



SumiP[®]

FIBERGLASS CABLE TRAY SYSTEM





CERTIFICATE

Management system as per
ISO 9001 : 2008

In accordance with TÜV INDIA procedures, it is hereby certified that

SUMIP COMPOSITES PVT. LTD. - UNIT III
Plot 1 to 5, Panchratna Industrial Estate,
P.O. Changodar, Dist. Ahmedabad - 382 213,
Gujarat,
India



applies a quality management system in line with the above standard for the following scope

**Manufacture and Supply of Fibre Reinforced Plastic Cable Trays with
Accessories, Sheet Moulding and Dough Moulding Compound**

Certificate Registration No. QM 02 00573
Audit Report No. G 4334/2012

S.R. Kulkarni
Certification Body
at TÜV INDIA PVT. LTD.

Valid until: 21.06.2018
Valid from: 22.06.2015
Initial Certification 22.06.2012

Issue 12.05.2015
Place : Mumbai

This certification was conducted in accordance with the TÜV INDIA auditing and certification procedures and is subject to regular surveillance audits.

TÜV India Pvt. Ltd., 801, Raheja Plaza - 1, L.B.S. Marg, Ghalkoper (W), Mumbai - 400 086, India www.tuvindia.co.in







Sumip FRP Cable Tray System

Company Profile :

Sumip Composites Pvt. Ltd. is known for the quality performance of its fiberglass products be it Ladders, Cable Trays, Trefoil Clamp, Street Light Poles, Luminaires Etc. It is a company promoted by a group manufacturing industrial electrical and instrumentation products for last three decades, specially designed for the use in critical environment. Fiberglass products were specifically developed due to demand from the valued wide client base.

Sumip **Ladder & Perforated** type Cable Tray provides reliable cable support in corrosive application. Both polyester and vinyl ester resin systems are available & all components incorporating U. V. stabiliser and a surfacing veil to resist corrosive atmosphere.

The cable trays manufactured by us are from pultruded sections / profiles of fiberglass, this pultruded sections help in reducing cost, achieving quality, perfection for optimum performance of the tray.

At Sumip we have in house facility of producing pultruded sections as well as other accessories with multiple production lines.

We at Sumip produce Cable Trays, as well as molded & metered fittings as well as other accessories like coupler plates, struts, and many more.

From power plants to fertiliser industries, paper mills to refineries to laboratories, sound electrical design requires an adaptable cable support system that is reliable. Above all durability and resistance to corrosion lead to lower costs during the life of installation.

Featuring	Applications
Corrosion resistance	Chemical Plants
Strength & durability	Power Plants
Fire retardant	Effluent Treatment Plants
Light Weight	Offshore / Onshore Platforms
U.V. Stabilities	Paper Plants
Long Life	Refineries and many more.

Design Specification : Our Cable Tray System meets the requirement of **NEMA** (National Electric Manufacturers Association) **FG I – 1993 (Current Issue)** for **FIBERGLASS CABLE TRAY SYSTEM.**

Specifications of Engineers India Ltd.

UL (Underwriters Laboratories, Inc) Standards for NON- Metallic Cable Tray.

NEMA VE 2-2001 Cable Tray Installation Guideline.

as well as clients specification / requirements.

Working load Capacity

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

Widht of Cable Tray	Type of Tray	Load Kg / Mtr. For Support span 2.0 Mtr.
150 mm	SLC 3	30
300 mm	SLC 3	60
450 mm	SLC 3	75
600 mm	SLC 4	90
750 mm	SLC 4	120
900 mm	SLC 5	150

Concentrated Static Load is 70 Kg. at the centre of the span.

As per NEMA Loading standards : -

Load	Lb/ft.	Kgs/Mtr.
A	50	74
B	75	111
C	100	148

Support span : 8,10,12 are in Feet

Tray type	Load Class
SLC 3	8A
SLC 4	8C, 10B
SLC 5	10C, 8C
SLC 6	10C, 12C

Sumip Fiberglass Cable Tray Specification

■ Standards Applicable

- 1.1 IS 6746 - 1994 Specs for Unsaturated Polyester Resin systems for Low Pressure Fibre Reinforced Plastics.
- 1.2 NEMA FG 1 1984- 1993 (current issue) Specifications for fibreglass Tray System -Loading Characteristics.
- 1.3 IS 6746-Appendix-K/UL 94 Flame Retardant (low flammability/V0).

■ Technical Details

- 2.1 Side Member FRP Pultruded 'C' Section.
- 2.2 Rung Sq. Hollowtube 25mm X25mm.
- 2.3 Construction/assembly of tray. The rungs to side member are connected, will have both mechanical & adhesive lock. The tray shall be assembled by use of a locking pin made of fibreglass reinforced thermoplastic. The locking pin is inserted under pressure by machine with a high strength adhesive. All the bonded parts are surface prepared for maximum adhesion. All straight sections are pre drilled for Coupler plates. All cut ends shall be resin coated.
- 2.4 Length of Cable Tray 3000mm.
- 2.5 Width of cable Tray 150mm/ 300mm/ 450mm/ 600mm/ 750mm/900mm.
- 2.6 Rung Spacing 250mm/300mm.
- 2.7 Radius of Fittings 300mm,600mm.
- 2.8 Material of Side Member & Rung Corrosion Resistant Polyester-Isophthelic / vinyl ester, Flame Retardant U.V. Stabilised Resin System and Various types of Glass Fibre. Minimum Glass Content 55 to 60% in all pultruded sections and 30 to 40% for flat sheets and other moulded parts.
- 2.9 Ultra Violet Radiation protection : All the composite materials shall have UV Light inhabiting chemical additives to resist degradation from UV.
- 2.10 Flame Retardancy All the composite material shall be fire retardants & will have flame spread of 25 or less (Class 1 Rating) when tested in accordance with ASTM D 635. Pultruded parts are provided with surface veil to achieve maximum chemical resistance.

■ Accessories/Fittings.

All fittings are pre fabricated & will be same specification as of straight trays.

■ Connection / Coupler plate & Splice plates

FRP / Stainless steel Splice plates of various types ie.straight as well as adjustable for angles. This plates should be installed between 0.2 & 0.3 of the length of span of the support. Fastener of SS 304 / SS 316 shall be provided of 6mm/8mm diameter.

■ Typical Properties of pultruded sections

- 5.1 ASTM-D-2863-Oxygen Index-30%.
- 5.2 ASTM-D-635 - Flame Spread (Extent of burning) - 25 mm.
- 5.3 ASTM-D-638 -Tensile Strength at break - 30,000 PSI.
- 5.4 ASTM-D-790 - Flexural Strength at break - 30,000 PSI.
- 5.5 ASTM-D-256 - Izod Impact Strength - 25 Ft.-LBS.
- 5.6 ASTM-D-149 - Electric Strength short terms Oil - 35 Kv/inch

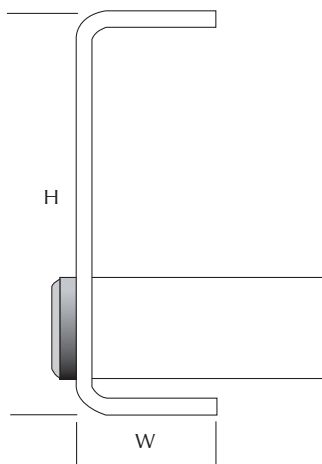
■ Corrosion resistance of resin system

Two standard composites resin systems are available. For most of the application polyester fire retardant (FR-P) is widely used. A vinyl ester composites fire retardant resin system (FR-VE) is used where strong acids (like hydrochloric acid), strong alkalis (like Caustic Soda), organic solvents and halogenated organic conditions exist. Sumip fiberglass cable tray incorporates a synthetic veil on the surface of all structural shapes which causes a resin rich layer which enhances corrosion protection.

An abbreviated guide can be provided on request to assist in the selection of the proper resin system for individual application.

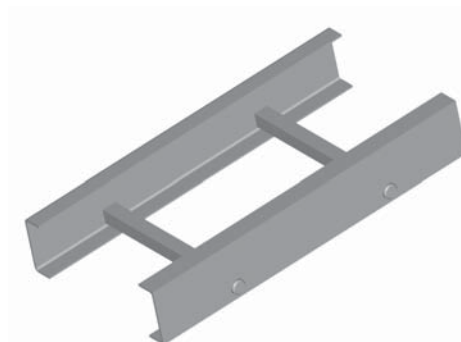
STRAIGHT SECTION

- Sumip cable tray is available in polyester as well as vinyl ester resin system.
- Our cable tray has a 'C' section as side rail.
- Our cable tray has a square type rung & rung connection is made with mechanical & adhesive lock.



Types available for cable tray system

Code	Size of side rails Height x Width
SLC 3	75 x 25 mm
SLC 4	100 x 35 mm
SLC 41	108 x 50 mm
SLC 5	125 x 30 mm
SLC 6	150 x 50 mm
SLC 8	200 x 40 mm



Catalog Numbering System

Combine all following four specification number to create catalogue number

Tray Type		Width of Tray		Rung Spacing		Length of Tray	
Polyester	Vinyl Ester	Width Inside Dimension		Spacing Center to Center		Available Length	
		Code	MM.	Code	MM.	Code	FT/Mtr.
SLC 3P	SLC 3V			06	150	10	10/3
SLC 4P	SLC 4V	06	150	10	250		
SLC 5P	SLC 5V	12	300	12	300		
SLC 6P	SLC 6V	18	450	18*	450		
		24	600				
		30	750				
		36	900				

* 450mm rung spacing not recommended for 30 & 36 Width

Example to create a catalog. SLC4P-12-12-10= Polyester cable tray with 300mm width & 300mm rung spacing in the length of 10 Ft.

COVER FOR LADDER TYPE CABLE TRAY

Cable trays covers are required only for those area where the cable needs to be protected from falling objects. The covers are available in Polyester as well as vinyl Ester resin system. The covers will be 3Mtr / 10ft. and the thickness of the covers are normally 3mm if not specified.

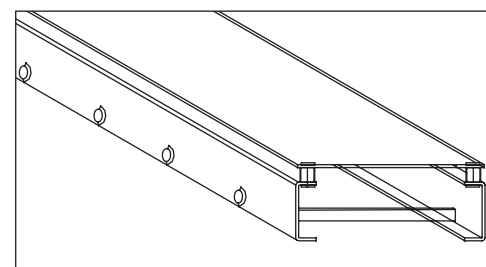
FLAT COVER

Covers can be fitted with the help of thermoplastic stand off. It is recommended to use this studs at 600mm center along both side rails. This stand off is a separate item & can be supplied with the SS 304 hardware.

Flat covers are available for straight trays as well as for accessories.

Cover catalog no

Tray width in mm 'C' side rails	Cat. No for Flat cover for
150	SPFC 06
300	SPFC 12
450	SPFC 18
600	SPFC 24
750	SPFC 30
900	SPFC 36



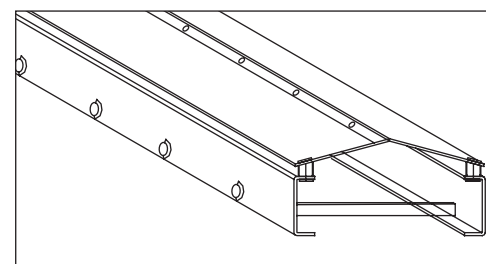
PEAKED COVER

Covers can be fitted with the help of thermoplastic stand off. It is recommended to use this studs at 600mm center along both side rails. This stand off is a separate item & can be supplied with the SS 304 hardware.

Peaked covers are available for straight trays only.

Cover catalog no

Tray width in mm	Cat. No for Peaked Cover for 'C' side rails
150	SPPC 06
300	SPPC 12
450	SPPC 18
600	SPPC 24
750	SPPC 30
900	SPPC 36



Note : On all illustrations
(W) = Width of the
inside distance from
Tray wall to tray wall

PRE - ASSEMBLED FITTINGS For ladder type cable trays

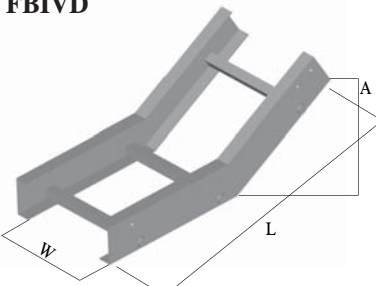
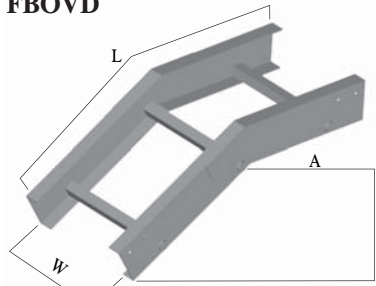
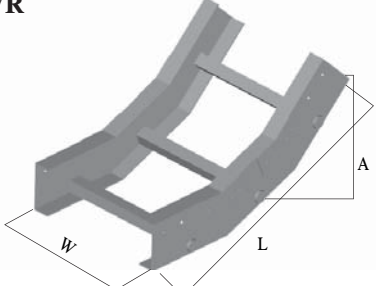
The pre assembled fittings are available in all the types of tray. The fittings are assembled with the help of Stainless steel SS 304 fasteners unless & otherwise specified.

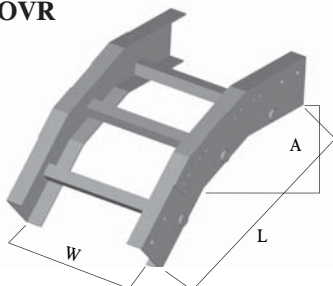
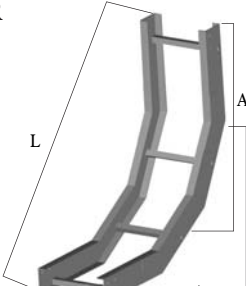
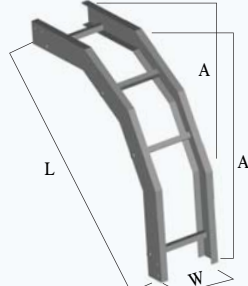
Rungs are connected with a mechanical and adhesive lock.

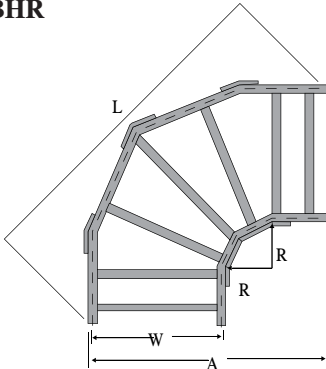
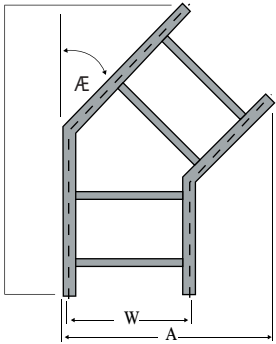
Catalog Numbering System

When Ordering fittings match the straight section tray purchased along with the appropriate width & radius.	Fitting type	Tray type	Degree of bend	Width	Radius
Example to create a catalog	FBIVR	SLC4	90	12	12

If you wish to order covers for fitting add the letter 'C' after the catalog Numbers

30/45° DIRECT INSIDE BEND			30/45° DIRECT OUTSIDE BEND			45° INSIDE VERTICAL RADIUS BEND				
FBIVD			FBOVD			FBIVR				
										
Dim.in mm	30 Degree Angle	45 Degree Angle	Dim.in mm	30 Degree Angle	45 Degree Angle	Dim in MM	300 Radius	450 Radius	600 Radius	900 Radius
A	260	315	A	260	315	A	280	325	370	460
L	700	650	L	700	650	L	500	600	720	935

45° OUTSIDE VERTICAL RADIUR BEND			90° INSIDE VERTICAL RADIUS BEND			90° OUTSIDE VERTICAL RADIUS BEND								
FBOVR			FBIVR			FBOVR								
														
Dim in MM	300 Radius	450 Radius	600 Radius	900 Radius	Dim in MM	300 Radius	450 Radius	600 Radius	900 Radius	Dim in MM	300 Radius	450 Radius	600 Radius	900 Radius
A	280	325	370	460	A	550	700	850	1150	A	550	7000	850	1150
L	500	600	720	935	L	705	930	1140	1560	L	705	930	1140	1560

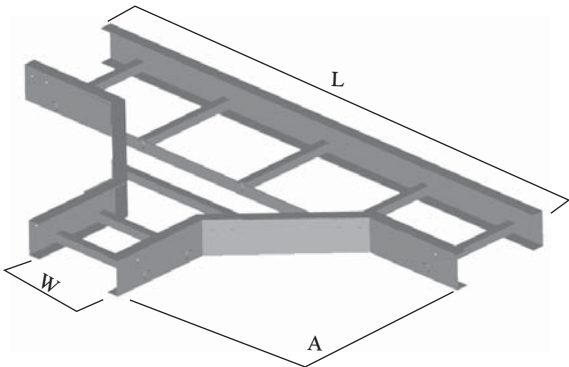
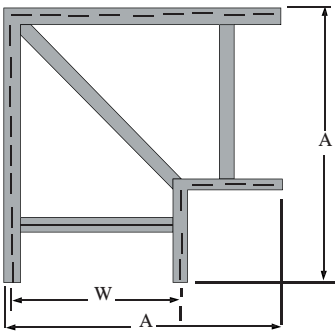
90° HORIZONTAL RADIUS BEND				30°,45° HORIZONTAL DIRECT BEND			
FBHR				FBHR			
							
Angle Ø							
Width	300 Radius	600 Radius	900 Radius	Width	30° Angle	45° Angle	60° Angle
	A	A	A		A	A	A
150	600	900	1200	150	357	432	487
300	750	1050	1350	300	510	584	640
450	900	1200	1500	450	675	756	813
600	1050	1350	1650	600	827	933	965
750	1200	1500	1800	750	979	1060	1118
900	1350	1650	1950	900	1130	1213	1270

PRE - ASSEMBLED FITTINGS For ladder type cable trays

90° HORIZONTAL DIRECT BEND FBHD

Dimensions In. (mm)

Width	A
150	330
250	406
300	483
450	635
600	787
750	940
900	1092

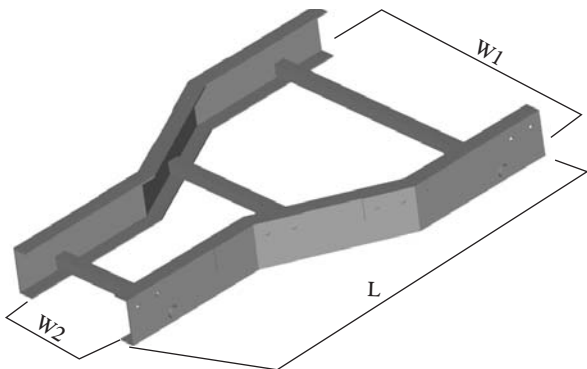
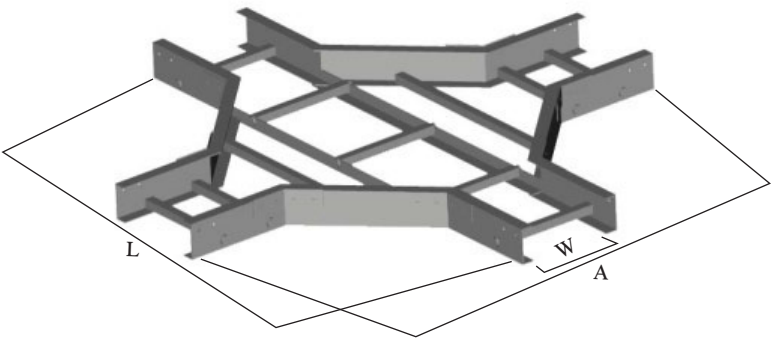


HORIZONTAL RADIUS TEE FTHR

Width of CT	300 Radius		450 Radius		600 Radius		900 Radius	
	A	L	A	L	A	L	A	L
300	450	1500	600	1800	750	2100	1050	2700
450	450	1800	600	2100	750	2400	1050	3000
600	450	2100	600	2400	750	2700	1050	3300
750	450	2400	600	2700	750	3000	1050	3600
900	450	2700	600	3000	750	3300	1050	3900

HORIZONTAL RADIUS CROSS FCHR

Width of CT	300 Radius		450 Radius		600 Radius		900 Radius	
	A	L	A	L	A	L	A	L
300	1200	1200	1500	1500	1800	1800	2400	2400
450	1350	1350	1650	1650	1950	1950	2550	2550
600	1500	1500	1800	1800	2100	2100	2700	2700
750	1650	1650	1950	1950	2250	2250	2850	2850
900	1800	1800	2100	2100	2400	2400	3000	3000

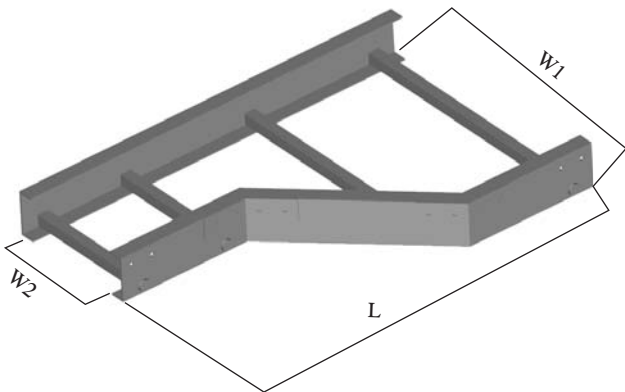


STRAIGHT REDUCER FRS

Width W2 \ W1	Length				
	900	750	600	450	300
300	1025	950	900	670	X
450	950	900	670	X	
600	900	670	X		
750	670	X			

LEFT OR RIGHT REDUCER FRL (LEFT) FRR (RIGHT)

Width W2 \ W1	Length				
	900	750	600	450	300
300	1025	950	900	670	X
450	950	900	670	X	
600	900	670	X		
750	670	X			



SPLICE PLATE FOR LADDER TYPE CABLE TRAY

Sumip offers fiberglass as well as stainless steel connector plates designed to connect between straight sections & fittings.

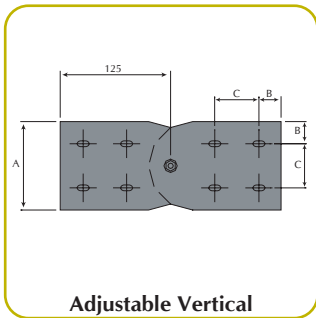
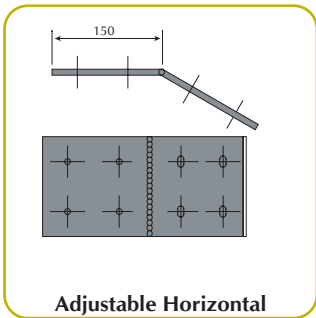
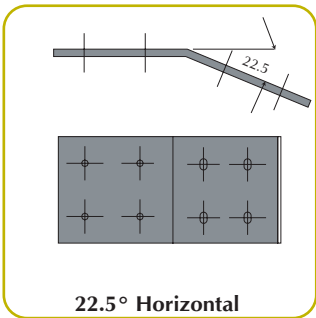
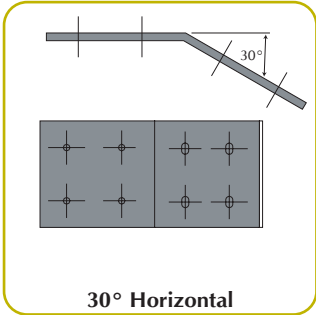
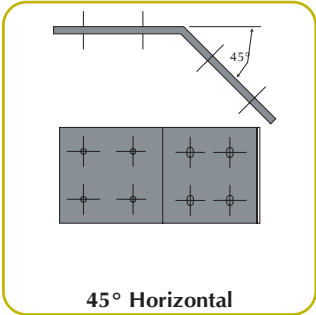
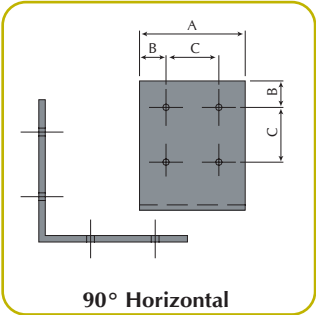
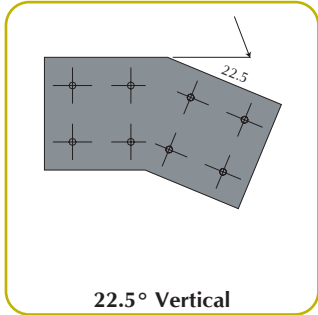
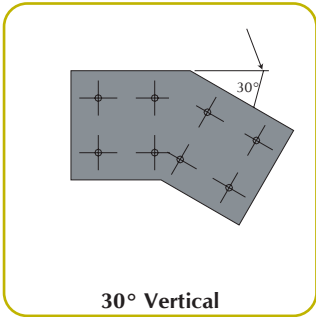
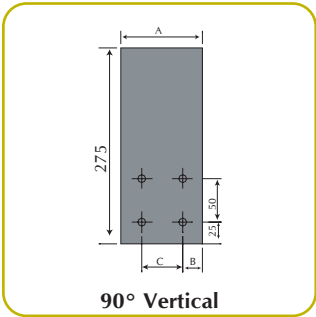
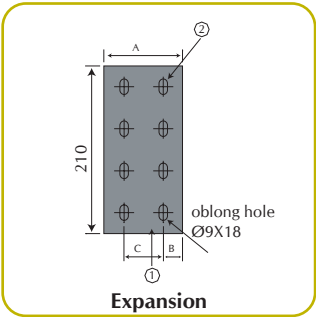
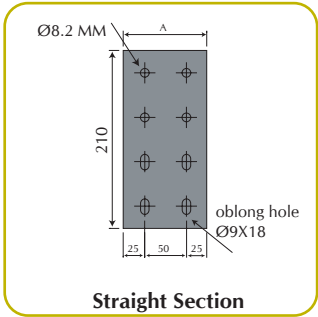
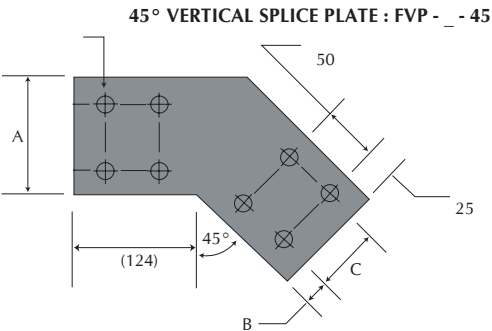
Sizes of bolts used for connectors plates are 8mm X 25mm, hex bolt with nut, 2plain washer & 1 spring washer. This bolts are available in SS 304 & SS 316.

Catalog Numbering System

Tray type	Bolt set per Plate	Straight	Expansion	90° Vertical	45° Vertical	30° Vertical	22.5° Vertical	90° Horizontal	45° Horizontal	30° Horizontal	22.5° Horizontal
SPC 20	4	FSP-2-180	FEP-2-180	FVP-2-90	FVP-2-45	FVP-2-30	FVP-2-22.5	FHP-2-90	FHP-2-45	FHP-2-30	FHP-2-22.5
SPC 30	4	FSP-3-180	FEP-3-180	FVP-3-90	FVP-3-45	FVP-3-30	FVP-3-22.5	FHP-3-90	FHP-3-45	FHP-3-30	FHP-3-22.5
SPC 40	4	FSP-4-180	FEP-4-180	FVP-4-90	FVP-4-45	FVP-4-30	FVP-4-22.5	FHP-4-90	FHP-4-45	FHP-4-30	FHP-4-22.5
SPC 60	4	FSP-5-180	FEP-5-180	FVP-5-90	FVP-5-45	FVP-5-30	FVP-5-22.5	FHP-5-90	FHP-5-45	FHP-5-30	FHP-5-22.5
SPC 120	4	FSP-6-180	FEP-6-180	FVP-6-90	FVP-6-45	FVP-6-30	FVP-6-22.5	FHP-6-90	FHP-6-45	FHP-6-30	FHP-6-22.5

Dimension of Splice Plates In mm.

Tray type	A	B	C
SLC 3	50	25	-
SLC 4	50	25	-
SLC 5	100	25	50
SLC 6	100	25	50
SLC 8	100	25	50

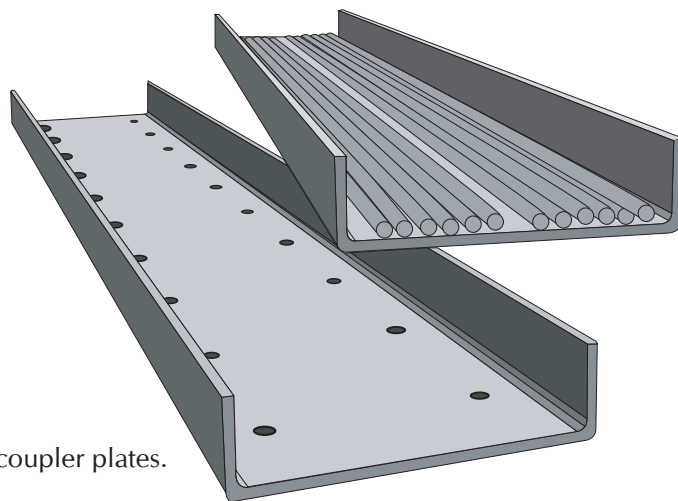


CABLE TRAY SYSTEM FOR INSTRUMENTATION / LIGHT LOAD CABLES

- Sumip instrumentation tray is channel type & design for light loads.
- They are available in solid as well as ventilated construction.
- Sumip cable tray is available in polyester as well as vinyl ester resin system.

Type available for cable tray system

Code	Size of channel Height X Width	Code	Size of channel Height X Width
SPC 20	50 X 40 mm	SPC 50	125 X 30 mm
SPC 21	50 X 30 mm	SPC 60	150 X 40 mm
SPC 22	50 X 50 mm	SPC 61	150 X 50 mm
SPC 30	75 X 25 mm	SPC 80	200 X 40 mm
SPC 40	100 X 35 mm	SPC 81	200 X 50 mm
SPC 41	100 X 50 mm	SPC 121	300 X 50 mm



- All sections and pre fabricated fittings are pre drilled to fix coupler plates.
- All fasteners and coupler plates are separate order items.

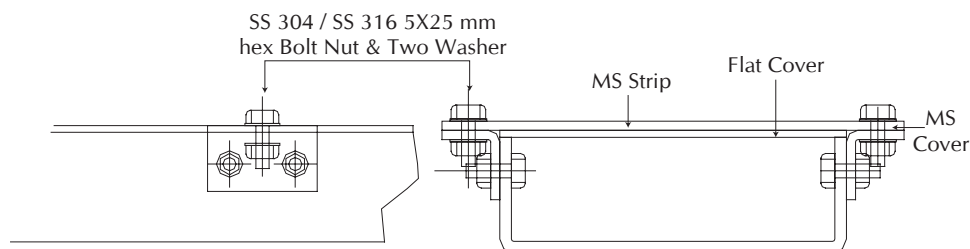
Cover for Instrumentation trays

Part No

SPC (Channel Width) C

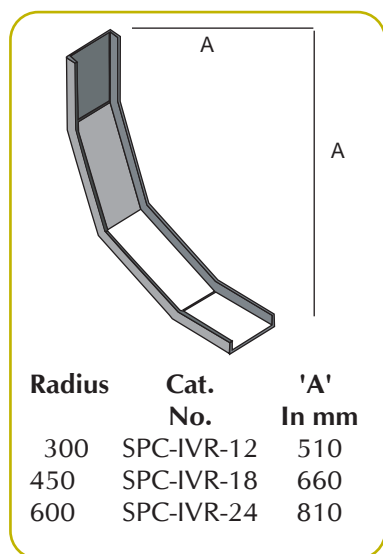
eg : SPC20C

Includes FRP angel Clip & SS Hardware

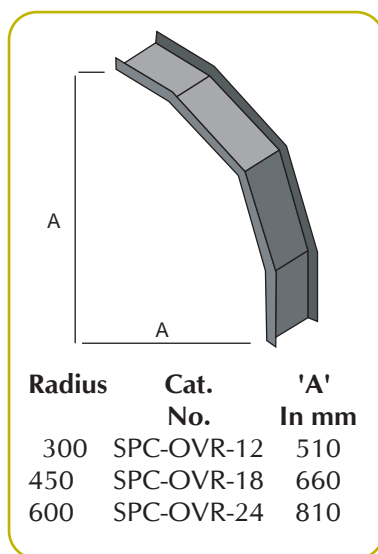


Pre Assembled Fittings for Instrumentation Cable Trays

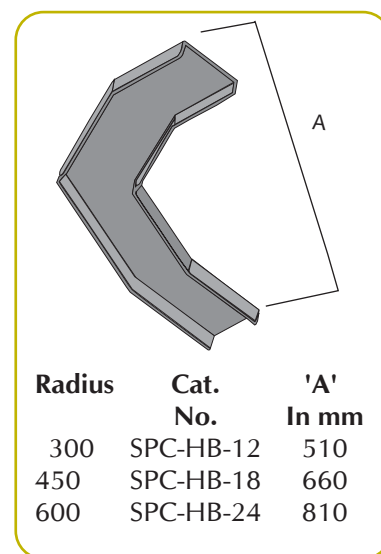
The pre assembled fittings are available in all the type of tray. The fittings are assembled with the help of Stainless steel SS304 fasteners unless & otherwise specified.



90° Inside Vertical Bend

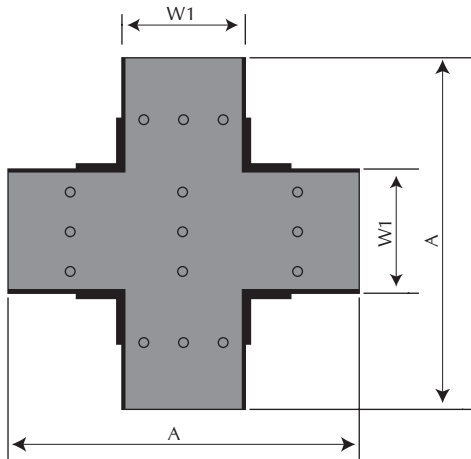


90° Outside Vertical Bend



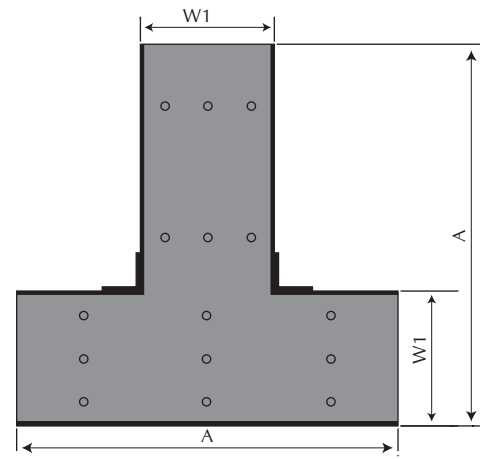
90° Horizontal Bend

Horizontal Cross



Catalog	W1	A
SPC20-CHD	50	400
SPC30-CHD	75	450
SPC40-CHD	100	500
SPC60-CHD	150	550
SPC80-CHD	200	550
SPC120-CHD	300	650

Horizontal Tee



Catalog	W1	A
SPC20-THD	50	450
SPC30-THD	75	450
SPC40-THD	100	450
SPC60-THD	150	450
SPC80-THD	200	450
SPC120-THD	300	450

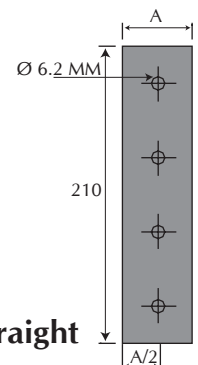
SPLICE PLATES FOR INSTRUMENTATION CABLE TRAYS

Sumip offers fiberglass as well as stainless steel connector plates designed to connect between straight sections & fittings.

Sizes of bolts used for connectors plates are 6mm X 25mm, hex bolt with nut, 2 plain washer & 1 spring washer. This bolts are available in SS 304 & SS 316.

Dimension of Splice Plates in mm.

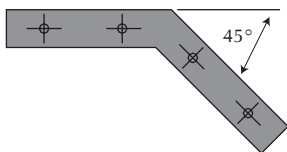
Tray type	A
SPC 20	25
SPC 30	25
SPC 40	25
SPC 60	25
SPC 120	50



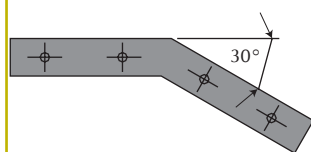
Straight

Catalog Numbering System

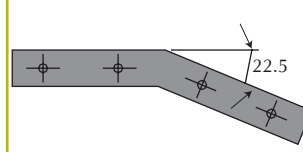
Tray type	Bolt set per Plate	Straight	Expansion	90° Vertical	45° Vertical	30° Vertical	22.5° Vertical	90° Horizontal	45° Horizontal	30° Horizontal	22.5° Horizontal
SPC 20	4	FSP-2-180	FEP-2-180	FVP-2-90	FVP-2-45	FVP-2-30	FVP-2-22.5	FHP-2-90	FHP-2-45	FHP-2-30	FHP-2-22.5
SPC 30	4	FSP-3-180	FEP-3-180	FVP-3-90	FVP-3-45	FVP-3-30	FVP-3-22.5	FHP-3-90	FHP-3-45	FHP-3-30	FHP-3-22.5
SPC 40	4	FSP-4-180	FEP-4-180	FVP-4-90	FVP-4-45	FVP-4-30	FVP-4-22.5	FHP-4-90	FHP-4-45	FHP-4-30	FHP-4-22.5
SPC 60	4	FSP-5-180	FEP-5-180	FVP-5-90	FVP-5-45	FVP-5-30	FVP-5-22.5	FHP-5-90	FHP-5-45	FHP-5-30	FHP-5-22.5
SPC 120	4	FSP-6-180	FEP-6-180	FVP-6-90	FVP-6-45	FVP-6-30	FVP-6-22.5	FHP-6-90	FHP-6-45	FHP-6-30	FHP-6-22.5



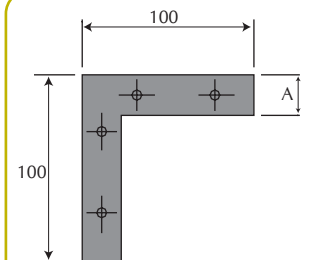
45° Vertical



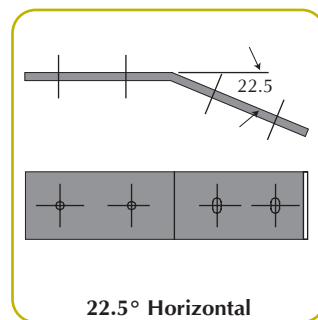
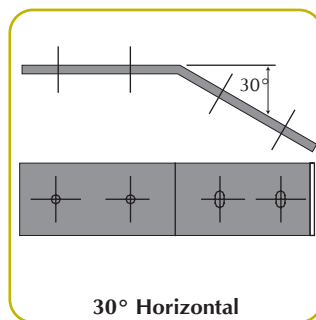
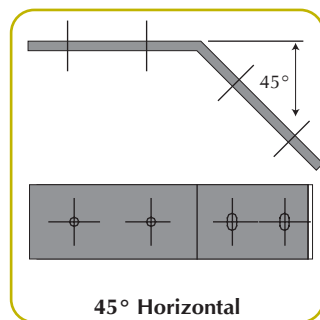
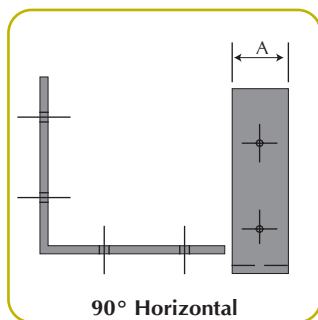
30° Vertical



22.5° Vertical

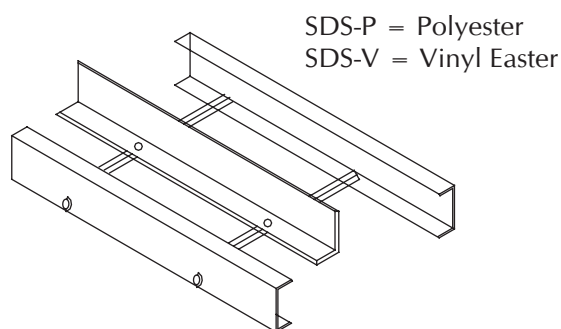


90° Vertical



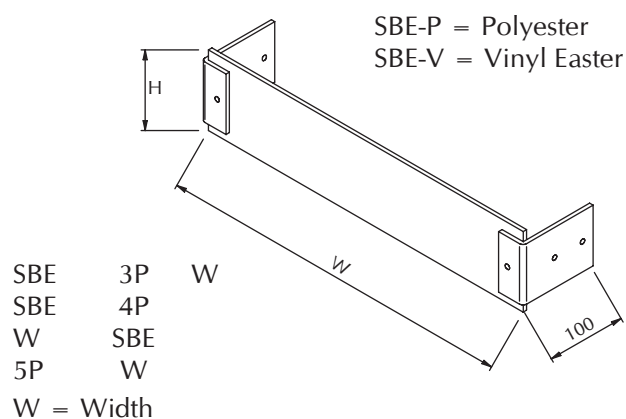
CABLE TRAY ACCESSORIES

Divider Strip

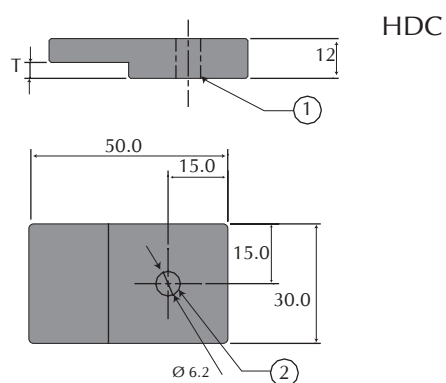


Standard length 10 Ft.
Add SDS after the Straight Section Cat. No.

Blind End

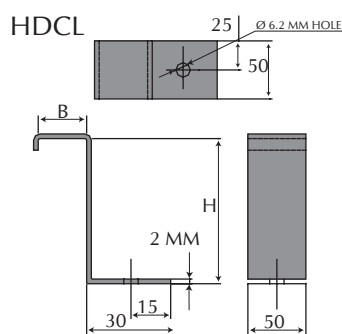


Hold Down Clip

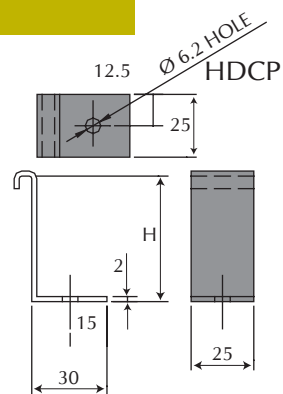


Fasteners not included
Provide Thickness of side rails.

Hold Down Clamp



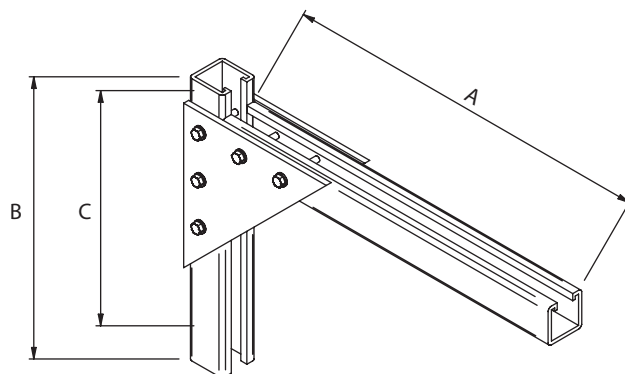
SS 304 HOLD DOWN CLAMPS FOR
LADDER TYPE CABLE TRAY
Cat No. = HDCL-(Tray Type)



SS 304 HOLD DOWN CLAMPS FOR
PERFORATED TYPE CABLE TRAY
Cat No. = HDCLP-(Tray Type)

FRP Cable Tray Support Rack

CAT. NO.	A	B	C	LOAD (kg)
SSR 1 - 150	250	300	250	750
SSR1 - 225	325	300	250	500
SSR1 - 300	400	300	250	350
SSR1 - 450	550	300	250	250
SSR1 - 600	700	300	250	200
SSR2 - 600	700	575	525	300
SSR2 - 750	850	800	600	300
SSR2 - 900	1000	725	700	300



Exports

In India



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