construction materials and anti-slip safety solutions. We aim to reduce the risks through unique customised solutions, using materials that minimise maintenance, enhance safety and promote sustainability.

Product Categories:

- FRP Cable Trays
- FRP Gratings
- FRP Structural Profiles
- FRP Handrails & Stairs
- FRP Ladders
- FRP Light Poles
- FRP Storage Tanks
- FRP Safety Step, Ladder and Walkway Covers
- Customized FRP Fabrication Solutions
- PU Drill Floor Mats

Our Market Segments:

- Transportation
- Building, Construction & Infrastructure
- Energy Industry
- Oil and Gas
- Wind Industry
- Telecommunication
- Paper Industry
- Electrical Industry
- Cleaning and Maintenance
- Sports and Leisure Industry
- Food and Pharma Industry
- Many more ...

CABLE TRAY Technical data sheet

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1. Material Details

Composite Material

Composites are materials made up of at least two different component materials, neither of which are well suited for construction purposes on their own. Combined materials however, are very sturdy and firm.

FRP/GRP Material

Fibre Reinforced Plastic/ Glass Fibre Reinforced plastic is a composite material made of a polymer matrix reinforced with fibres. The fibres are usually fibreglass, carbon, or aramid, while the polymer is usually an epoxy, vinylester or polyster thermosetting plastic.

Raw Material of FRP

Glass fibres: Glass Fibres are used to give stiffness and resist tensile and compressive loads

Resin: Resin is matrix material which transfers load between fibres and bonds and holds fibres together.

Other Additives: To provide additional properties like Fire retardant, high electrical insulation etc.

Resin System

Polyester:

Unsaturated polyester resins are the most commonly resins used for the composites industry. Polyester resins have a good balance of mechanical, electrical and chemical properties. The polyester resins are mainly used in glass fibre profiles. Polyester resins can be modified so that they are flame-retardant of self-extinguishing.

The polyester resins have good chemical resistance properties. The chemical environment have to be known before a polyester or vinylester resin can be chosen. Polyester resins are good in weak alkalis and excellent in weak acid conditions.

The maximum recommended operation temperature is 80Â°C for the basic grade polyesters. Modified versions are also available

Vinyl esters (VE):

Vinyl ester resins combine the best features of polyester- and epoxy resins. The strength is good and the resin has a very good chemical resistance in acids and alkalis environments, especially at high temperatures. The glass fibre vinyl ester profile has good electrical and thermal insulation properties.

Epoxy based vinyl ester resins have good chemical resistance at elevated temperatures.

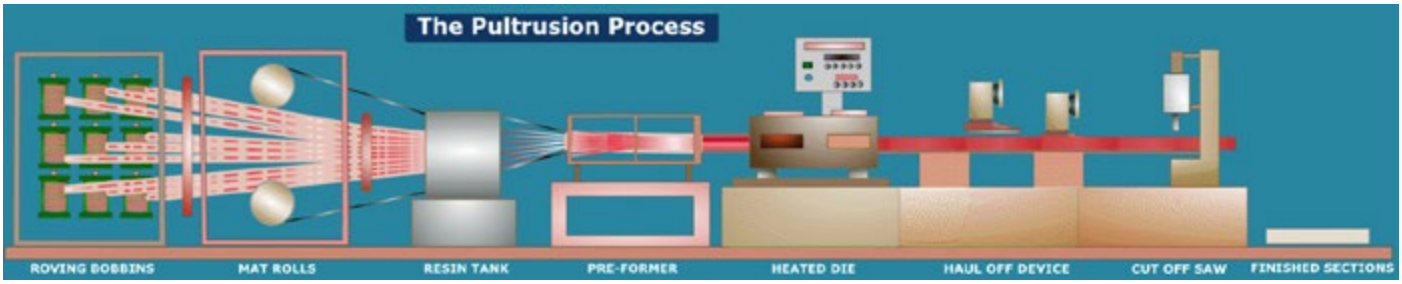
The maximum recommended operating temperature is 90-150°C. Modified versions are also available.

Epoxies (EP):

Epoxy resins have very good properties and are commonly used with high performance reinforcements, e.g. carbon of with glass fibres when the reinforcement content is very high.

Different specific properties can be created by changing hardener systems.

2. Pultrusion Process



Pultrusion is the process of pulling fiberglass reinforcements such as mats and strands through a proprietary resin and heated die. The result is a specific complex profile that can be cut to any length. This process offers speed and consistency - making it the best method for producing high-volume linear fiberglass products that require constant cross sections.

Pultrusion refers to pulling plastic raw material through a preformer. This production method is particularly suitable for tubes, profiles etc. reinforced with continuous fibres, involving pulling of impregnated fibres via preformers providing the form as, simultaneously, the plastic is hardened with heat (thermoset) or cooled until solid (thermoplast).

3. Features of FRP Material

- Corrosion And Chemical Resistance
- High Strength To Weight Ratio
- Electric And Thermal Non Conductive
- EMI/RFI Transparent
- Less Environmental Impact
- Long Life Cycle
- Superior Ergonomics
- Good Aesthetics
- UV Stable
- Fire Retardant

4. Comparison with Conventional Material

	REAL SAFETY FRP	Steel	Aluminium	Timber
Corrosion Resistance	High	Low	Medium	Low
Strength	High	High	High	Low
Weight	Low	High	Low	Medium
Electrical Conductivity	Low	High	High	Moderate
Thermal Conductivity	Very Low	High	High	Low
EMI/RFI Transparency	Yes	No	No	Yes
Fabrication	Easy	Easy	Moderate	Easy
Life Cycle Cost	Low	Moderate	Moderate	High
Environmental Impact	Low	High	High	Low

5. Structural Properties of FRP Profiles

MECHANICAL PROPERTIES	Standard Followed	Units	Min. Value
Tensile Stress Lengthwise	ASTM D-638	MPa	206.8
Tensile Stress Crosswise	ASTM D-638	MPa	48.2
Tensile modulus Lengthwise	ASTM D-638	GPa	17.2
Tensile modulus Crosswise	ASTM D-638	GPa	5.5
Compressive Stress Lengthwise	ASTM D-695	MPa	206.8
Compressive Stress Crosswise	ASTM D-695	MPa	103.4
Compressive modulus Lengthwise	ASTM D-695	GPa	17.2
Compressive modulus Crosswise	ASTM D-695	GPa	6.9
Flexural Stress Lengthwise	ASTM D-790	MPa	206.8
Flexural Stress Crosswise	ASTM D-790	MPa	68.9
Flexural Modulus Lengthwise	ASTM D-790	GPa	11
Flexural Modulus Crosswise	ASTM D-790	GPa	5.5
Izod Impact Lengthwise	ASTM D-256	J/mm	1.28
Izod Impact Crosswise	ASTM D-256	J/mm	0.22

PHYSICAL PROPERTIES	Standard Followed	Units	Min. Value
Barcol Hardness	ASTM D-2583		>45
24 Hours Water Absorption	ASTM D-570	% Max	0.6
Density	ASTM D-792	gm/cc	1.72-1.95
Glass Content	ASTM D-2584	%	min 55%
Limiting Oxygen Index	ASTM D-2863	%	min 30%

ELECTRICAL PROPERTIES	Standard Followed	Units	Value
Arc Resistance Lengthwise	ASTM D-495	Seconds	120
Dielectric Strength Lengthwise	ASTM D-149	kV/mm	4.5

FLAMMABILITY PROPERTIES	Standard Followed	Units	Value
Flammability	ASTM D-635	Seconds	Less than 5 sec.
Vertical Burn Test	UL 94	----	V0
Glow wire test	ASTM D-6194	----	

6.1 Specification for Ladder Type Cable Tray

	STANDARD PRODUCT	ALTERNATE
RAW MATERIAL 1	POLYESTER RESIN	VINYL ESTER RESIN
RAW MATERIAL 2	ECR GLASS	ECR GLASS
LENGTH	3 MTR	3 MTR / 6 MTR
WIDTH	150 – 1000MM	AS REQUIRED
FIRE RETARDANCY	UL 94 V0, ASTM D 635, IS 6746	ASTM E 84
RUNG	SQUARE TUBE	MARINE RUNG
RUNG SPACING	300MM	225, 250, 450 OR AS REQUIRED
COUPLER PLATE	GRP/FRP WITH SS HARDWARE	SS COUPLER PLATE & HARDWARES
ELECTROSTATIC	STATIC	ANTISTATIC
RADIUS OF BENDS	300MM	450/600/750/900/1000MM
ANGLE OF BENDS	90/60/45/30 DEG	AS REQUIRED

Real Safety Specification meets EIL-OED-S-422-REV4 & NEMA FG1 Specifications

6.2 FRP/GRP Cable Ladder for Power Cable Loading Table

The working load capacity represents the ability of a fiberglass cable tray to support the static weight of cables. It is equivalent to destructive load capacity, with minimum factor of safety 1.5

Width of Cable Ladder	Side Rail	Load kg/mtr for support span of 2.0 mtr
150mm	75	35
300mm	75	65
450mm	100	85
600mm	100	95
750mm	100	125
900mm	150	155

6.3 As per NEMA Loading Standards:

Load	Lbs/ft.	Kg/mtr
A	50	74
B	75	111
C	100	148

Side Rail	Load Class
75mm	8A
100mm	8C, 10B
150mm	10C, 12C

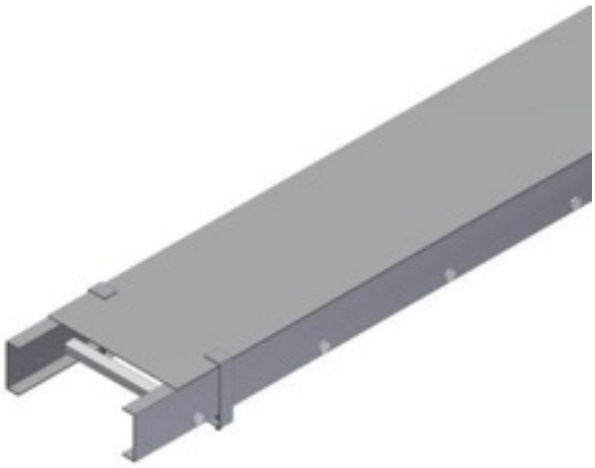
Support span: 8, 10, 12 are in Feet

Extra Heavy duty cable trays are available as per request

7. Nomenclature for Ladder Type Cable Tray

W/O COVER

WITH COVER



CT TYPE	RESIN TYPE	WIDTH	SIDE RAIL (HEIGHT)	RUNG TYPE	RUNG SPACING	STD LENGTH	T
ACL - LADDER TYPE	P-POLYESTER V- VINYLESTER	06 - 150MM 12 - 300MM 18 - 450MM 24 - 600MM 30 - 750MM 36 - 900MM	020 - 50mm 030 - 75mm 040 - 100mm 060 - 150mm 080 - 200mm	S-NORMAL M-MARINE	A - 150MM B - 250MM C - 300MM D - 450MM	X - 1M Y - 3M	3 4 6

Above dimensions are in mm. Tolerance ±10 mm.

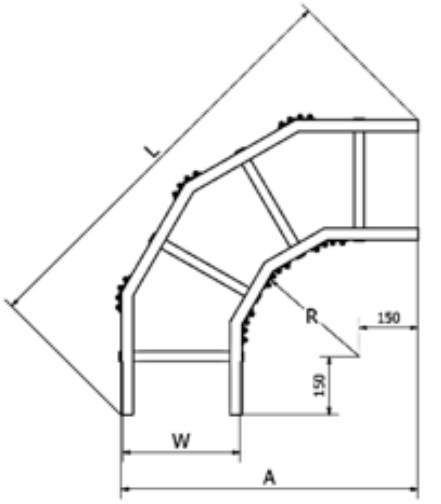
EXAMPLE:

ACL-P-12 -40-S-C-Y-4

Real Safety Ladder Type Cable Tray 300w X 100h X 4t Normal Rung & 300mm Rung Spacing

8. Ladder Type Cable Tray - Fittings

A. 90° VERTICAL BEND – INWARD

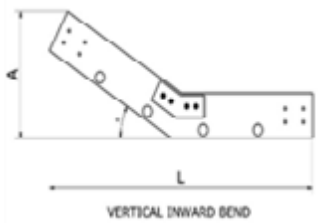


90° HORIZONTAL BEND

90° VERTICAL INWARD		H-Side Rail	R=300		R=600		R=750		R=900	
ITEM CODE	W-Width	(Height)	A	L	A	L	A	L	A	L
ACL-90-VIBW-H-R-T	06-150MM 12-300MM 18-450MM 24-600MM 30-750MM 36-900MM	020-50mm	500	707	800	1131	950	1345	1100	1556
		030-75mm	525	745	825	1165	975	1380	1125	1590
		040-100mm	550	780	850	1200	1000	1415	1150	1625
		060-150mm	600	850	900	1275	1050	1485	1200	1700
		080-200mm	650	919	950	1344	1100	1555	1250	1768

Above dimensions are in mm. Tolerance ±10 mm.

B. 30°/45°/60° VERTICAL BEND – INWARD

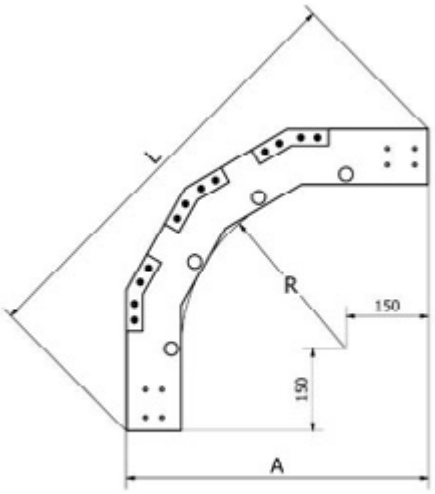


30°/45°/60° VERTICAL INWARD			For 30°		For 45°		For 60°	
ITEM CODE	W	H	A	L	A	L	A	L
ACL 30°/45°/60° VIB-W-H-T	06-150MM 12-300MM 18-450MM 24-600MM 30-750MM 36-900MM	020-50mm	230	700	305	650	360	585
		030-75mm	255	710	330	670	390	605
		040-100mm	280	720	355	685	415	630
		060-150mm	330	750	405	720	460	670
		080-200mm	380	770	455	755	510	715

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

C. 90° VERTICAL BEND – OUTWARD

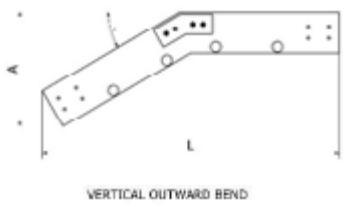


VERTICAL OUTWARD BEND

90° VERTICAL OUTWARD		H-Side Rail	R=300		R=600		R=750		R=900	
ITEM CODE	W-Width	(Height)	A	L	A	L	A	L	A	L
ACL-90-VOBW-H-R-T	06-150MM 12-300MM 18-450MM 24-600MM 30-750MM 36-900MM	020-50mm	500	707	800	1131	950	1345	1100	1556
		030-75mm	525	745	825	1165	975	1380	1125	1590
		040-100mm	550	780	850	1200	1000	1415	1150	1625
		060-150mm	600	850	900	1275	1050	1485	1200	1700
		080-200mm	650	919	950	1344	1100	1555	1250	1768

Above dimensions are in mm. Tolerance ±10 mm.

D. 30°/45°/60° VERTICAL BEND - OUTWARD



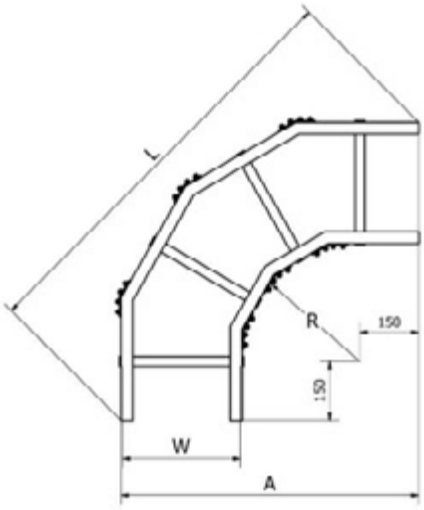
VERTICAL OUTWARD BEND

30°/45°/60° VERTICAL OUTWARD			For 30°		For 45°		For 60°	
ITEM CODE	W	H	A	L	A	L	A	L
ACL 30°/45°/60° VOB-W-H-T	06-150MM 12-300MM 18-450MM 24-600MM 30-750MM 36-900MM	020-50mm	230	700	305	650	360	585
		030-75mm	255	710	330	670	390	605
		040-100mm	280	720	355	685	415	630
		060-150mm	330	750	405	720	460	670
		080-	380	770	455	755	510	715

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

E. 90° HORIZONTAL BEND

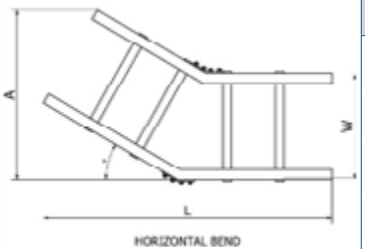


90° HORIZONTAL BEND

90° HORIZONTAL BEND			R=300		R=600		R=750		R=900	
ITEM CODE	H-SIDERAIL	W-width	A	L	A	L	A	L	A	L
ACL-90-HBW-H-R-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	06-150MM	610	860	910	1285	1060	1495	1210	1710
		12-300MM	760	1070	1060	1495	1210	1710	1360	1920
		18-450MM	910	1285	1210	1710	1360	1920	1510	2135
		24-600MM	1060	1495	1360	1920	1510	2130	1660	2345
		30-750MM	1210	1710	1510	2135	1660	2345	1810	2555
		36-900MM	1360	1920	1660	2345	1810	2560	1960	2770

Above dimensions are in mm. Tolerance ±10 mm.

F. 30°/45°/60° HORIZONTAL BEND



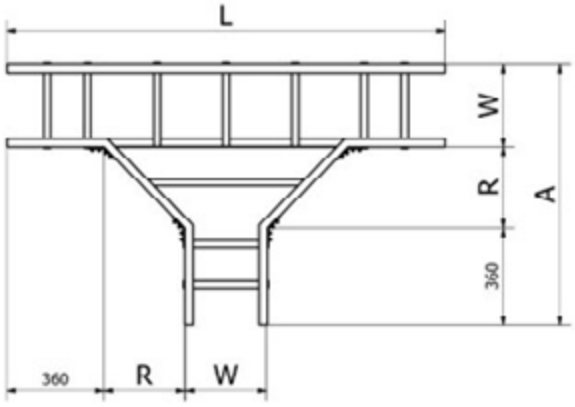
HORIZONTAL BEND

30°/45°/60° HORIZONTAL BEND			For 30°		For 45°		For 60°	
ITEM	H- Height	W	A	L	A	L	A	L
ACL-30°/45°/60°-HB-W-H-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	06-150MM	340	750	415	725	470	680
		12-300MM	490	825	565	835	620	810
		18-450MM	640	900	715	940	770	935
		24-600MM	790	975	865	1045	920	1065
		30-750MM	940	1050	1015	1150	1070	1195
		36-900MM	1090	1125	1165	1255	1220	1325

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

G. HORIZONTAL TEE



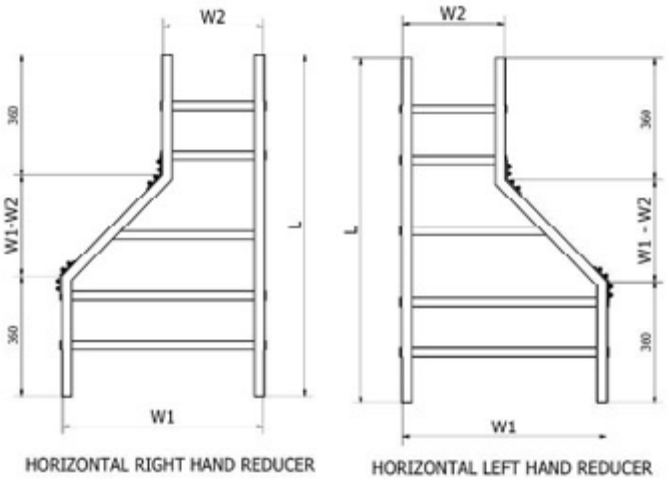
HORIZONTAL EQUAL TEE

HORIZONTAL TEE			R=300		R=600		R=750		R=900	
ITEM	H- Height	W-width	A	L	A	L	A	L	A	L
ACL-HT-W-H-R-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	06-150MM	820	1480	1120	2080	1270	2380	1420	2680
		12-300MM	970	1630	1270	2230	1420	2530	1570	2830
		18-450MM	1120	1780	1420	2380	1570	2680	1720	2980
		24-600MM	1270	1930	1570	2530	1720	2830	1870	3130
		30-750MM	1420	2080	1720	2680	1870	2980	2020	3280
		36-900MM	1570	2230	1870	2830	2020	3130	2170	3430

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

H. HORIZONTAL LEFT / RIGHT HAND REDUCER

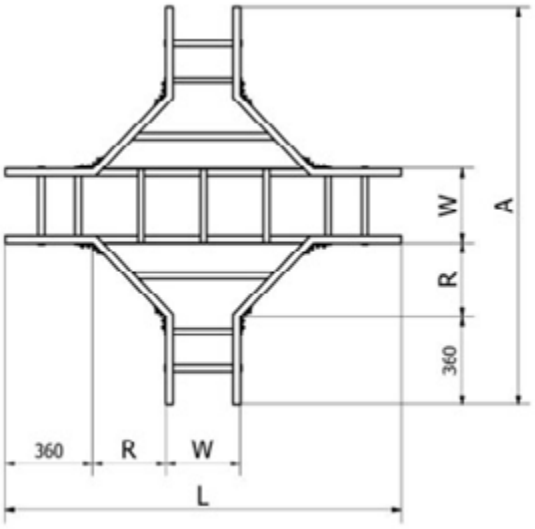


ITEM CODE	H=side rail (Height)	W1	W2	L
ACL-LHR/RHR-W1-H1-W2-H2-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	36-900	30-750	870
		36-900	24-600	1020
		36-900	18-450	1170
		36-900	12-300	1320
		36-900	06-150	1470
		30-750	24-600	870
		30-750	18-450	1020
		30-750	12-300	1170
		30-750	06-150	1320
		24-600	18-450	870
		24-600	12-300	1020
		24-600	06-150	1170
		18-450	12-300	870
		18-450	06-150	1020
		12-300	06-150	870

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

G. HORIZONTAL CROSS



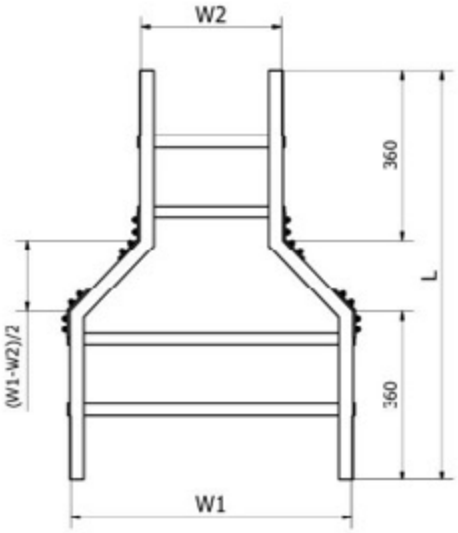
HORIZONTAL CROSS

HORIZONTAL CROSS			R=300		R=600		R=750		R=900	
ITEM	H- Height	W-width	A	L	A	L	A	L	A	L
ACL-HC-WH-R-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	06-150MM	820	1480	1120	2080	1270	2380	1420	2680
		12-300MM	970	1630	1270	2230	1420	2530	1570	2830
		18-450MM	1120	1780	1420	2380	1570	2680	1720	2980
		24-600MM	1270	1930	1570	2530	1720	2830	1870	3130
		30-750MM	1420	2080	1720	2680	1870	2980	2020	3280
		36-900MM	1570	2230	1870	2830	2020	3130	2170	3430

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

J. STRAIGHT REDUCER



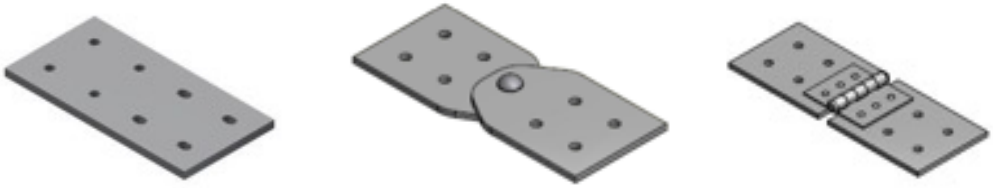
HORIZONTAL STRAIGHT REDUCER

ITEM CODE	H=side rail (Height)	W1	W2	L
ACL-SR-W1-W2-H-T	020-50mm 030-75mm 040-100mm 060-150mm 080-200mm	36-900	30-750	795
		36-900	24-600	870
		36-900	18-450	945
		36-900	12-300	1020
		36-900	06-150	1095
		30-750	24-600	795
		30-750	18-450	870
		30-750	12-300	945
		30-750	06-150	1070
		24-600	18-450	795
		24-600	12-300	870
		24-600	06-150	945
		18-450	12-300	795
		18-450	06-150	870
		12-300	06-150	795

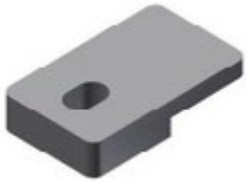
Above dimensions are in mm. Tolerance ±10 mm.

9. Ladder Type Cable Tray - Accessories

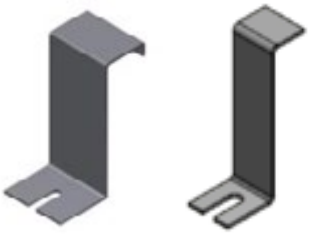
A. SLICE PLATES



B. HOLD DOWN CLIPS

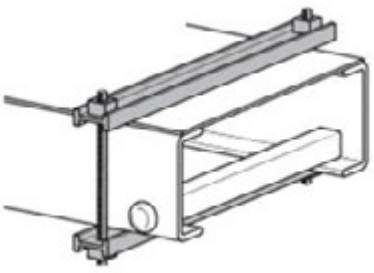


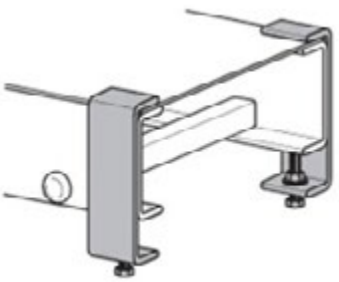
C. HOLD DOWN CLAMPS



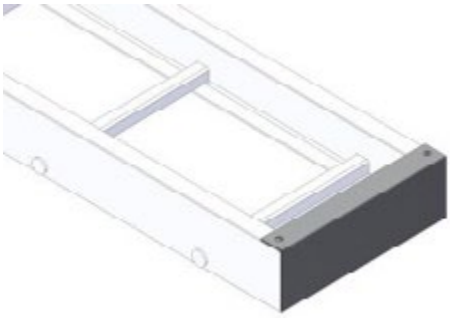
D. FRP COVERS – FLAT AND PEAKED TYPE

E. HEAVY DUTY COVER CLAMPS

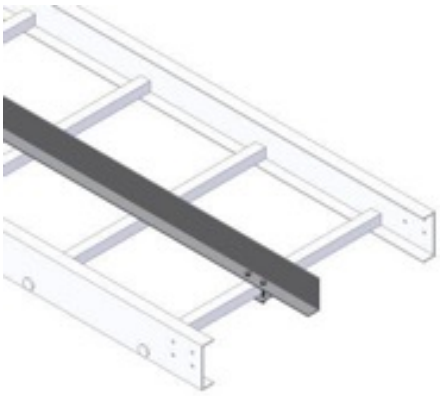




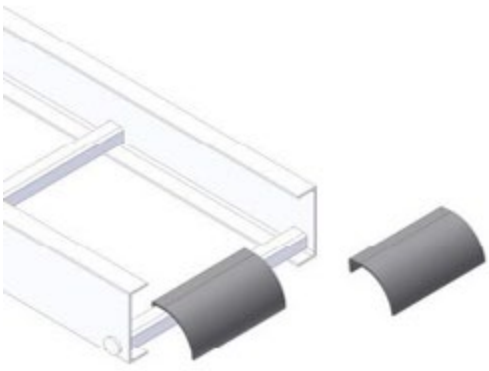
F. BLIND PLATES:



G. DIVIDER STRIPS

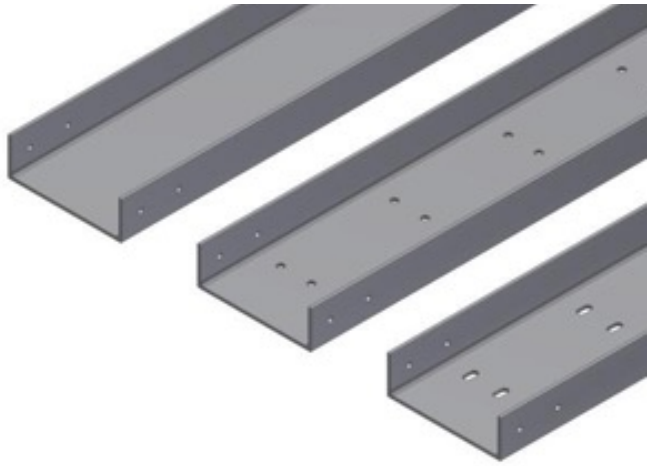


H. LADDER DROP OUT

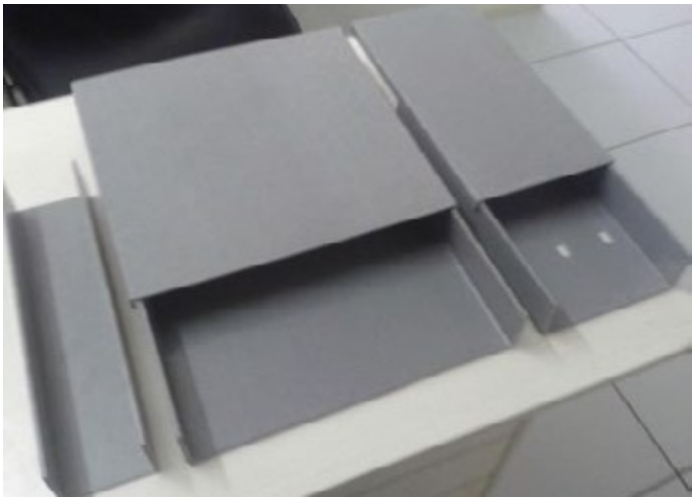


10. Nomenclature for Perforated Type Cable Tray

W/O COVER



WITH FLAT / FLANGED COVER



CABLE TRAY TYPE	RESIN TYPE	WIDTH X HEIGHT	STD LENGTH	T
ACP PERFORATED TYPE	P-POLYESTER V- VINYLESTER	020-50MM X 30MM 021-50MM X 50MM 022-50MM X 40MM 023-50MM X 25MM 024-60MM X 50MM 030-75MM X 25MM 031-75MM X 30MM 032-75MM X 50MM 040-100MM X 30MM 041-100MM X 50MM 042-100MM X 40MM 060-150MM X 50MM 080-200MM X 50MM 081-200MM X 75MM 082-200MM X 100MM 120-300MM X 50MM 121-300MM X 75MM# 180-450MM X 50MM# 181-450MM X 75MM# 182-450MM X 100MM# 183-450MM X 150MM# 240-600MM X 75MM# 241-600MM X 100MM#	X – 1M Y – 3M	3 4 6

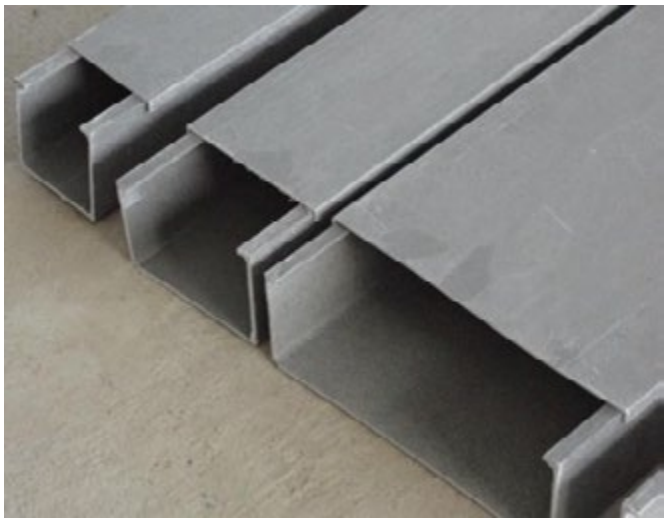
Fabricated Cable Tray

ACP P 040 Y 4 – Perforated Type Cable Tray 100W X 30H X 4T Standard length of 3 mtr

11. Real Safety Perforated Cable Tray with Return Flange

W/O COVER

WITH FLAT / FLANGED COVER

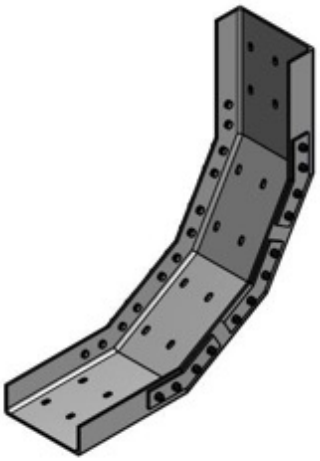


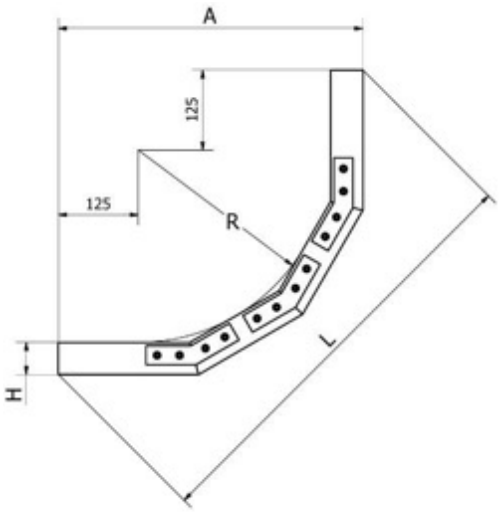
CABLE TRAY TYPE	RESIN TYPE	WIDTH X HEIGHT	STD LENGTH	T
ACP PERFORATED TYPE	P-POLYESTER V-VINYLESTER	040RF-100MM X 100MM 060RF-150MM X 100MM 080RF-200MM X 100MM 120RF-300MM X 100MM 160RF-400MM X 100MM 200RF-500MM X 100MM	X – 1M Y – 3M	4

ACP P 040RF Y 4 – Perforated Type Cable Tray with Return Flange 100W X 100H X 4T Standard length of 3 mtr

12. Perforated Type Cable Tray - Fittings

A. 90° VERTICAL BEND – INWARD





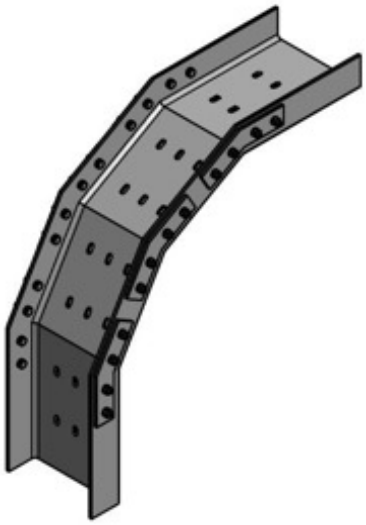
90° VERTICAL INWARD BEND

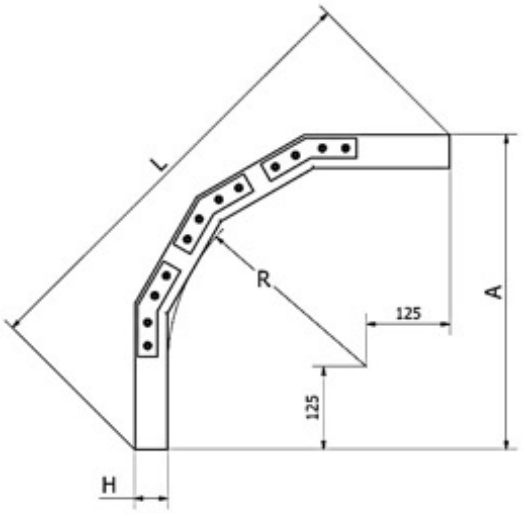
90° VERTICAL INWARD BEND				R=300	
ITEM CODE	C	W	H	A	L
ACP-90-VIB-C-T	023	50	25	450	635
	020	50	30	455	645
	022	50	40	465	660
	021	50	50	475	670
	024	60	50	475	670
	030	75	25	450	635
	031	75	30	455	645
	032	75	50	475	670
	040	100	30	455	645
	041	100	50	475	670
	060	150	50	475	670
	080	200	50	475	670
	081	200	75	500	710
	082	200	100	525	740
	120	300	50	475	670
	121	300	75	500	710
	180	450	50	475	670
	181	450	75	500	710
	182	450	100	525	740
	183	450	150	575	815
	240	600	75	500	710
	241	600	100	525	740
	242	600	150	575	815

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

B. 90° VERTICAL BEND – OUTWARD





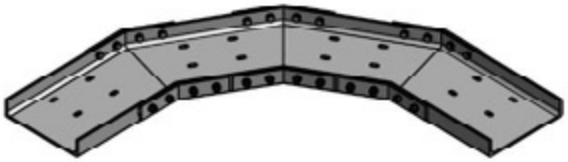
90° VERTICAL OUTWARD BEND

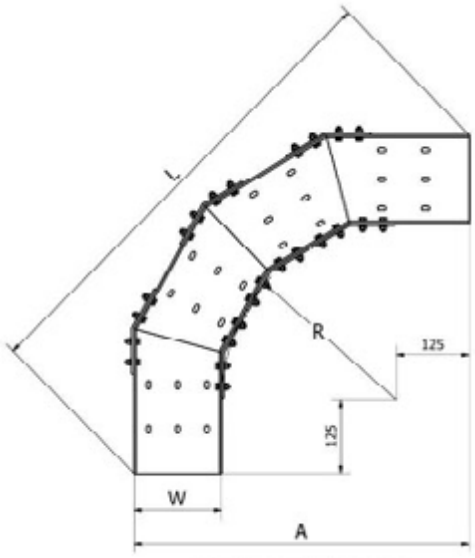
90° DEG VERTICAL OUTWARD				R=300	
ITEM CODE	C	W	H	A	L
ACP-90-V0B-C-T	023	50	25	450	635
	020	50	30	455	645
	022	50	40	465	660
	021	50	50	475	670
	024	60	50	475	670
	030	75	25	450	635
	031	75	30	455	645
	032	75	50	475	670
	040	100	30	455	645
	041	100	50	475	670
	060	150	50	475	670
	080	200	50	475	670
	081	200	75	500	710
	082	200	100	525	740
	120	300	50	475	670
	121	300	75	500	710
	180	450	50	475	670
	181	450	75	500	710
	182	450	100	525	740
	183	450	150	575	815
	240	600	75	500	710
	241	600	100	525	740
	242	600	150	575	815

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

C. 90° HORIZONTAL BEND





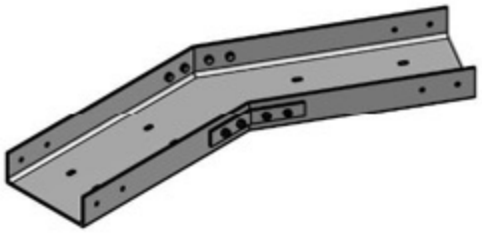
90° HORIZONTAL BEND

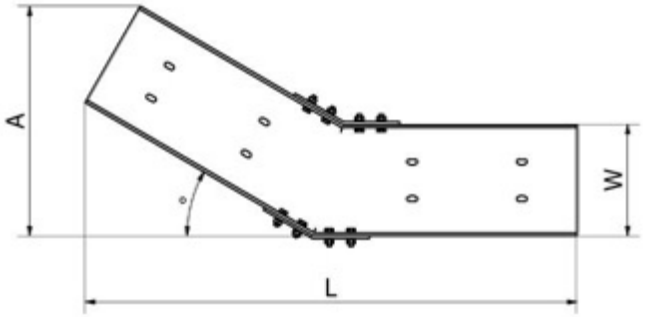
90° DEG HORIZONTAL BEND				R=300	
ITEM CODE	C	W	H	A	L
ACP-90-HB-C-T	023	50	25	475	670
	020	50	30	475	670
	022	50	40	475	670
	021	50	50	475	670
	024	60	50	485	685
	030	75	25	500	705
	031	75	30	500	705
	032	75	50	500	705
	040	100	30	525	740
	041	100	50	525	740
	060	150	50	575	815
	080	200	50	625	885
	081	200	75	625	885
	082	200	100	625	885
	120	300	50	725	1025
	121	300	75	725	1025
	180	450	50	875	1240
	181	450	75	875	1240
	182	450	100	875	1240
	183	450	150	875	1240
	240	600	75	1025	1450
	241	600	100	1025	1450
	242	600	150	1025	1450

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

D. 30/45/60° HORIZONTAL BEND



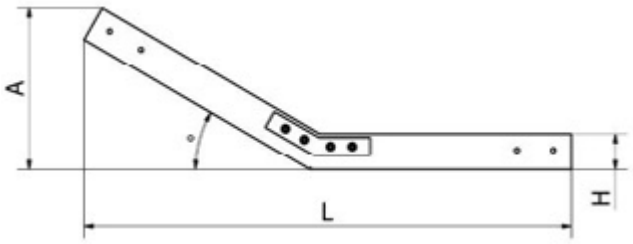


30/45/60° HORIZONTAL BEND				30°		45°		60°	
ITEM CODE	C	W	H	A	L	A	L	A	L
ACP-30/45/60-HB-C-T	023	50	25	225	670	290	615	335	540
	020	50	30	225	670	290	615	335	540
	022	50	40	225	670	290	615	335	540
	021	50	50	225	670	290	615	335	540
	024	60	50	230	670	300	615	340	540
	030	75	25	245	670	310	615	350	540
	031	75	30	245	670	310	615	350	540
	032	75	50	245	670	310	615	350	540
	040	100	30	265	670	325	615	360	540
	041	100	50	265	670	325	615	360	540
	060	150	50	310	670	360	615	385	540
	080	200	50	355	670	395	615	410	540
	081	200	75	355	670	395	615	410	540
	082	200	100	355	670	395	615	410	540
	120	300	50	440	670	465	615	460	540
	121	300	75	440	670	465	615	460	540
	180	450	50	570	670	575	615		
	181	450	75	570	670	575	615		
	182	450	100	570	670	575	615		
	183	450	150	570	670	575	615		
	240	600	75	700	670	680	615		
	241	600	100	700	670	680	615		
	242	600	150	700	670	680	615		

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

E. 30/45/60° VERTICAL INWARD/OUTWARD BEND

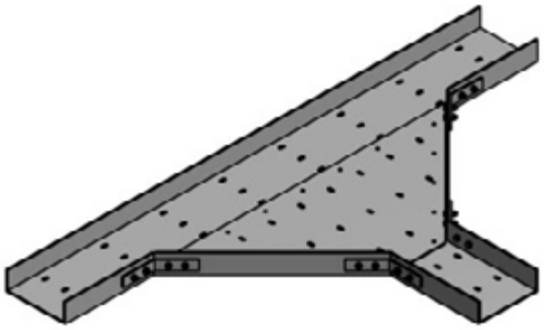


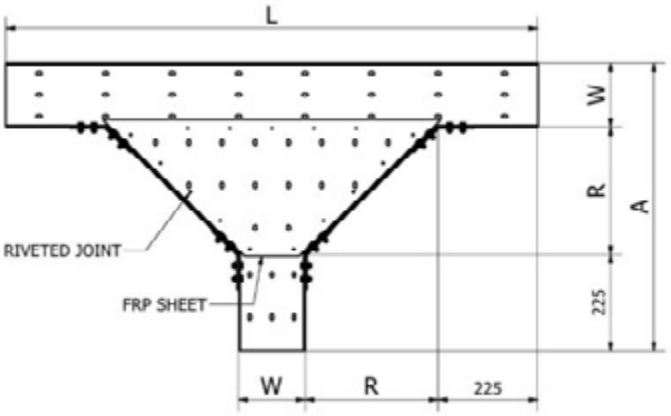
30/45/60° HORIZONTAL BEND				30°		45°		60°	
ITEM CODE	C	W	H	A	L	A	L	A	L
ACP-30/45/60-HB-C-T	023	50	25	225	670	290	615	335	540
	020	50	30	225	670	290	615	335	540
	022	50	40	225	670	290	615	335	540
	021	50	50	225	670	290	615	335	540
	024	60	50	230	670	300	615	340	540
	030	75	25	245	670	310	615	350	540
	031	75	30	245	670	310	615	350	540
	032	75	50	245	670	310	615	350	540
	040	100	30	265	670	325	615	360	540
	041	100	50	265	670	325	615	360	540
	060	150	50	310	670	360	615	385	540
	080	200	50	355	670	395	615	410	540
	081	200	75	355	670	395	615	410	540
	082	200	100	355	670	395	615	410	540
	120	300	50	440	670	465	615	460	540
	121	300	75	440	670	465	615	460	540
	180	450	50	570	670	575	615		
	181	450	75	570	670	575	615		
	182	450	100	570	670	575	615		
	183	450	150	570	670	575	615		
	240	600	75	700	670	680	615		
	241	600	100	700	670	680	615		
	242	600	150	700	670	680	615		

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

F. HORIZONTAL TEE





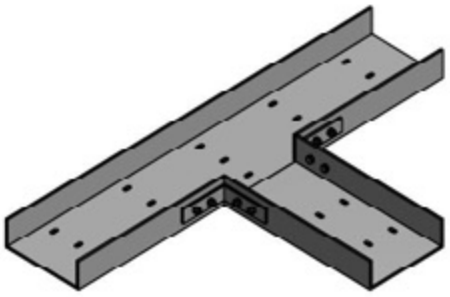
HORIZONTAL EQUAL TEE

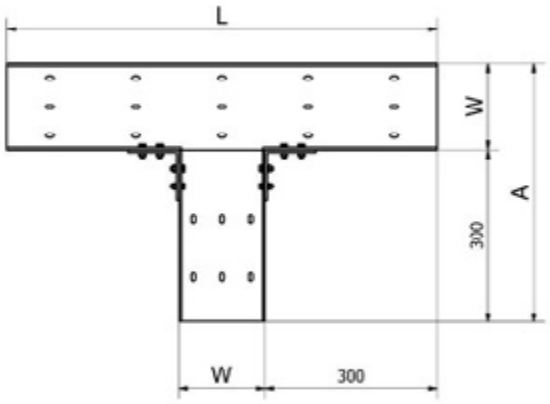
HORIZONTAL TEE				R=300	
ITEM CODE	C	W	H	A	L
ACP-HT-C-T	023	50	25	575	1100
	020	50	30	575	1100
	022	50	40	575	1100
	021	50	50	575	1100
	024	60	50	585	1110
	030	75	25	600	1125
	031	75	30	600	1125
	032	75	50	600	1125
	040	100	30	625	1150
	041	100	50	625	1150
	060	150	50	675	1200
	080	200	50	725	1250
	081	200	75	725	1250
	082	200	100	725	1250
	120	300	50	825	1350
	121	300	75	825	1350
	180	450	50	975	1500
	181	450	75	975	1500
	182	450	100	975	1500
	183	450	150	975	1500
	240	600	75	1125	1650
	241	600	100	1125	1650
	242	600	150	1125	1650

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

G. HORIZONTAL TEE DIRECT





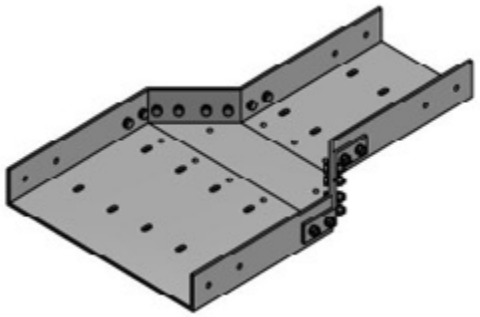
HORIZONTAL EQUAL TEE

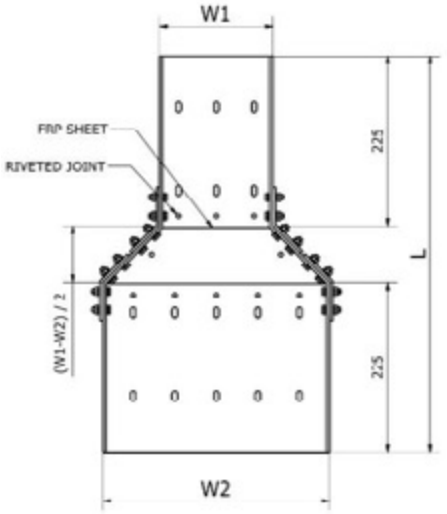
HORIZONTAL TEE DIRECT					
ITEM CODE	C	W	H	A	L
ACP-HTD-C-T	023	50	25	350	650
	020	50	30	350	650
	022	50	40	350	650
	021	50	50	350	650
	024	60	50	360	660
	030	75	25	375	675
	031	75	30	375	675
	032	75	50	375	675
	040	100	30	400	700
	041	100	50	400	700
	060	150	50	450	750
	080	200	50	500	800
	081	200	75	500	800
	082	200	100	500	800
	120	300	50	600	900
	121	300	75	600	900
	180	450	50	750	1050
	181	450	75	750	1050
	182	450	100	750	1050
	183	450	150	750	1050
	240	600	75	900	1200
	241	600	100	900	1200
	242	600	150	900	1200

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

H. HORIZONTAL REDUCER - STRAIGHT





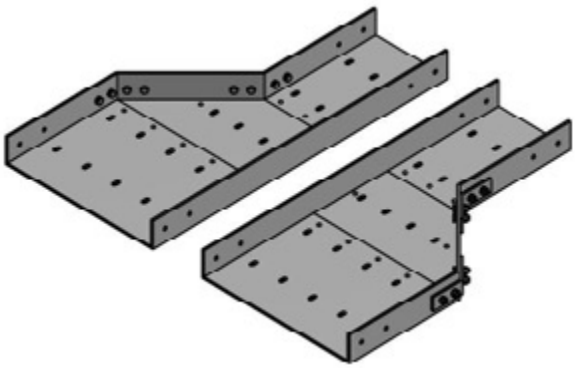
HORIZONTAL STRAIGHT REDUCER

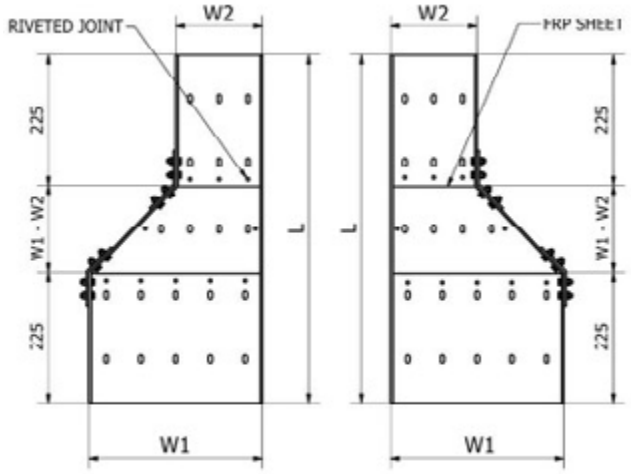
HORIZONTAL REDUCER STRAIGHT			
ITEM CODE	W1	W2	L
ACP-SR-W1-W2-T	75	50	463
	100	50	475
	100	75	463
	150	50	500
	150	75	488
	150	100	475
	300	50	575
	300	75	563
	300	100	550
	300	150	525
	450	100	625
	450	150	600
	450	300	525
	600	150	675
	600	300	600
	600	450	525

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

I. HORIZONTAL REDUCER – LEFT HAND OR RIGHT HAND





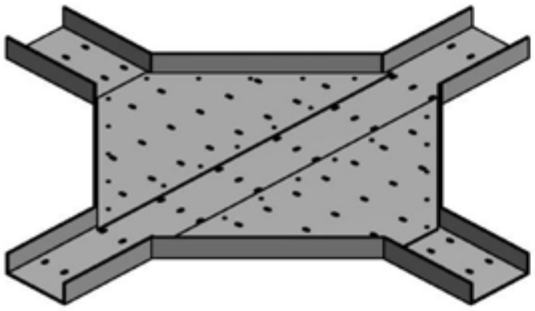
HORIZONTAL LEFT / RIGHT HAND REDUCER

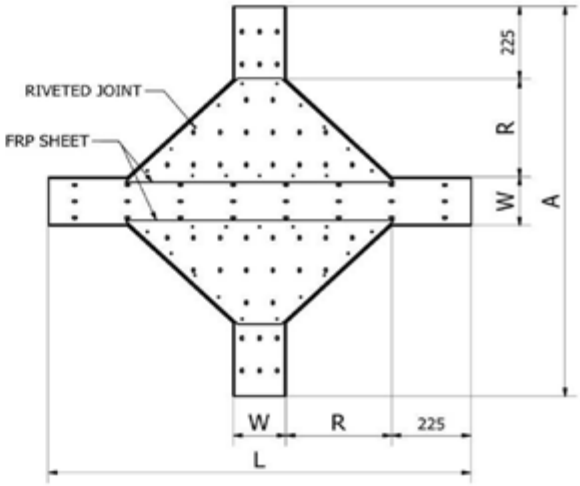
HORIZONTAL REDUCER – LEFT/RIGHT HAND			
ITEM CODE	W1	W2	L
ACP-LHR/RHR-W1-W2-T	75	50	475
	100	50	500
	100	75	475
	150	50	550
	150	75	525
	150	100	500
	300	50	700
	300	75	675
	300	100	650
	300	150	600
	450	100	800
	450	150	750
	450	300	600
	600	150	900
	600	300	750
	600	450	600

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

J. HORIZONTAL CROSS





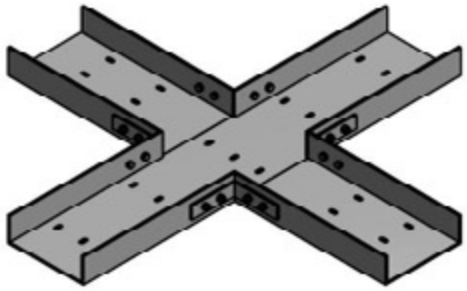
HORIZONTAL CROSS

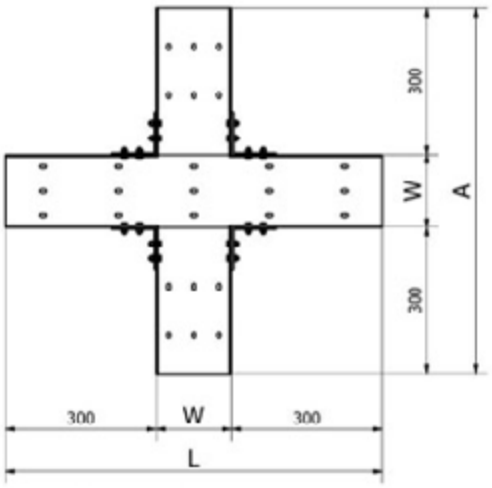
HORIZONTAL CROSS				R=300	
ITEM CODE	C	W	H	A	L
ACP-HX-C-T	023	50	25	1100	1100
	020	50	30	1100	1100
	022	50	40	1100	1100
	021	50	50	1100	1100
	024	60	50	1110	1110
	030	75	25	1125	1125
	031	75	30	1125	1125
	032	75	50	1125	1125
	040	100	30	1150	1150
	041	100	50	1150	1150
	060	150	50	1200	1200
	080	200	50	1250	1250
	081	200	75	1250	1250
	082	200	100	1250	1250
	120	300	50	1350	1350
	121	300	75	1350	1350
	180	450	50	1500	1500
	181	450	75	1500	1500
	182	450	100	1500	1500
	183	450	150	1500	1500
	240	600	75	1650	1650
	241	600	100	1650	1650
	242	600	150	1650	1650

Above dimensions are in mm. Tolerance ±10 mm.

CABLE TRAY Technical data sheet

K. HORIZONTAL CROSS DIRECT





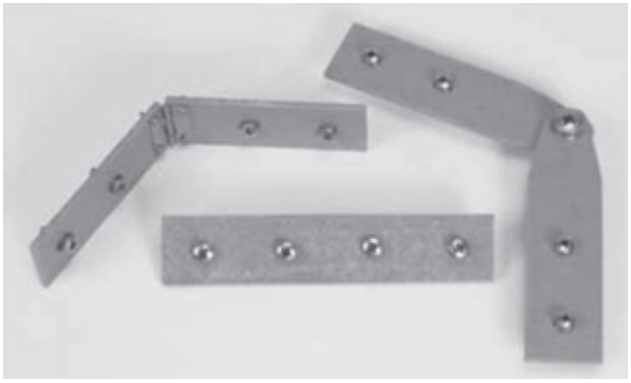
HORIZONTAL CROSS

HORIZONTAL CROSS DIRECT				R=300	
ITEM CODE	C	W	H	A	L
ACP-HXD-C-T	023	50	25	650	650
	020	50	30	650	650
	022	50	40	650	650
	021	50	50	650	650
	024	60	50	660	660
	030	75	25	675	675
	031	75	30	675	675
	032	75	50	675	675
	040	100	30	700	700
	041	100	50	700	700
	060	150	50	750	750
	080	200	50	800	800
	081	200	75	800	800
	082	200	100	800	800
	120	300	50	900	900
	121	300	75	900	900
	180	450	50	1050	1050
	181	450	75	1050	1050
	182	450	100	1050	1050
	183	450	150	1050	1050
	240	600	75	1200	1200
	241	600	100	1200	1200
	242	600	150	1200	1200

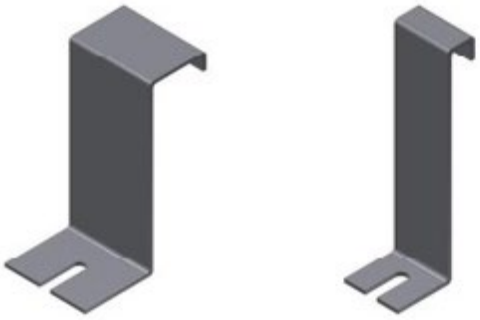
Above dimensions are in mm. Tolerance ±10 mm.

13. Perforated Type Cable Tray - Accessories

A. SLICE PLATES



B. HOLD DOWN CLAMPS



C. FRP COVERS – FLAT AND PEAKED TYPE

D. COVER CLAMPS

E. BLIND PLATES

F. DIVIDER STRIPS

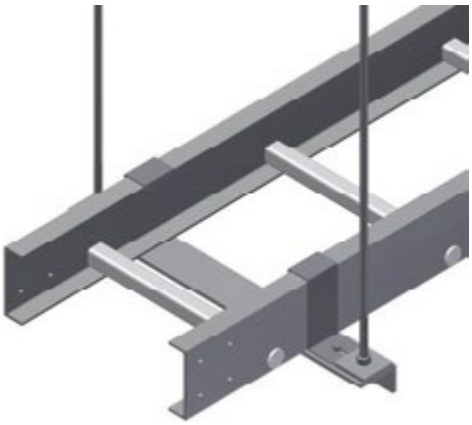
G. DROP OUTS

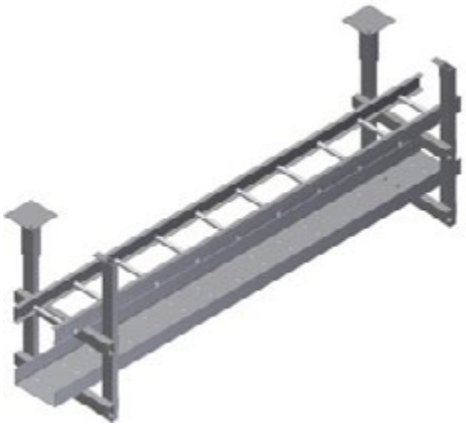
14. Support Systems and Installation Guide

SUPPORT SYSTEMS

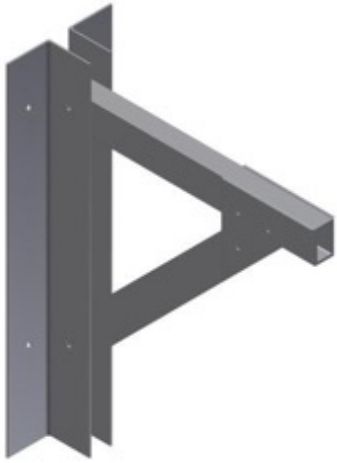
A. FLOOR MOUNTED SUPPORTS

B. CEILING MOUNTED SUPPORT





C. WALL MOUNTED



CABLE TRAY Technical data sheet

INSTALLATION GUIDELINES:

The installation of REAL SAFETY Cable Tray should be made in compliance with the standards set forth by the National Electric Code and NEMA Publications FG-1 (current issue).

Always observe common safety practices when assembling tray and fittings in the field. Assemble in Well ventilated areas as dust from field cuts can accumulate. This presents no serious health hazard but can cause skin irritation and, if allowed to accumulate with grease and other machining lubricants, can become abrasive. Personnel should wear safety goggles, dust mask, coveralls or a shop coat when sawing, machining and/or sanding.

Avoid generating excessive heat in any machining operation, as heat softens the bonding resin in the fiber- glass, resulting in a ragged rather than a clean-cut edge.

Avoid excessive pressure when sawing, drilling, and routing, etc. Use carbide-tipped drill bits and saw blades for extended tool life.

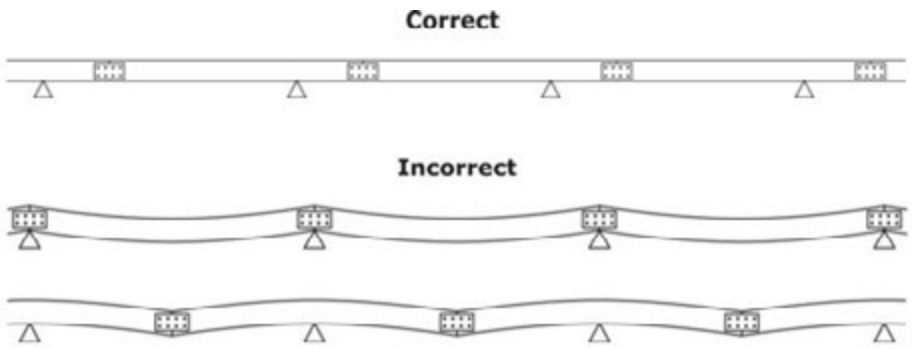
The use of lubricant during machining is not recommended. To avoid chipping of material at cut edges, secure cable tray and fittings properly during field cut operations.

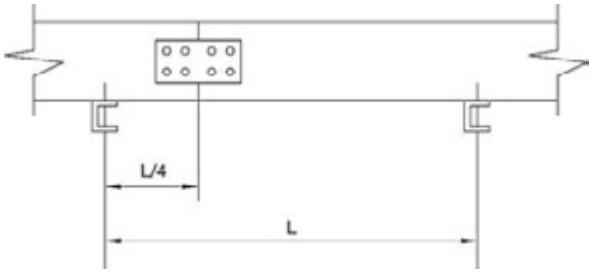
We recommend the use of sealant for sealing surfaces and cut edges after field cuts are made. When using adhesives, be sure to prepare the surface properly before applying. Follow label instructions carefully. A combination of mechanical fasteners and adhesives make the strongest most reliable connections.

Warning

Not to be used as walkway, ladder or support for personnel.
To be used only as a mechanical support for cable and tubing

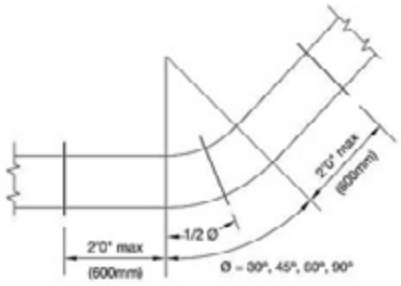
15. Support Recommentation as per NEMA Standard



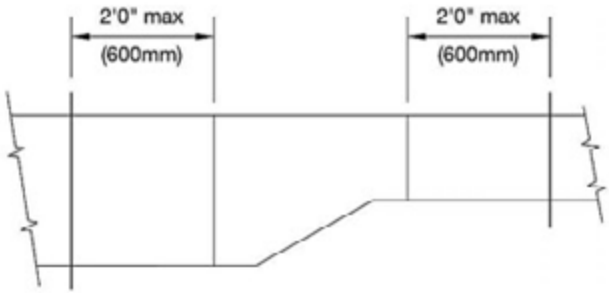


As per NEM FG1, splice plate is recommended to be located at 1/4 of the span from the support, where the bending moment is zero

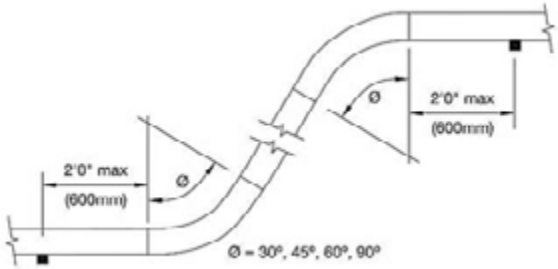
Horizontal Elbows



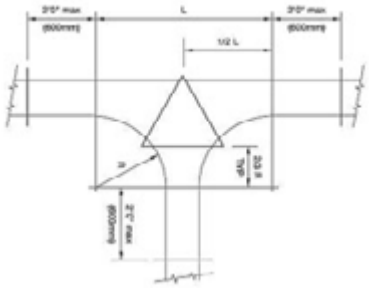
Offset Reducer



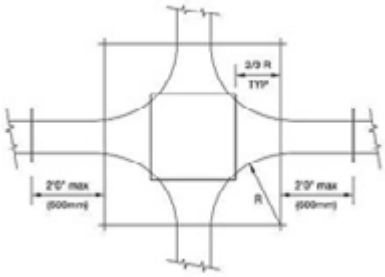
Vertical Elbows



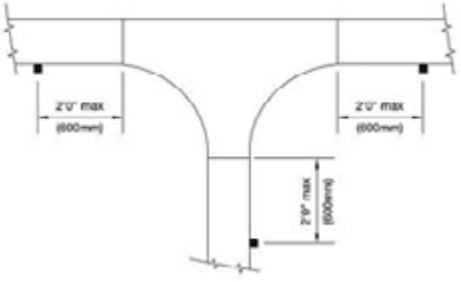
Horizontal Tee



Horizontal Cross



Vertical Tee



CABLE TRAY Technical data sheet