

## MATERIAL STANDARDS

Our products are manufactured according to the following international standards:

1 -Cold - Rolled Steel Sheet to JIS G3141 SPCC - SD equivalent to BS EN 10130.

2 -Hot Rolled Steel Sheet to JIS G3131 SPHC equivalent to BS EN 10025.

3-Pre - Galvanized Zink Coated Steel Sheet ( Mill Galvanized ) to JIS G3302 equivalent to BS EN 10142 (Supersedes BS 2989). The Hot dip mill galvanized coatings are produced by continuous rolling steel sheets or strips in coils through a bath of molten zinc then past air jets to remove excess Zink from the surface. The process involves pre - treating the steel to make the surface react readily with molten zinc as the strip moves through the bath at high speeds.

4 -Electro-Galvanized Steel Sheet to JIS G3313 SECC equivalent to BS EN 10152.

5 -Stainless Steel Sheet to SUS 304 ,SUS 316. BS1449 :Part 2.

## PRODUCT STANDARDS

1- Cable Trunking, BS 4678: Part 1; 1971 Steel Surface Trunking.

2- Cable Tray: NEMA VE 1: Metal Cable Tray Systems.

## FINISHES

### Epoxy Painting:

Epoxy painting can be processed using Electro-Galvanized Steel Sheet or Pre-Galvanized Zink Coated Steel Sheet. The fabricated materials shall be cleaned and prepared in factory according to standard process and conditions to be free of dirt, dust, grease, oil, wax and to be suitable for epoxy painting and achieve a high degree of adhesion necessary for good paint work and effective performance.

Epoxy paintings give a very hard, durable finish and usually quite thin for a minimum of 50 microns but they have excellent resistance to chemical, water, sea water, salt solutions, alkalis, detergents, white spirits, aliphatic, mineral and fatty oils, with excellent adhesion and coating flexibility according to ASTM D3359 with no detachments.



## INSTRUCTIONS

### CABLE INSTALLATION & PROTECTION

When installing cable in cable tray , it is important that care and planning be exercised so that the cable or the cable tray is not damaged or destroyed.

The cable manufacture should be contacted for maximum pulling tensions and minimum bending radii, and advice on prevention of deformation of cable shielding.

### PROTECTION OF CABLE INSULATION

The inside of cable tray system shall present no sharp edges, burrs, or projections which can damage cable insulation.

#### **WARNING!**

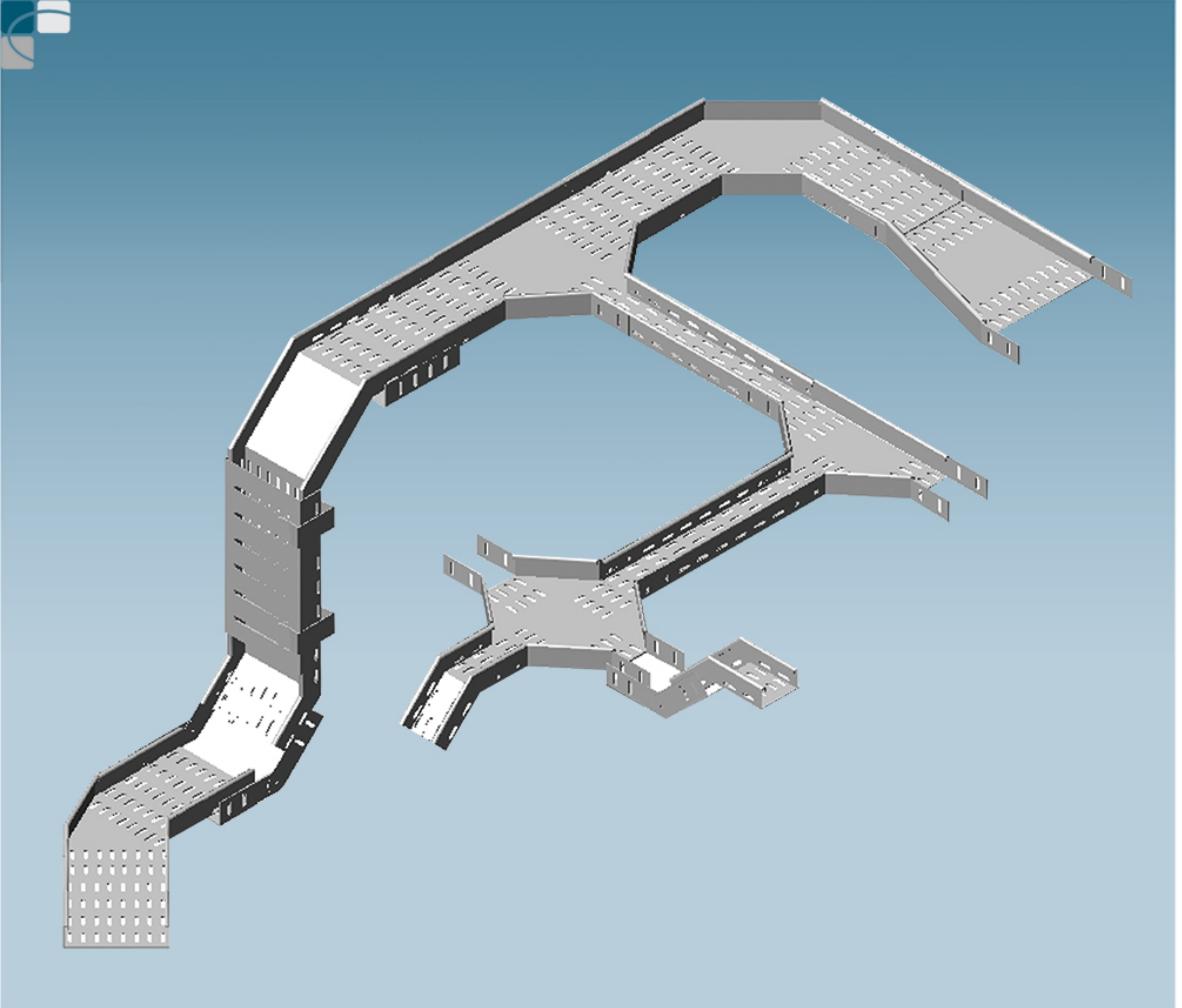
The cable tray is designed as a support for power or control cables or both and is not intended or designed to be a walkway or support for personnel. It should be used only as a mechanical support for cables and tubing.

### SUPPORTS OF CABLE TRAYS

Support for cable trays should provide strength and working load capacity sufficient to meet the load requirement of the cable tray systems.

- 1 . Horizontal and vertical tray supports should provide an adequate bearing surface for the tray and should have provisions for hold down clamps or fasteners.
- 2 . Vertical tray supports should provide means for fastening cable trays to it's supports.

## CABLE TRAY

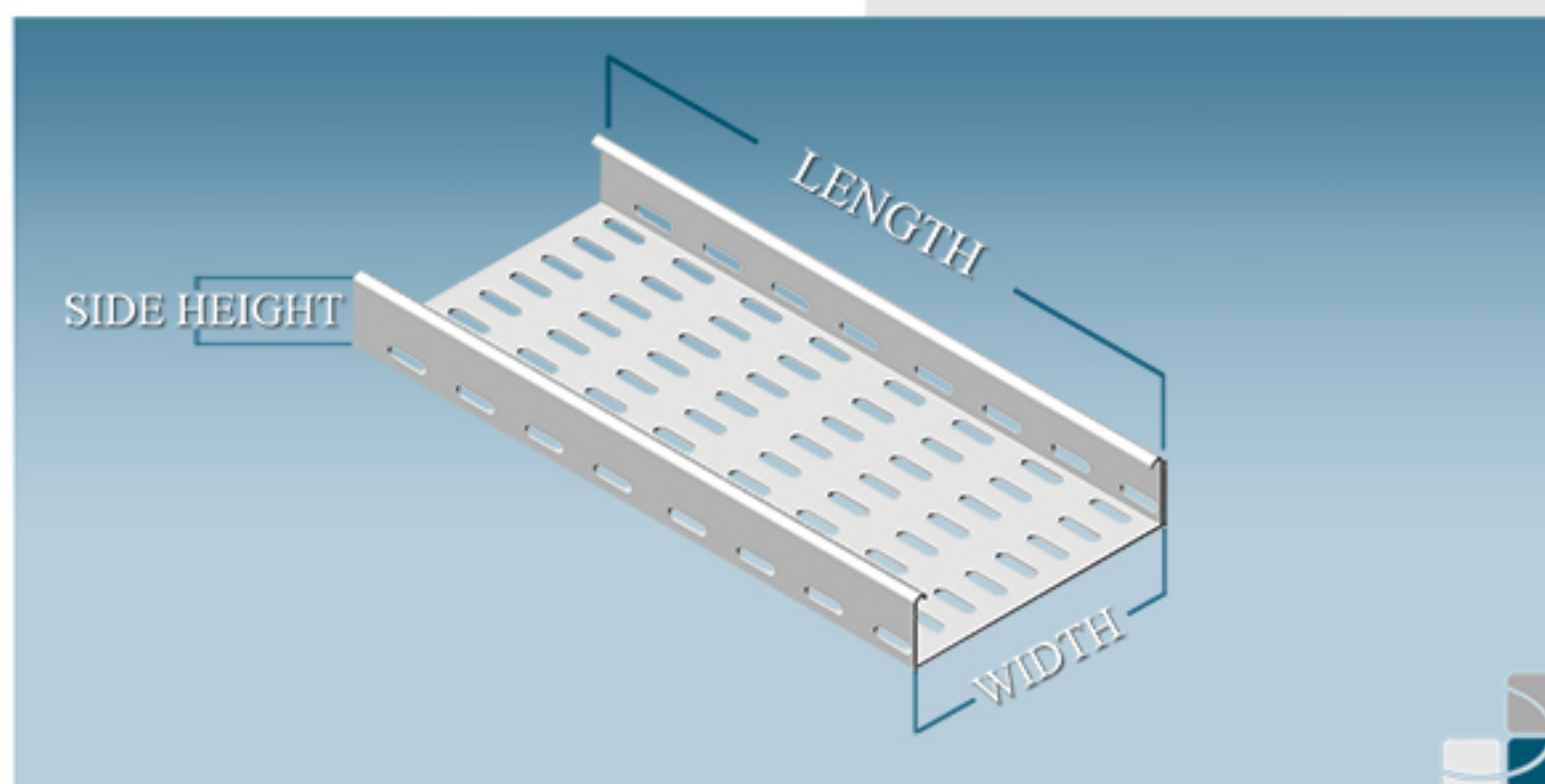


Cable Tray Network



## CABLE TRAY DIMENSIONS

TYPE				LENGTH m		TWICKNESS mm	THICKNESS mm	SIDE HEIGHT mm		
IF	ORF	IRF	OF	3.00	2.44	50	1.00	50	75	100
IF	ORF	IRF	OF	3.00	2.44	75	1.00	50	75	100
IF	ORF	IRF	OF	3.00	2.44	100	1.00	50	75	100
IF	ORF	IRF	OF	3.00	2.44	150	1.00	50	75	100
IF	ORF	IRF	OF	3.00	2.44	200	1.20	50	75	100
IF	ORF	IRF	OF	3.00	2.44	225	1.20	50	75	100
IF	ORF	IRF	OF	3.00	2.44	300	1.20	50	75	100
IF	ORF	IRF	OF	3.00	2.44	400	1.50	50	75	100
IF	ORF	IRF	OF	3.00	2.44	450	1.50	50	75	100
IF	ORF	IRF	OF	3.00	2.44	600	1.50	50	75	100
IF	ORF	IRF	OF	3.00	2.44	750	1.50	50	75	100
IF	ORF	IRF	OF	3.00	2.44	900	2.00	50	75	100
IF	ORF	IRF	OF	3.00	2.44	1000	2.00	50	75	100



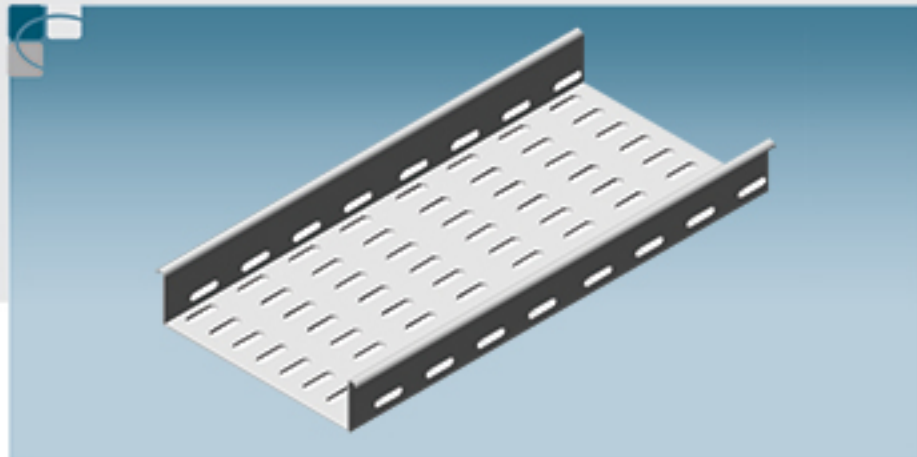
## CABLE TRAYS

A length of cable tray which has no change in direction or size consisting with ventilated bottom or solid bottom channel section.

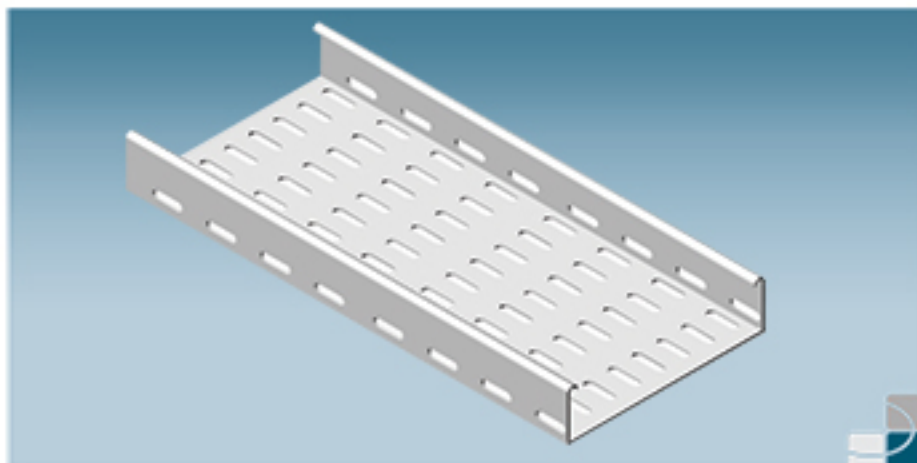
The ventilated cable tray bottom having openings sufficient for the passage of air and utilizing 60 percent or less of the plan area of the surface to support cables .

The solid bottom cable tray consisting of a bottom with no openings

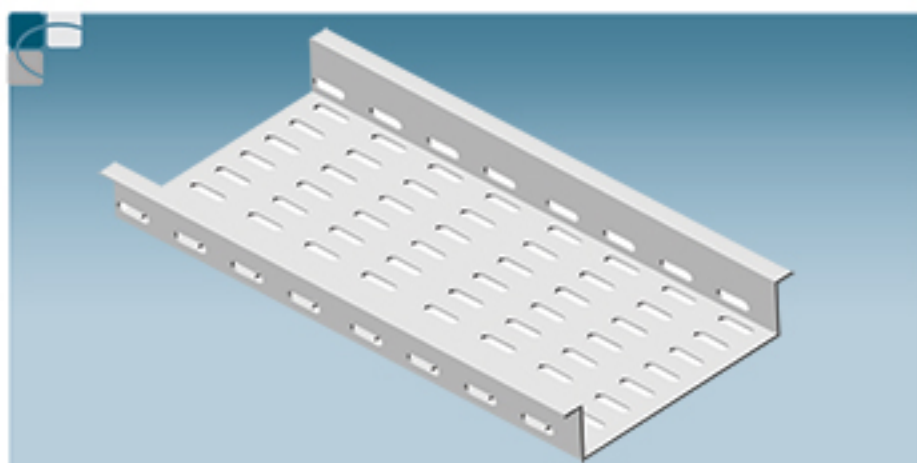
Standard sizes of 3 meters and 2.44 meters are available in deferent types, such as outside return flange, inside return flange, 90 degrees outside flange and 90 degrees inside flange .



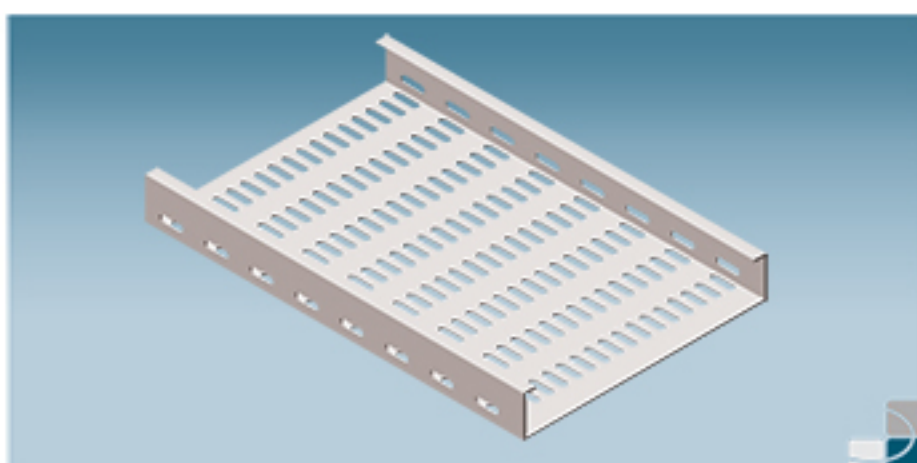
Outside Return Flange ORF



Inside Return Flange IRF



90 Degrees Outside Flange OF



90 Degrees Inside Flange IF

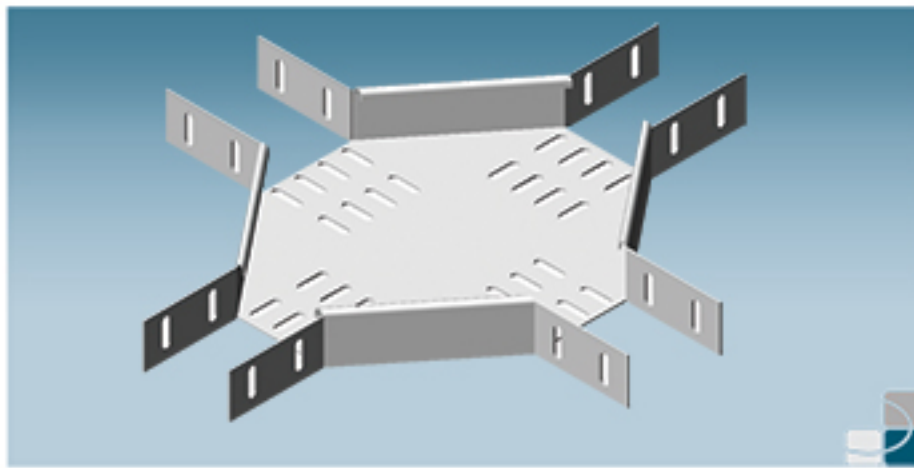


## CABLE TRAY FITTINGS

Devices which are used to change the direction or size of a cable tray system.

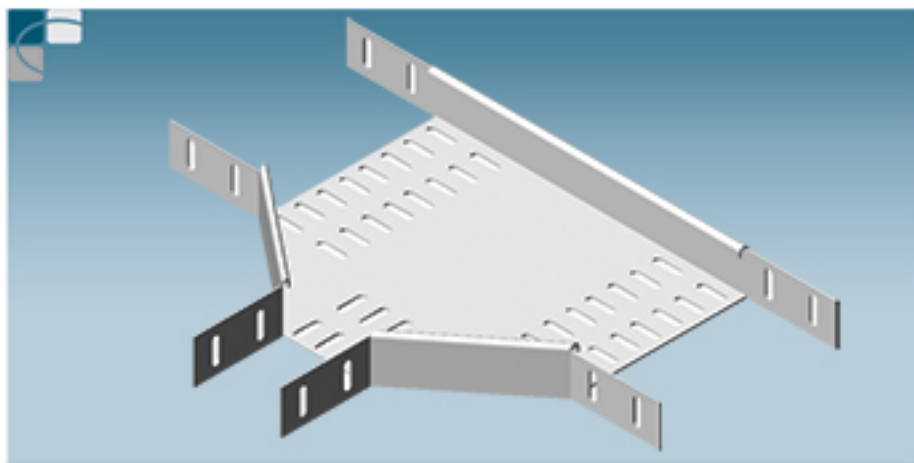
### Cross Horizontal

A cable tray fitting which is suitable for joining cable trays in four directions at 90 degrees intervals in the same plane.



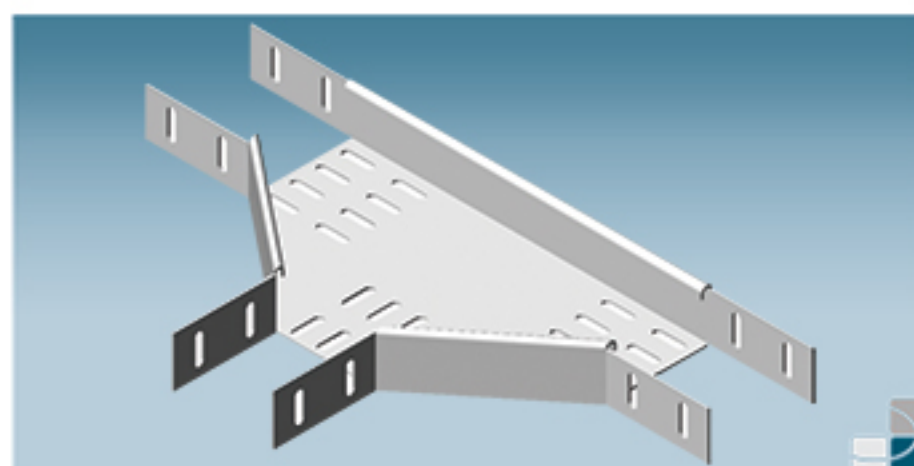
### Unequal T-Horizontal

A cable tray fitting which is suitable for joining different sizes cable trays in three directions at 90 degrees intervals in the same plane.



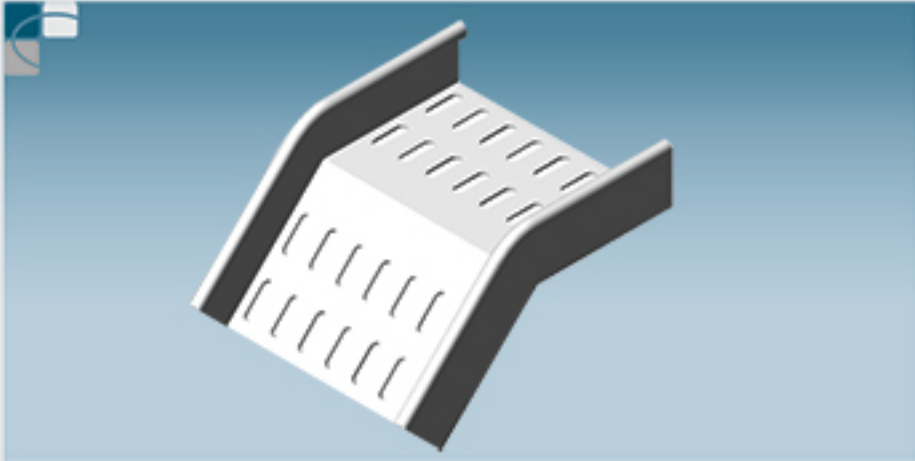
### Equal T-Horizontal

A cable tray fitting which is suitable for joining cable trays in three directions at 90 degrees intervals in the same plane.

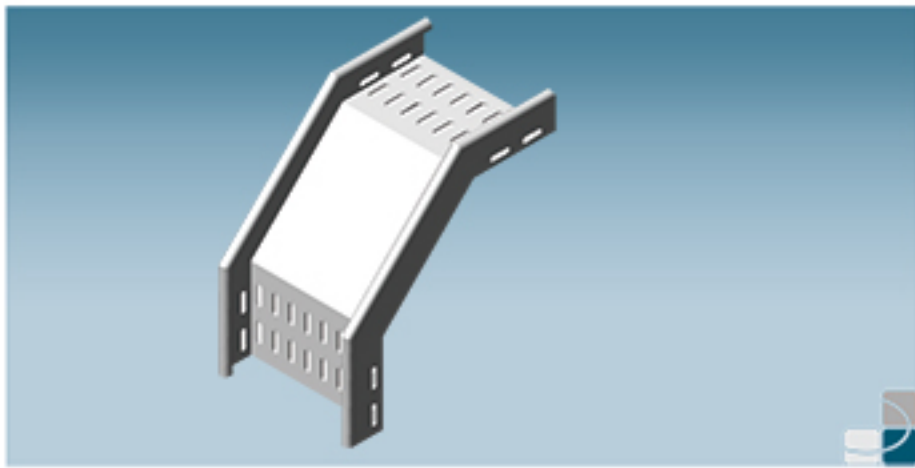


## External & Internal Risers

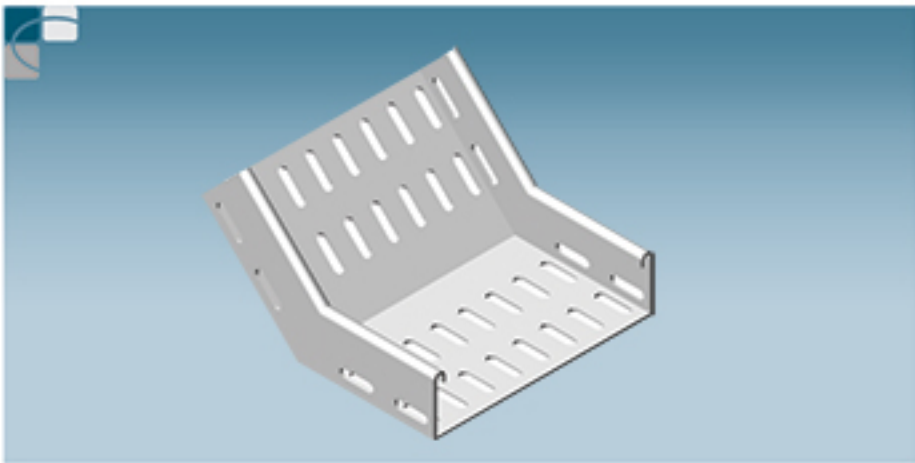
A cable tray fitting which changes direction between vertical and horizontal to a different plane upward or downward.



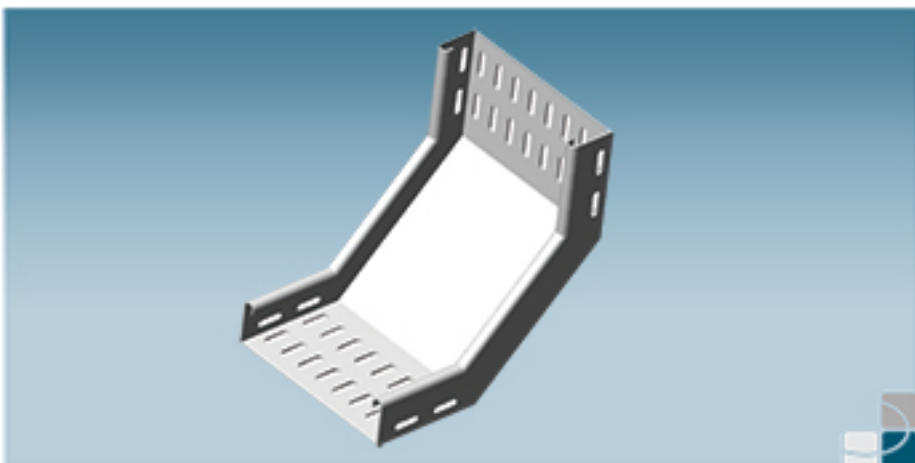
External Riser 45 Degrees



External Riser 90 Degrees



Internal Riser 45 Degrees

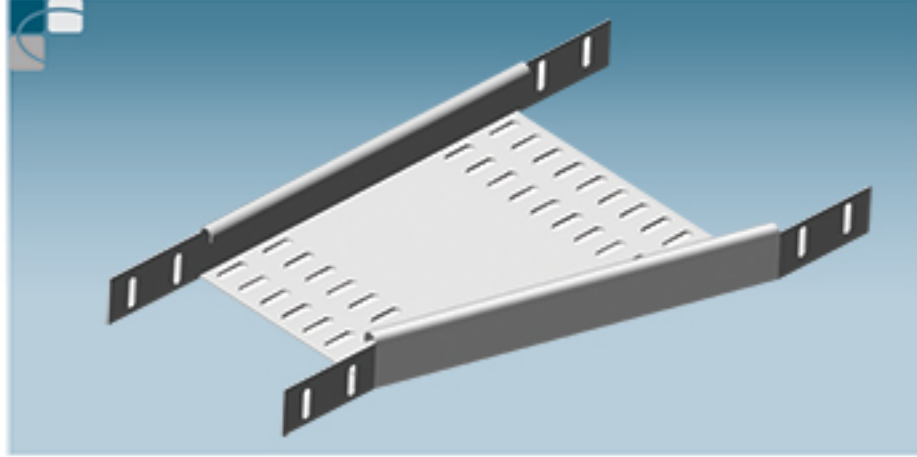


Internal Riser 90 Degrees



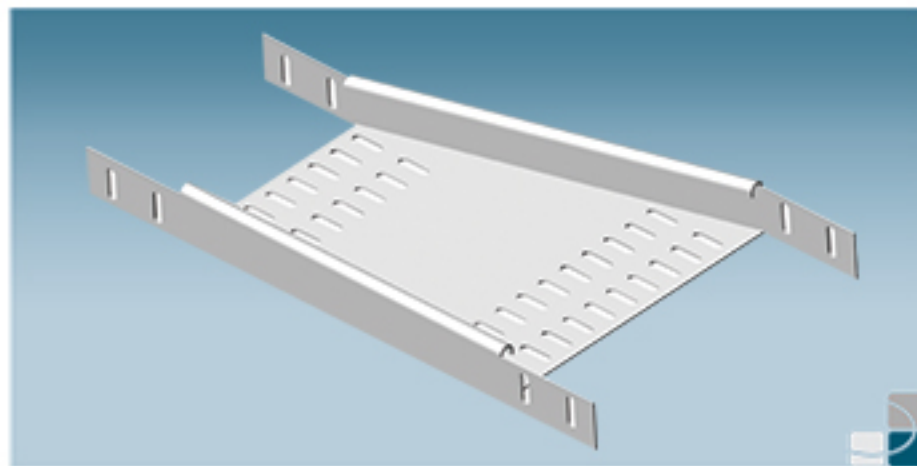
## Reducer Right

A cable tray fitting which is suitable for joining cable trays of different widths in the same plane, when viewed from the large end, has a straight side on right.



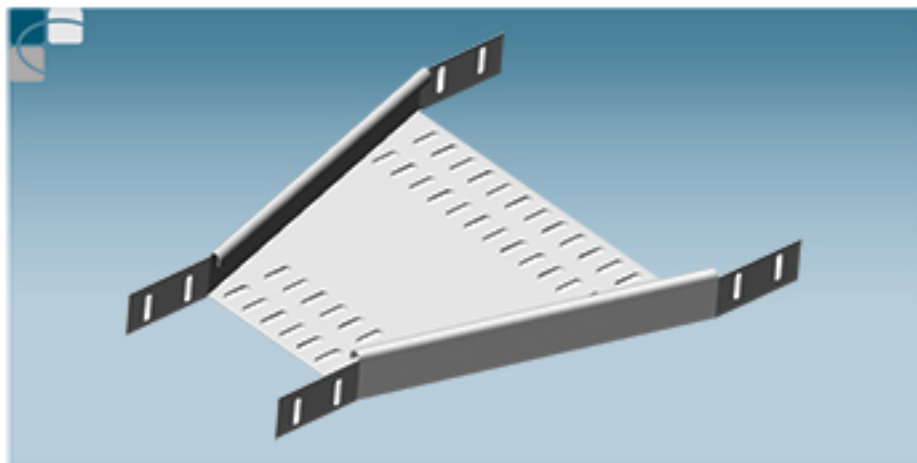
## Reducer Left

A cable tray fitting which is suitable for joining cable trays of different widths in the same plane, when viewed from the large end, has a straight side on left.



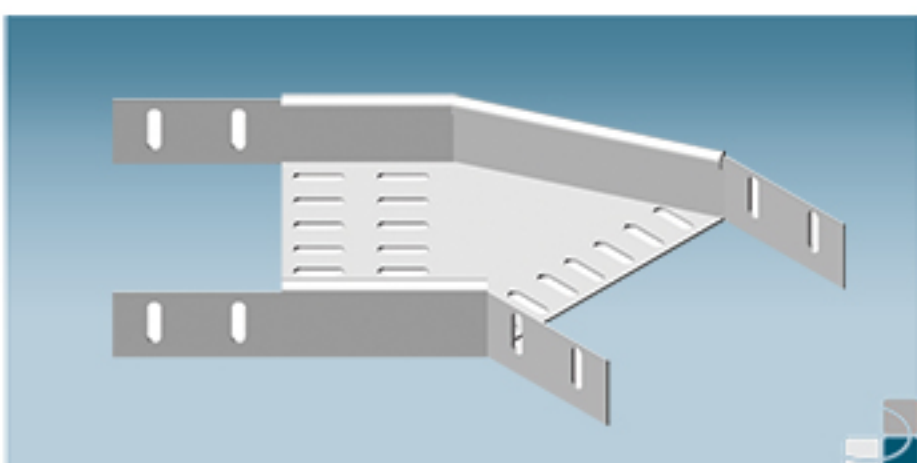
## Reducer Straight

A cable tray fitting which is suitable for joining cable trays of different widths in the same plane, has two symmetrical offset sides.

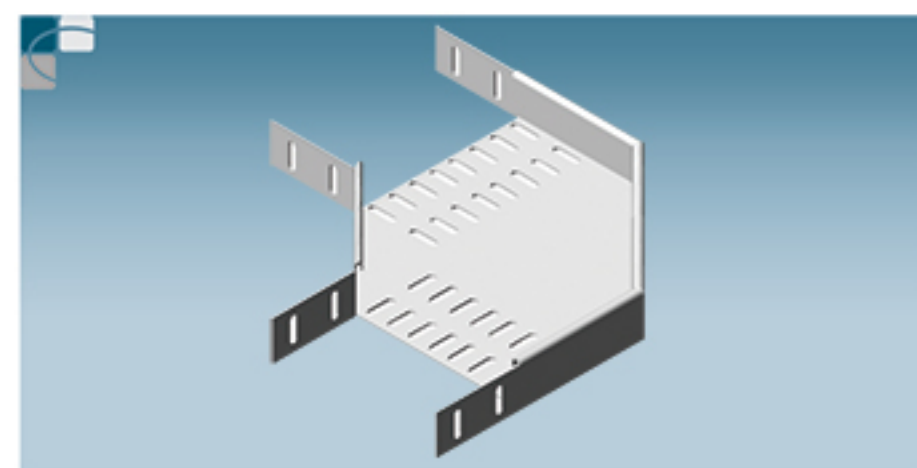


## Elbow Horizontal

A cable tray fitting which changes the directions in the same plane



Elbow 45 degrees

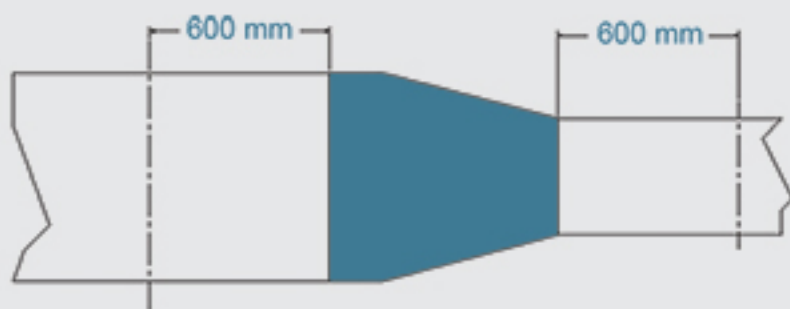


Elbow 90 Degrees

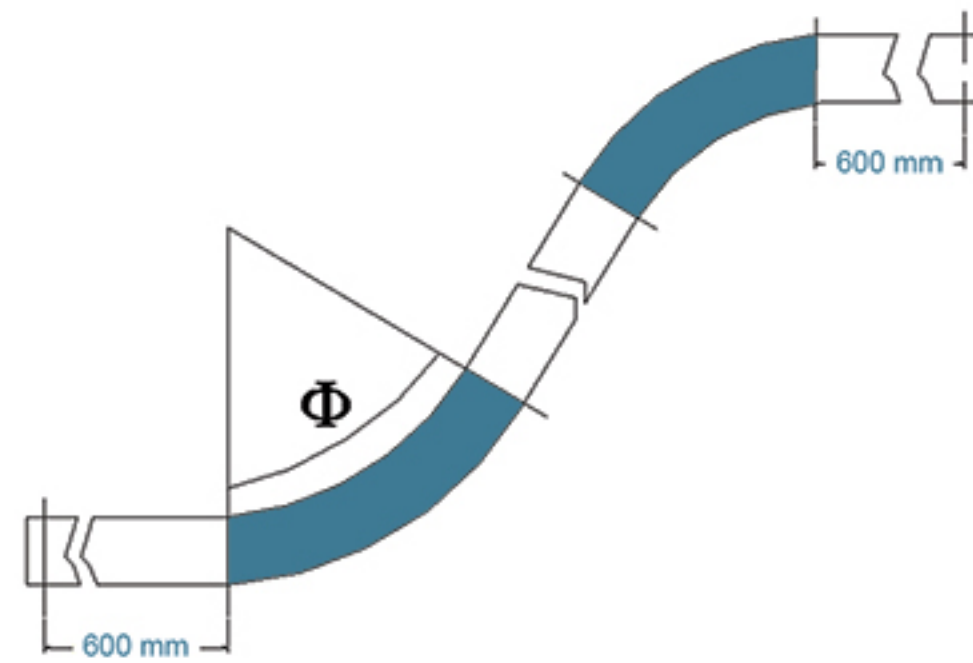


## LOCATION FOR SUPPORT FITTINGS

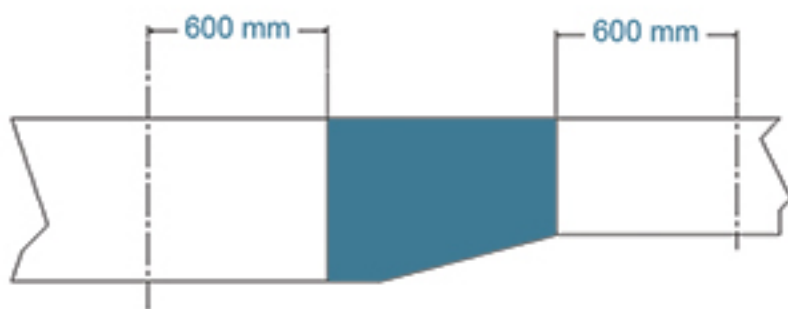
Supports should be located whenever practical so that connectors between the horizontal straight sections of cable tray runs fall between the support point and the quarter point of the span. Un-spliced straight sections should be used on all simple spans and on end spans of continuous span arrangements. A support should be located within ( 600mm) of each side of an expansion connector.



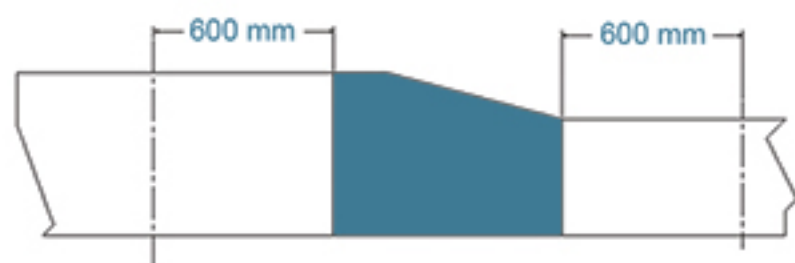
**REDUCER STRAIGHT**



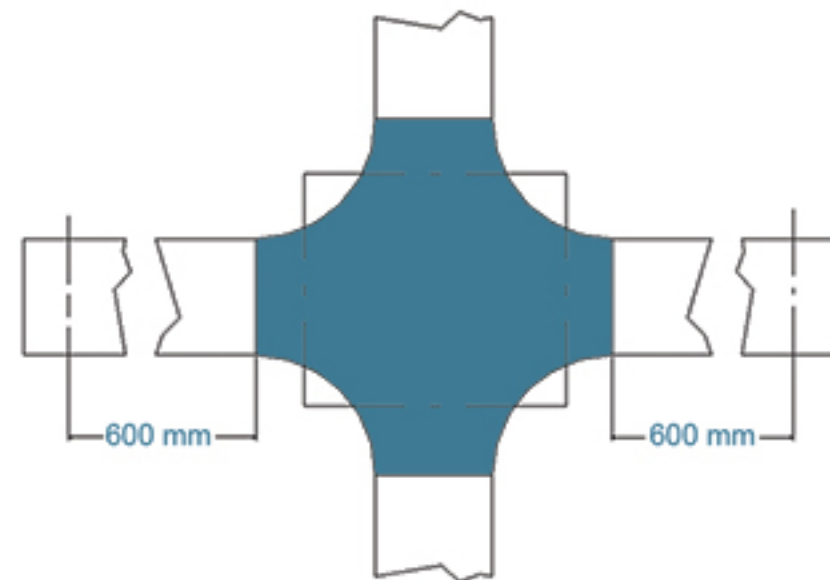
**ELBOW VERTICAL**



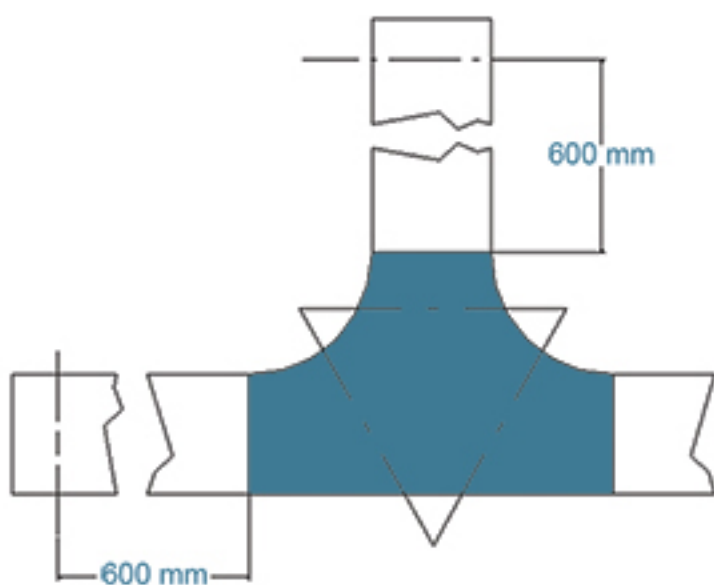
**REDUCER LEFT**



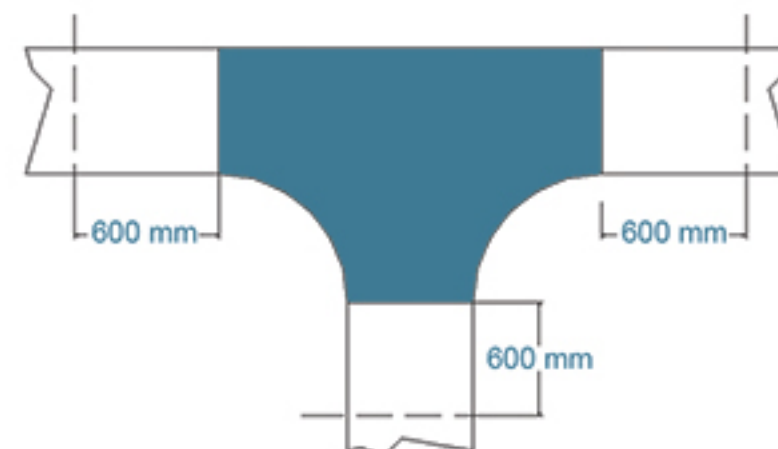
**REDUCER RIGHT**



**HORIZONTAL CROSS**

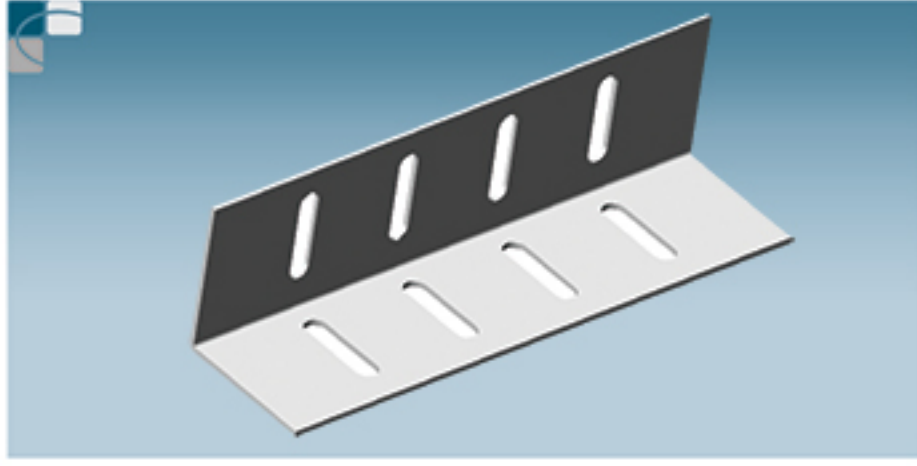


**EQUAL T-HORIZONTAL**

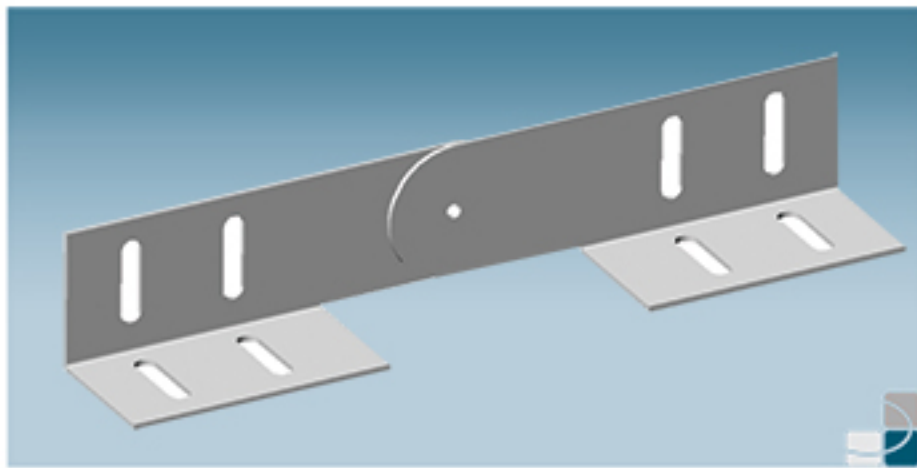


**T- VERTICAL**

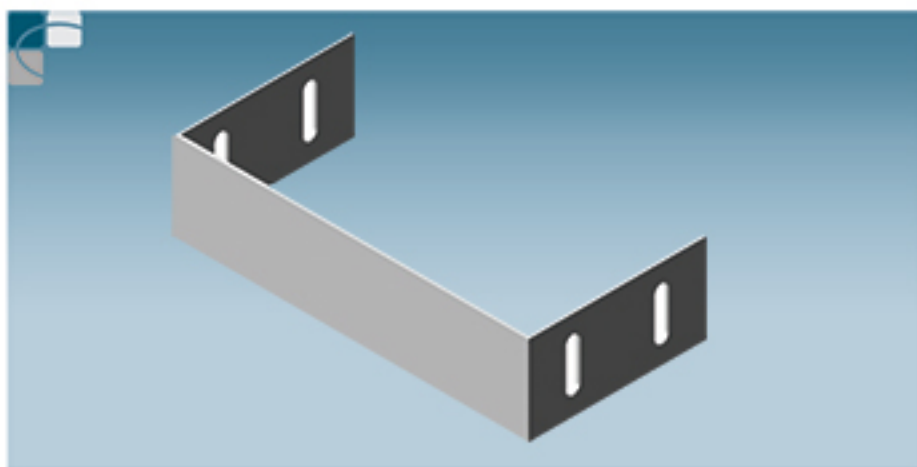
## CONNECTORS



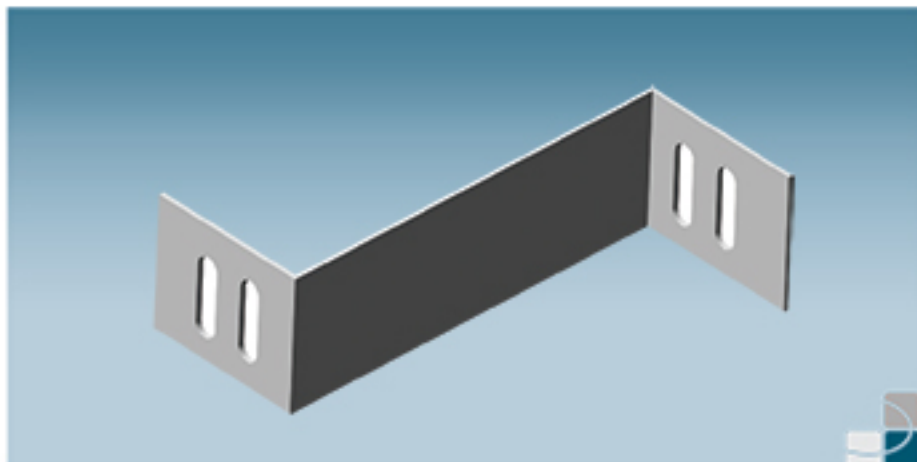
Standard Connector



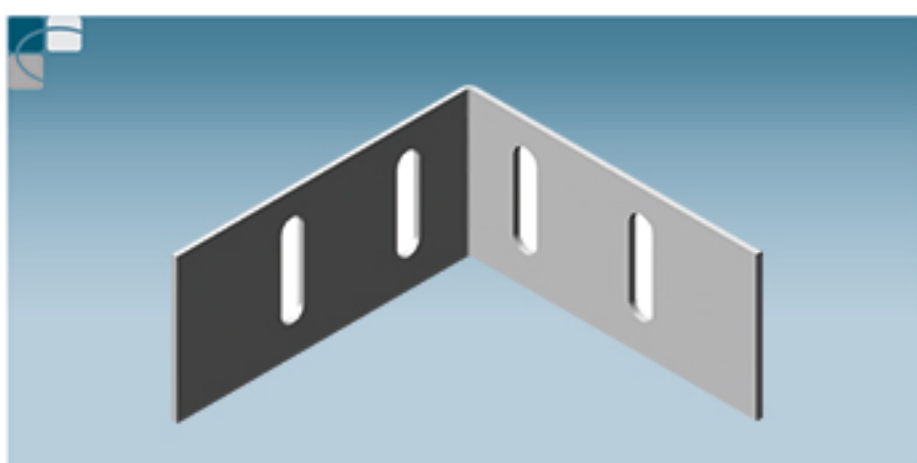
Adjustable Vertical Connector



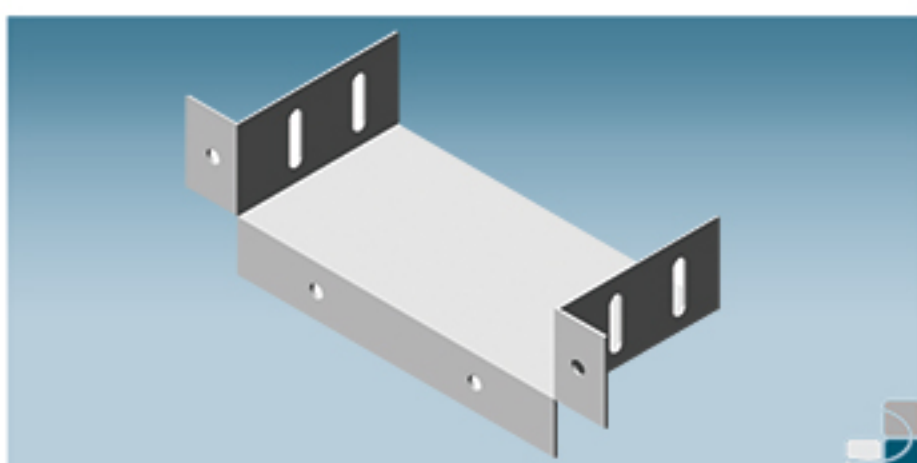
Blind End Connector



Reducing Connector



Right Angled Connector

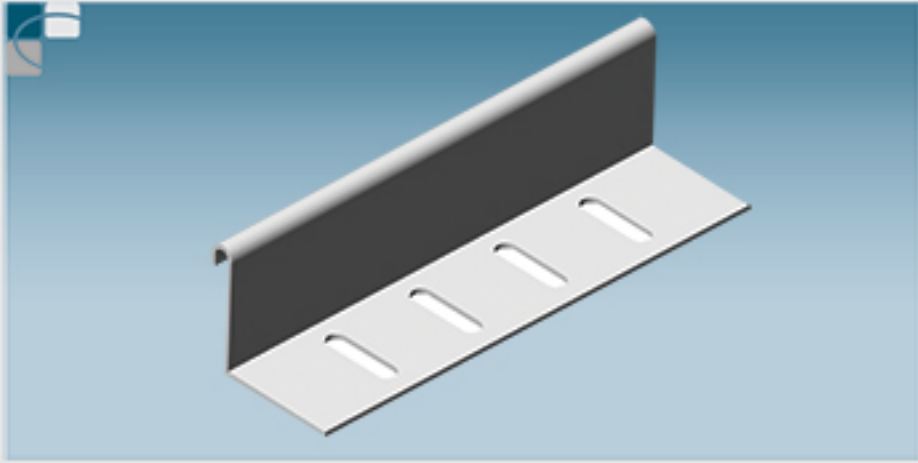


Box Connector

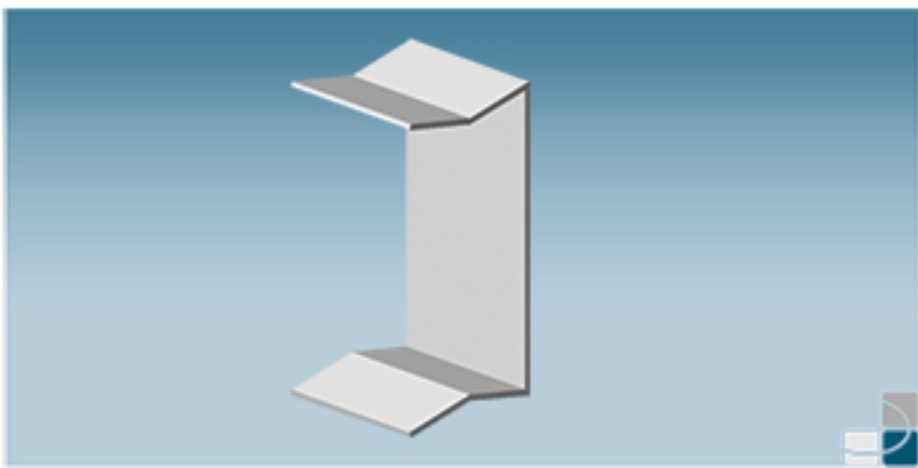


## ACCESSORIES

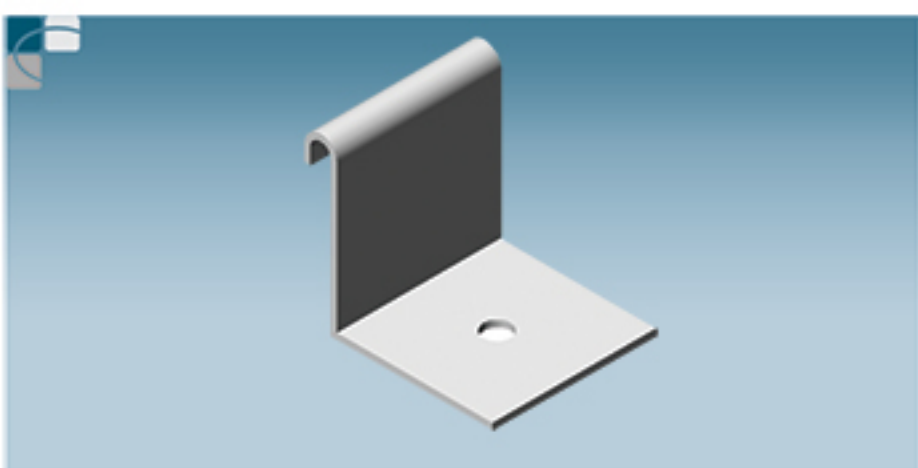
Devices which are used to supplement the function of straight sections and fittings.



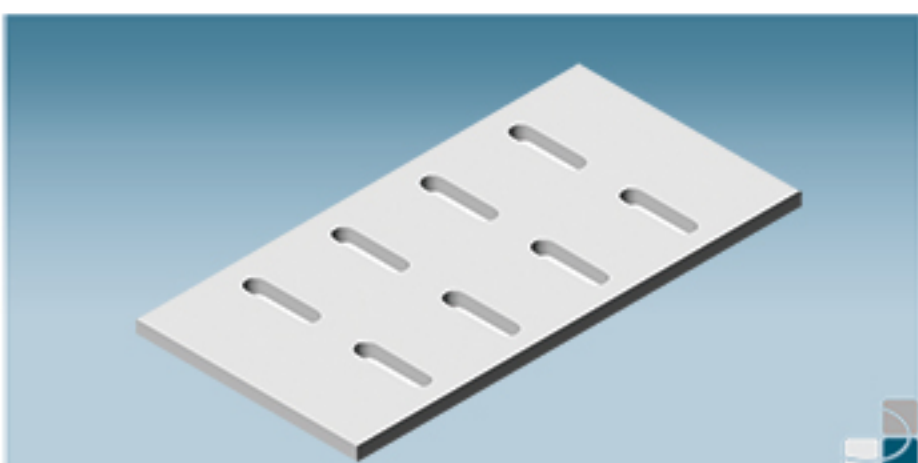
Barrier Straight



Cover Clamp



Hold Down Clamp



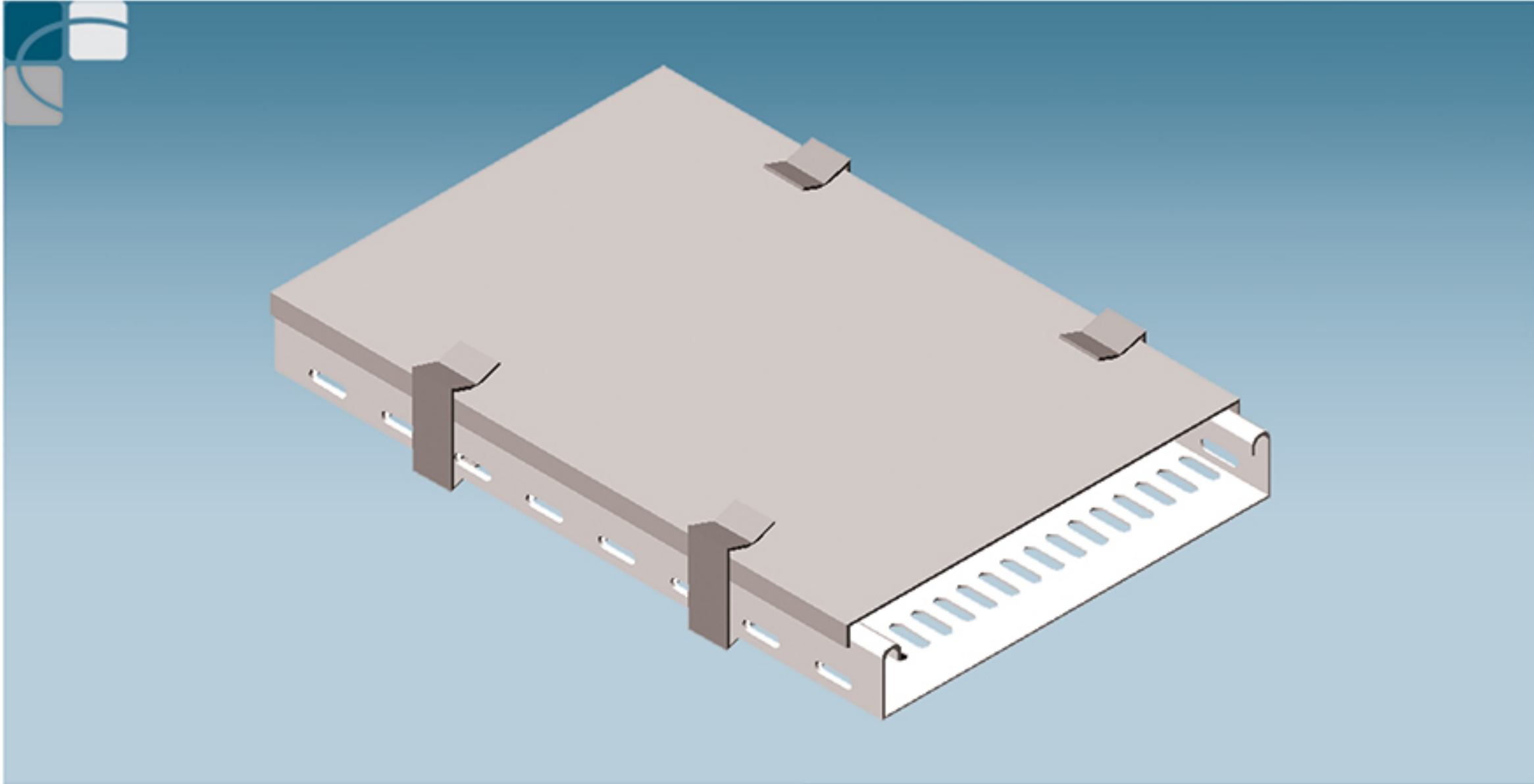
Fish Plate

## CABLE TRAY COVERS

Cable Tray covers are provided with two types. listed down are the classifications.

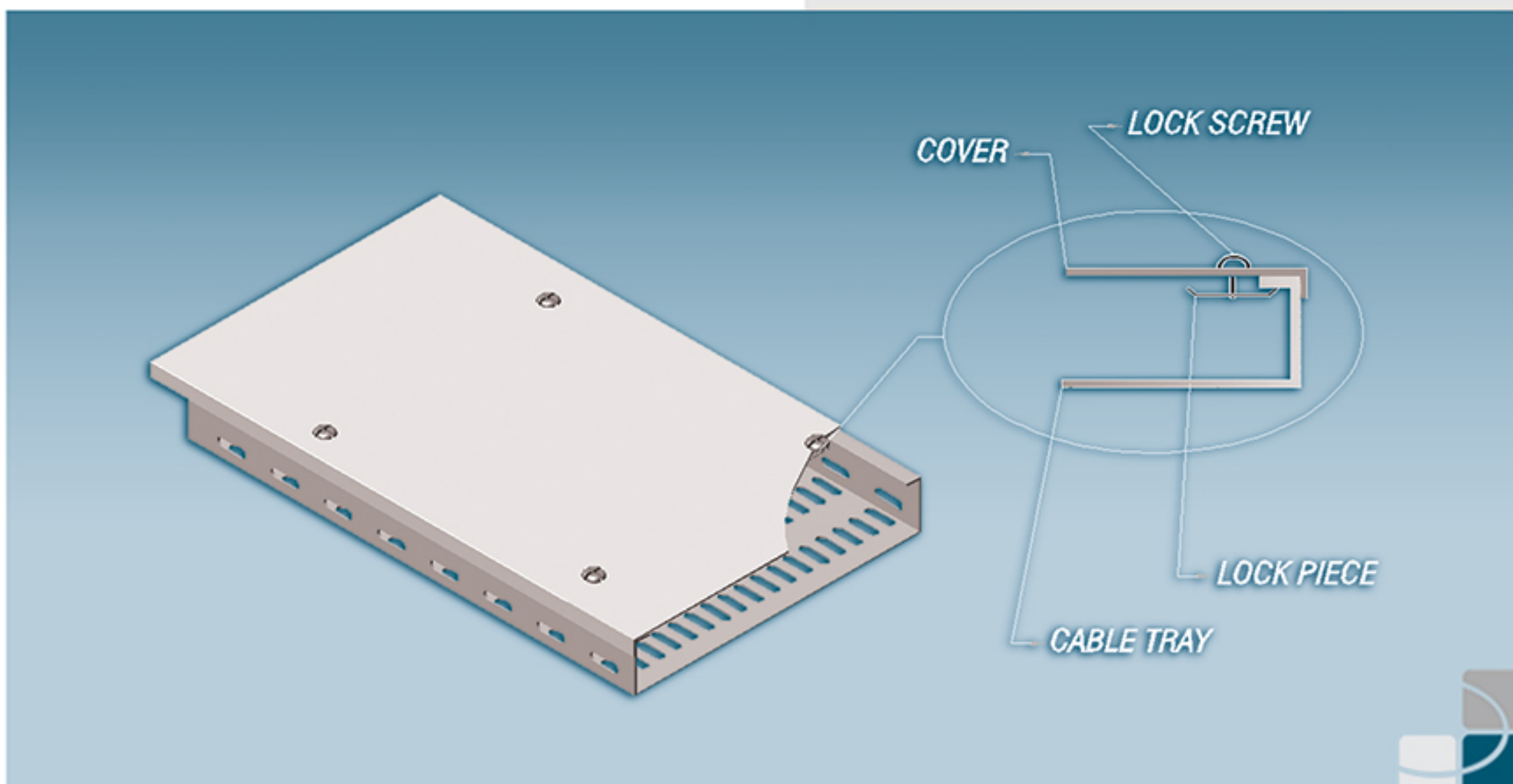
### Clamp Type

Suitable for outside, inside return flange (ORF),(IRF) and 90 degrees outside flange (OF) cable tray types.



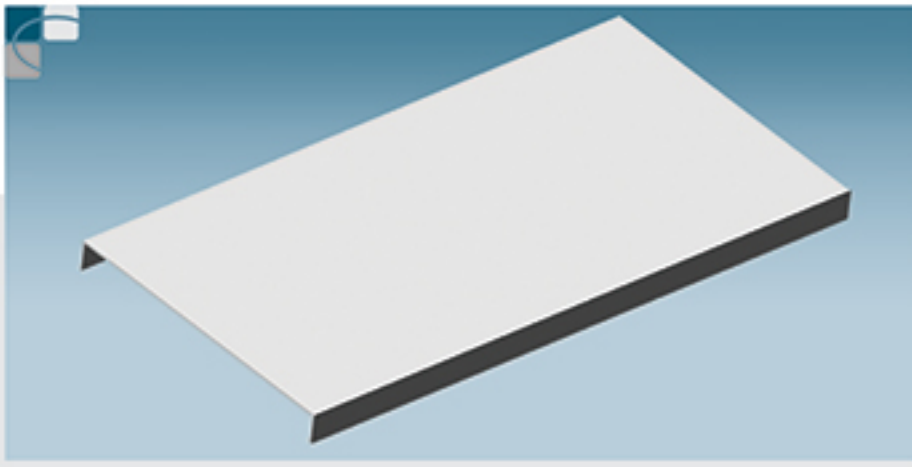
### Screw Lock Type

Suitable only for 90 degrees inside flange cable tray type (IF). The screw lock requires minimum rotation to fasten itself strongly.

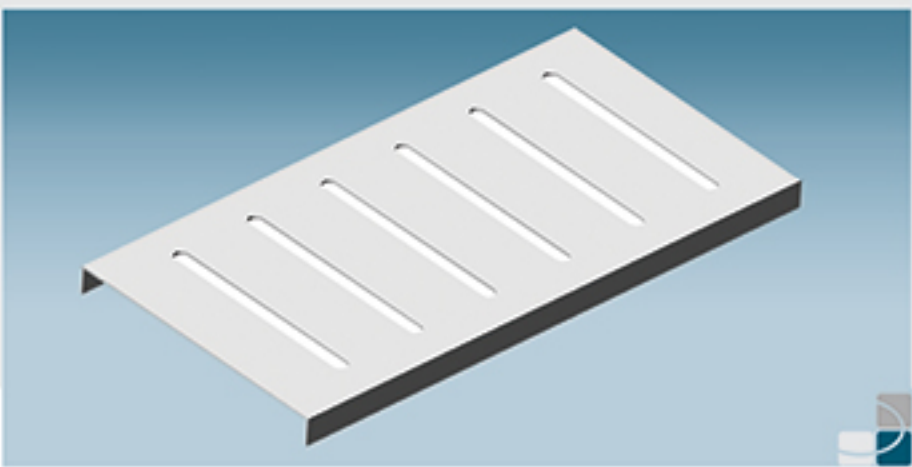




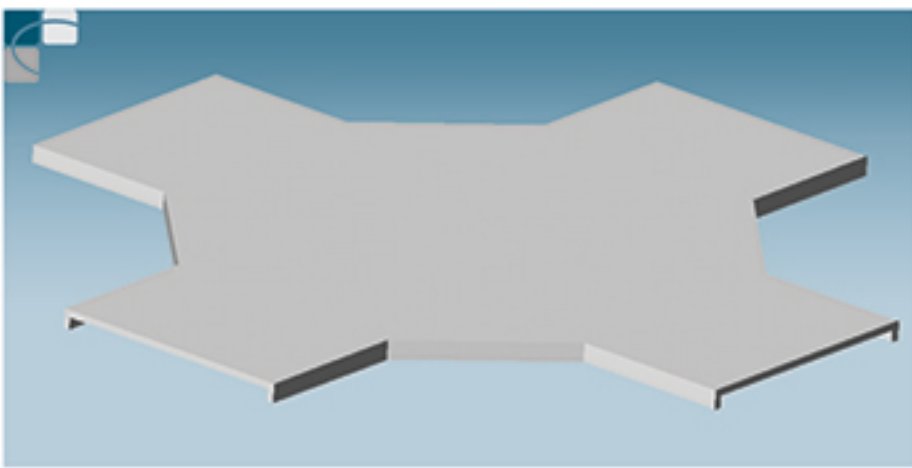
## COVERS FOR CABLE TRAYS & FITTINGS



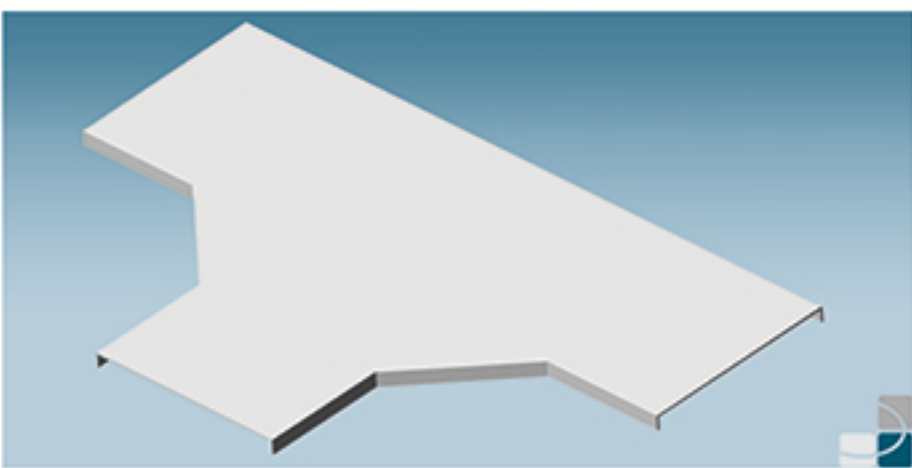
Flange Solid Cover



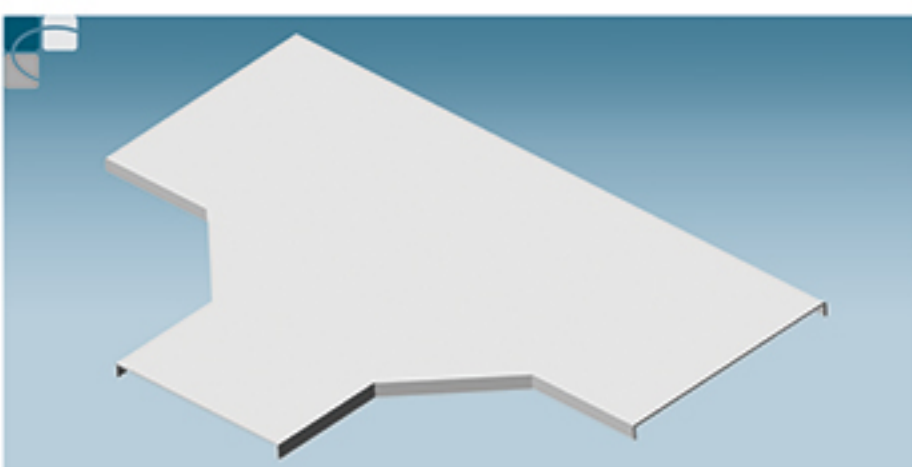
Flange Ventilated Cover



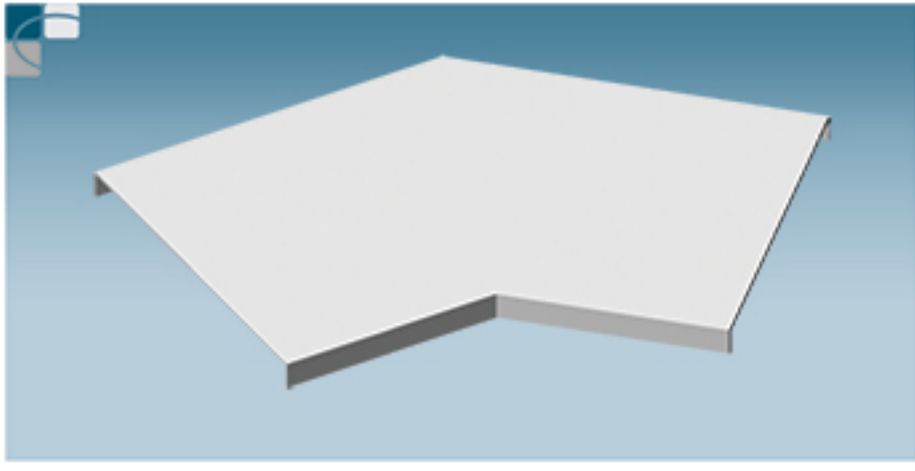
Cross Horizontal Cover



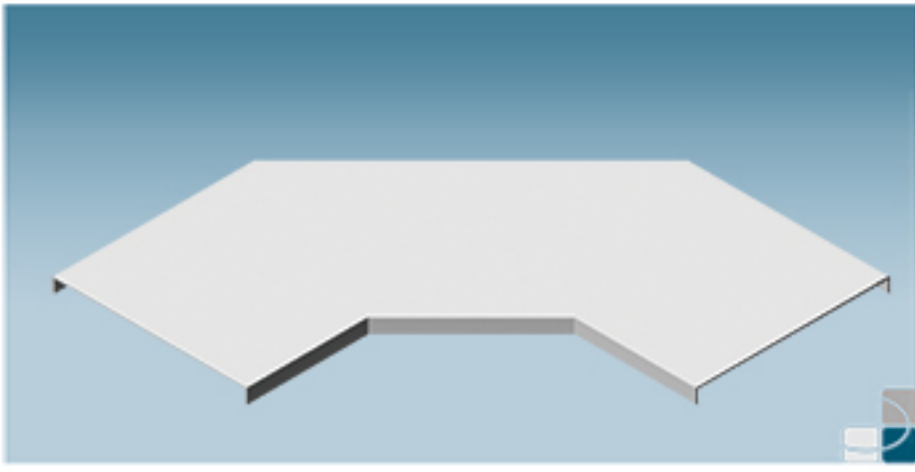
Equal T-Cover



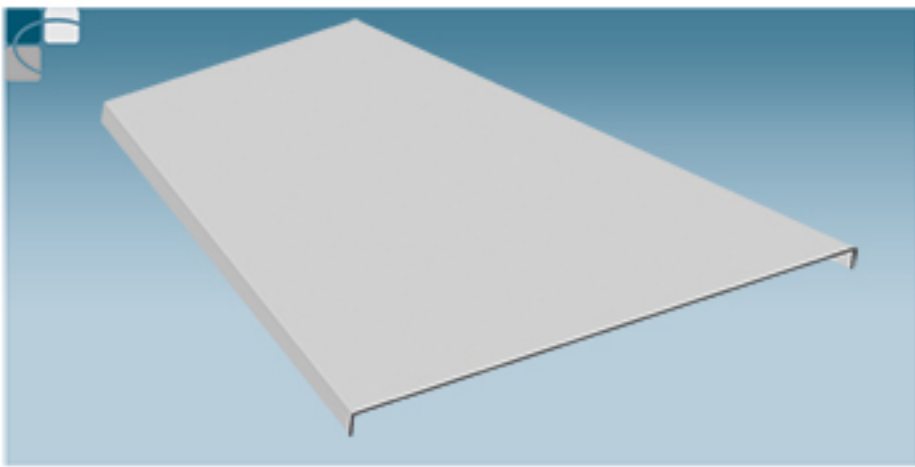
Un-Equal T-Cover



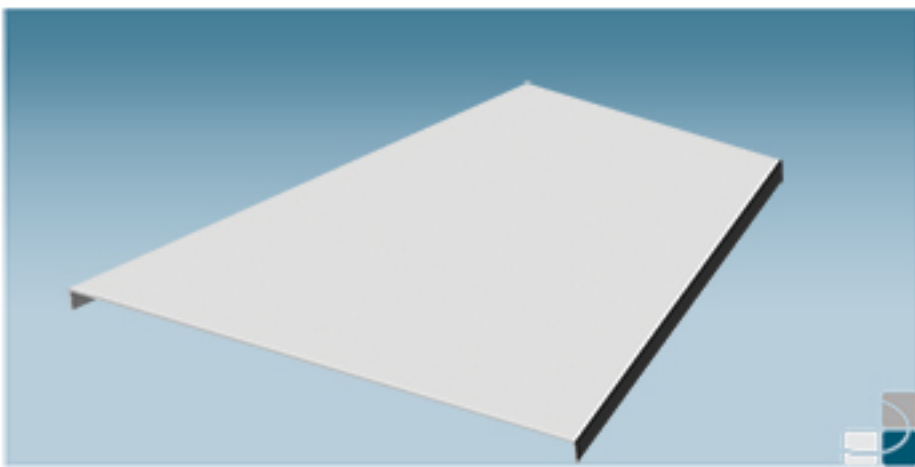
Elbow 45 Degrees Cover



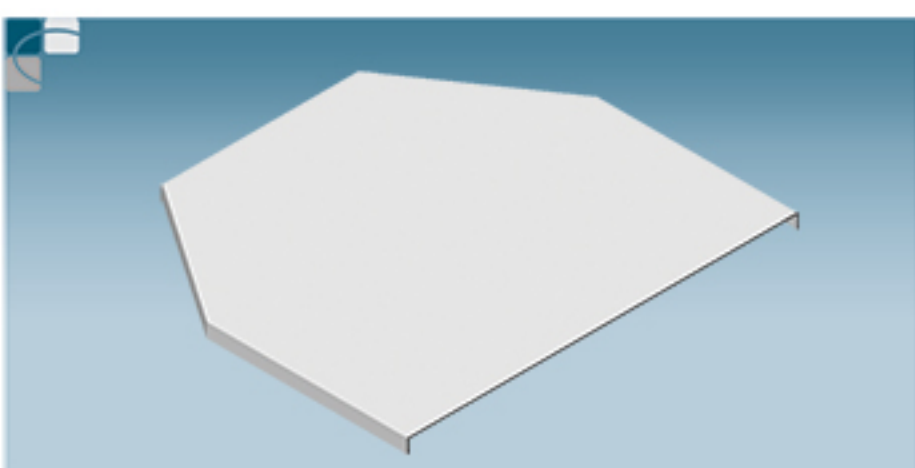
Elbow 90 Degrees Cover



Reducer Left Cover

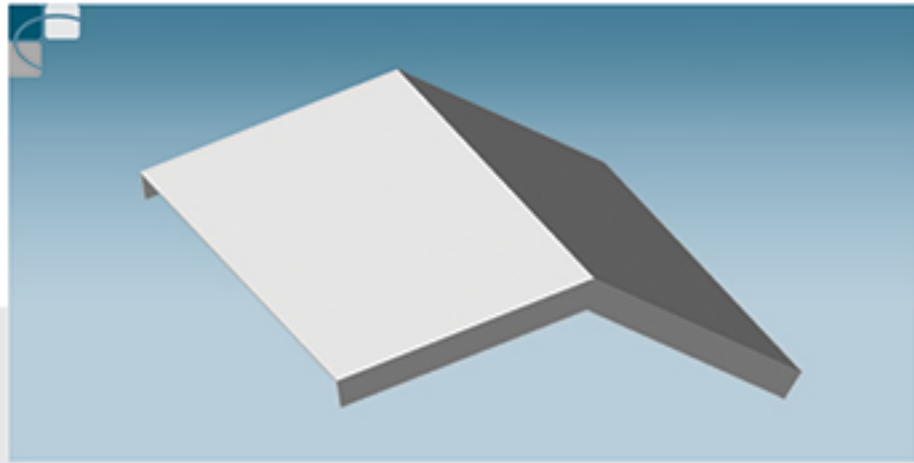


Reducer Right Cover

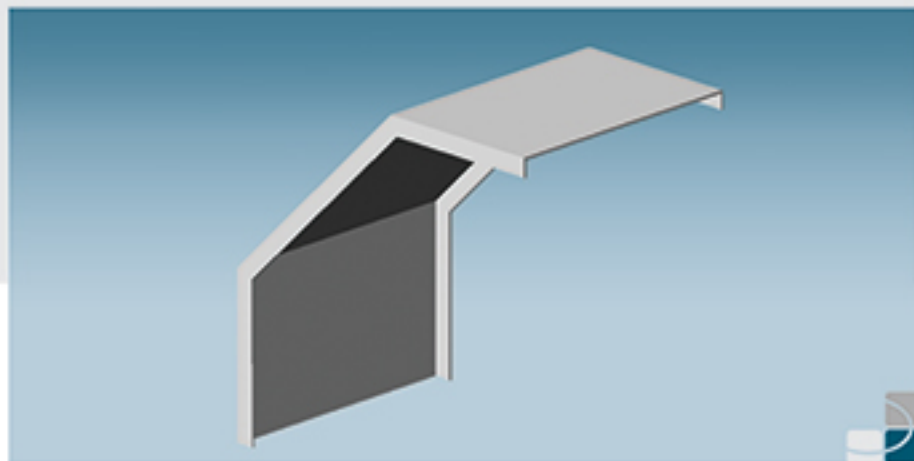


Reducer Straight Cover

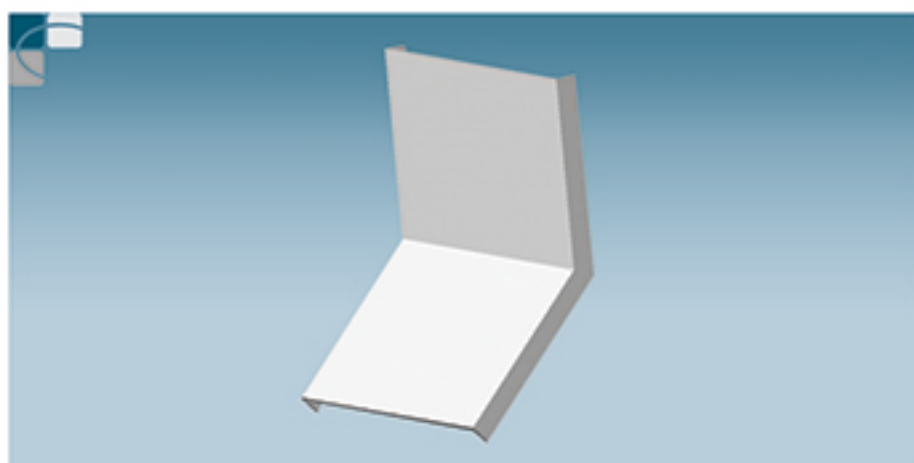




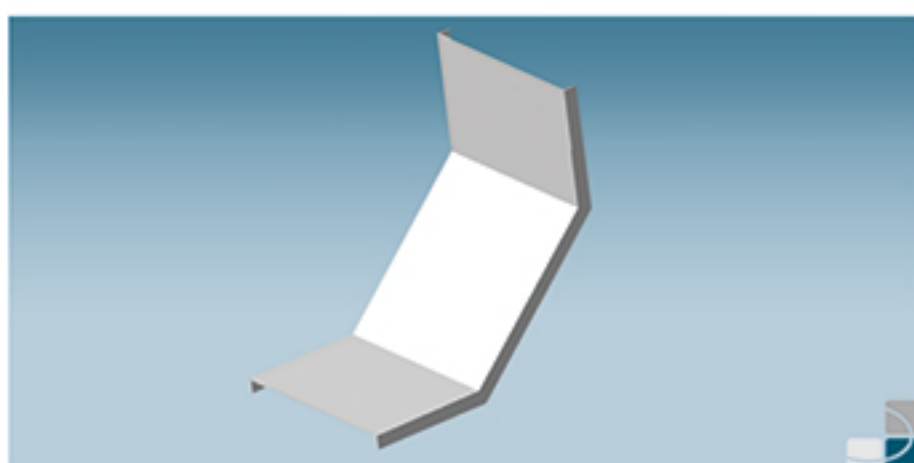
External Riser Cover 45 Degrees



External Riser Cover 90 Degrees



Internal Riser Cover 45 Degrees

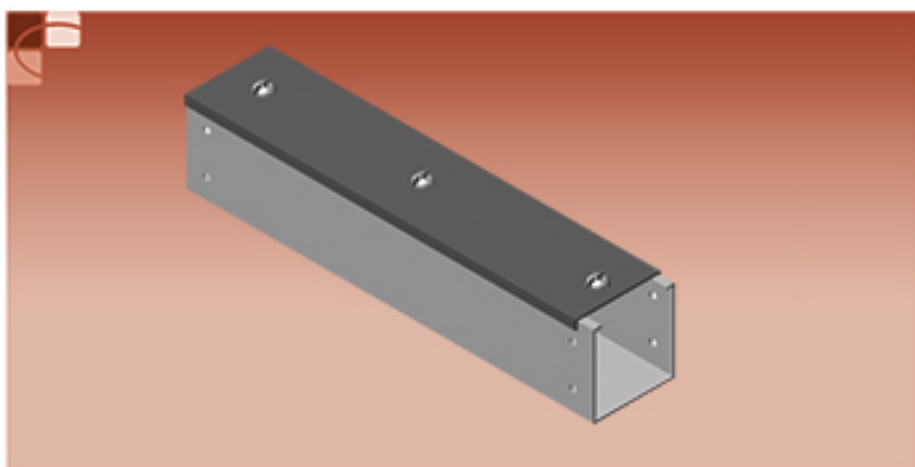


Internal Riser Cover 90 Degrees

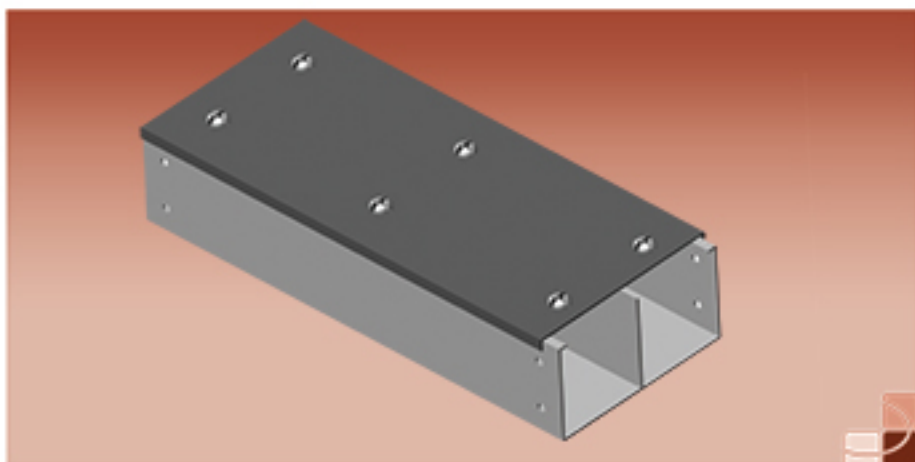
## CABLE TRUNKING

A length of covered cable trunking which has no change in direction or size. The covers are provided with locks require minimum rotation to fasten itself strongly.

Standard sizes of 3 meters and 2.44 meters are available in deferent types, such as Single Chamber and Multiple Chamber.



Single Chamber SC



Multiple Chambers MC

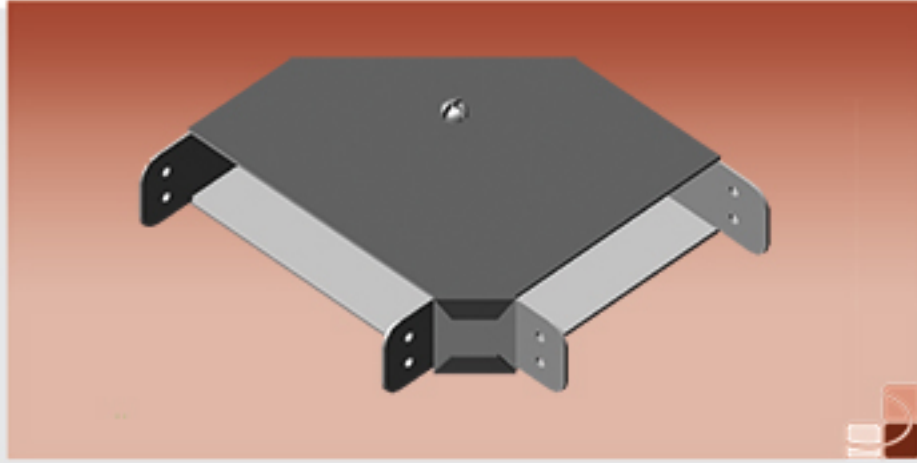
### DIMENSIONS

TYPE		LENGTH m		TWICKNESS mm	THICINESS mm	SIDE HEIGHT mm								
SC	MC	3.00	2.44	50	1.00	50								
SC	MC	3.00	2.44	75	1.20	50	75							
SC	MC	3.00	2.44	100	1.20	50	75	100						
SC	MC	3.00	2.44	150	1.50	50	75	100	150					
SC	MC	3.00	2.44	200	1.50	50	75	100	150	200				
SC	MC	3.00	2.44	250	1.50	50	75	100	150	200	250			
SC	MC	3.00	2.44	300	2.00	50	75	100	150	200	250	300		
SC	MC	3.00	2.44	350	2.00	50	75	100	150	200	250	300	350	
SC	MC	3.00	2.44	400	2.00	50	75	100	150	200	250	300	350	400

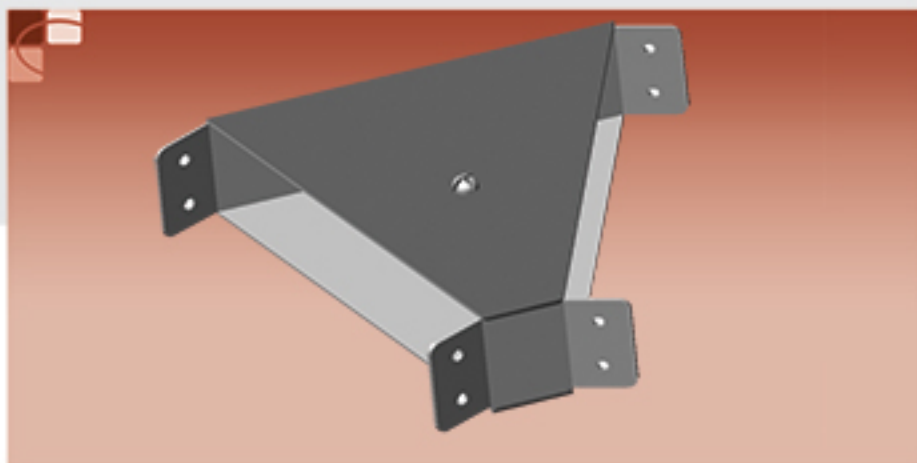


## CABLE TRUNKING FITTINGS

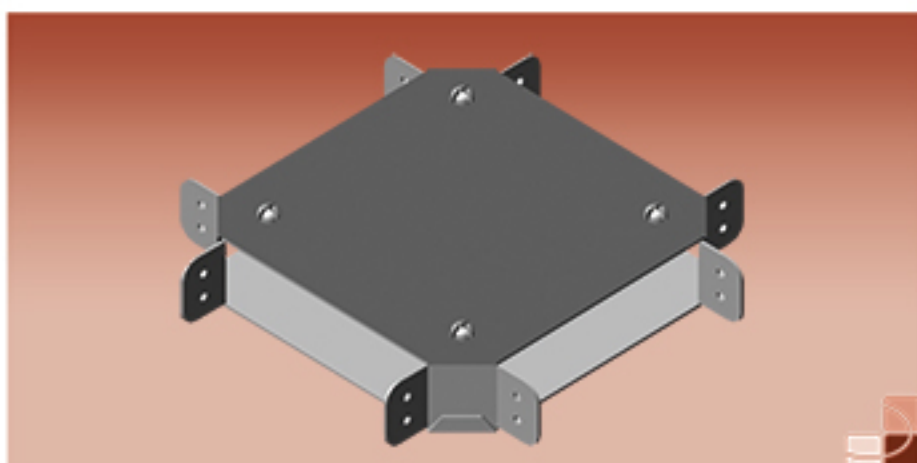
Devices which are used to change the direction or size of a cable trunking system.



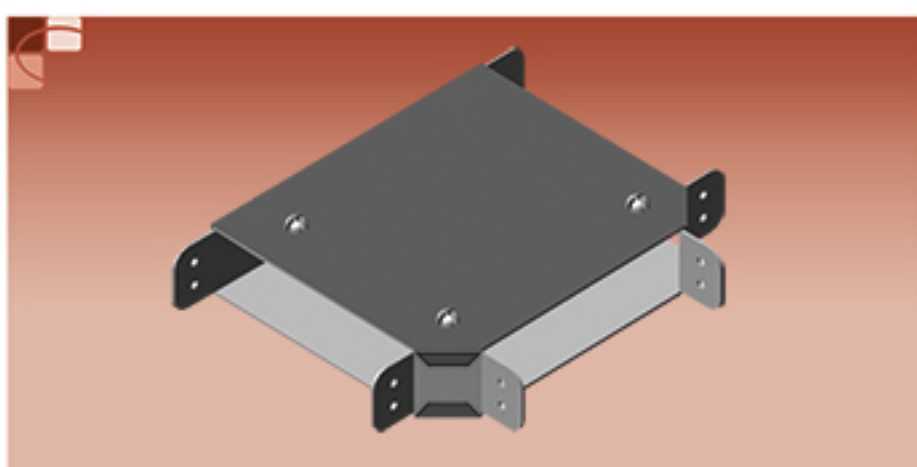
Bend Top Cover 90 Degrees



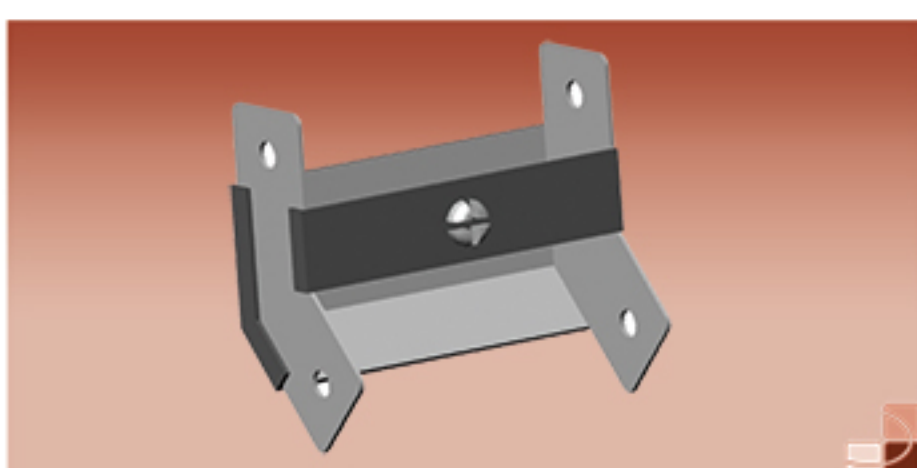
Bend Top Cover 45 Degrees



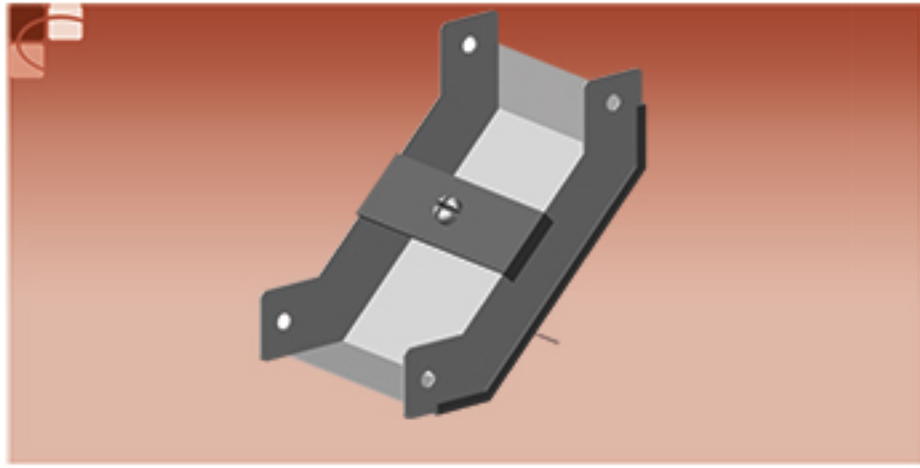
Cross Top Cover



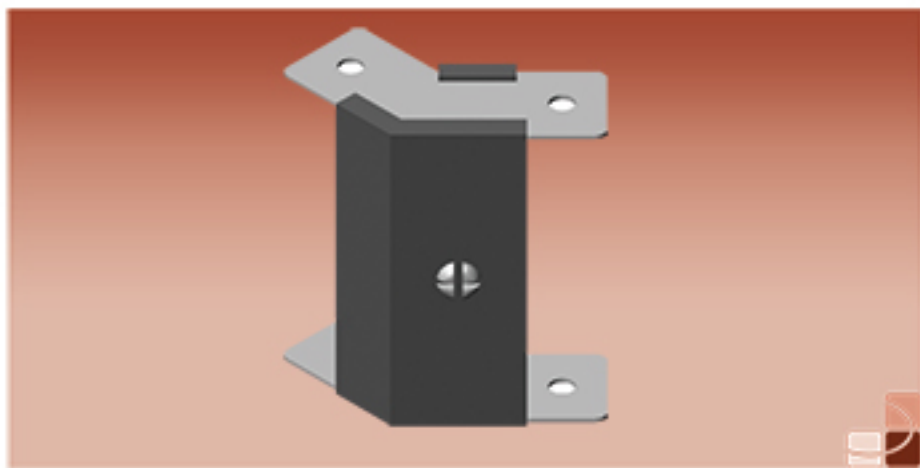
T-Top Cover



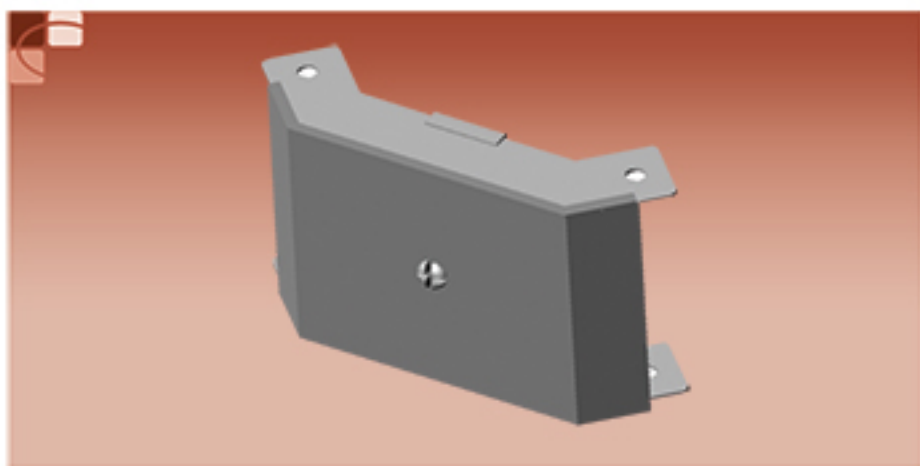
Bend Inside Cover 45 Degrees



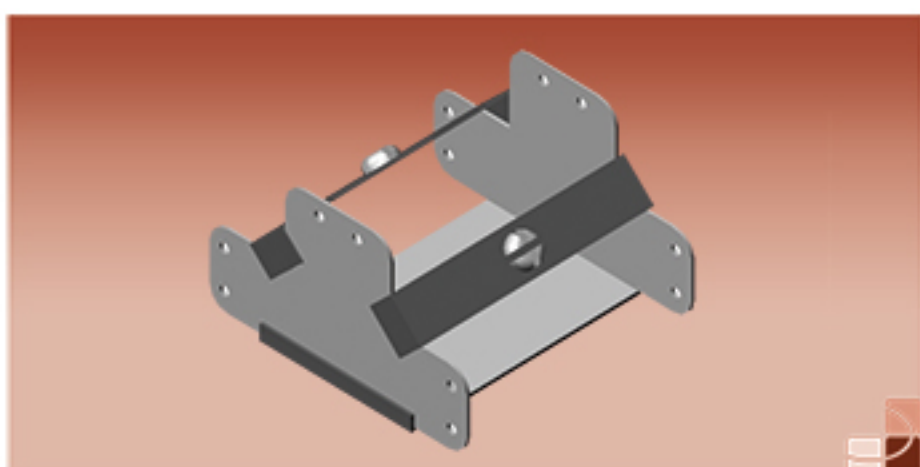
Bend Inside Cover 90 Degrees



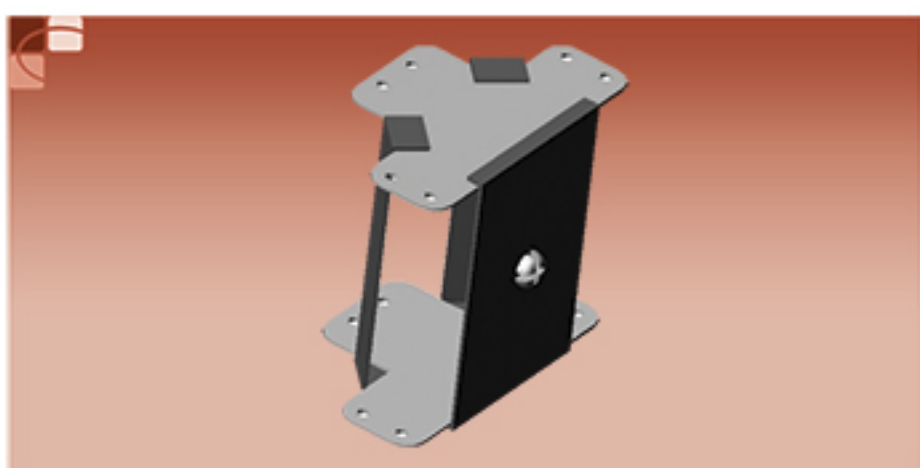
Bend Outside Cover 45 Degrees



Bend Outside Cover 90 Degrees

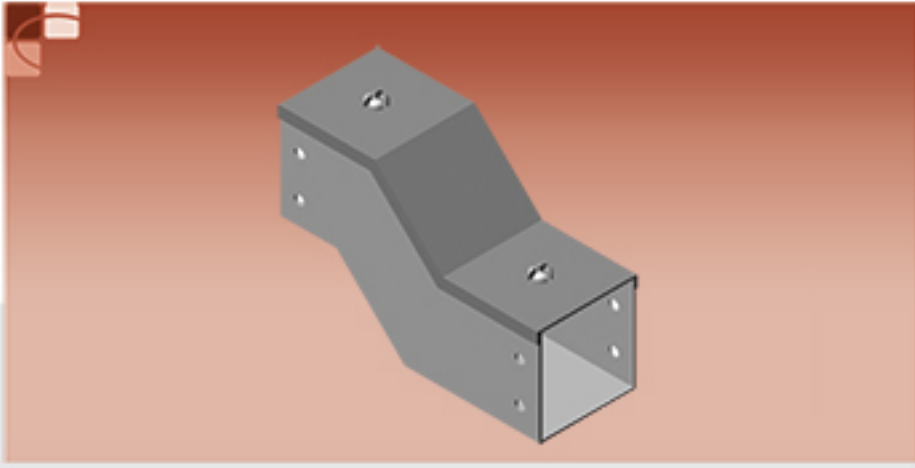


T-Inside Cover

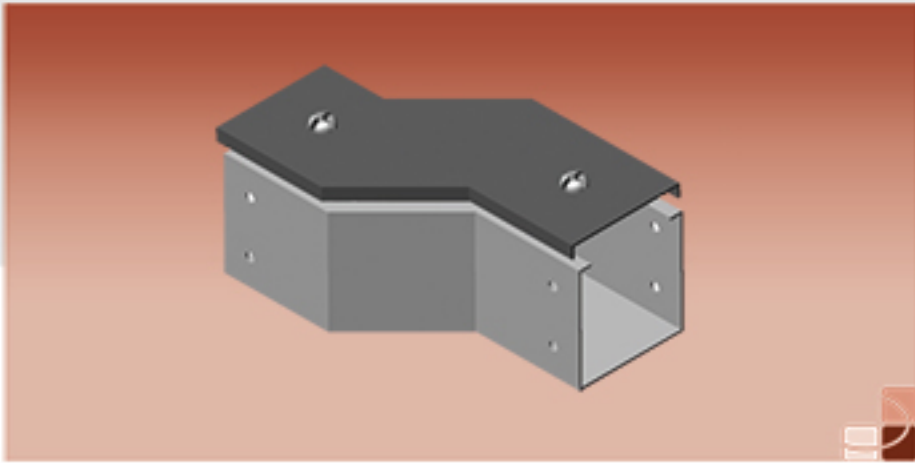


T- Outside Cover

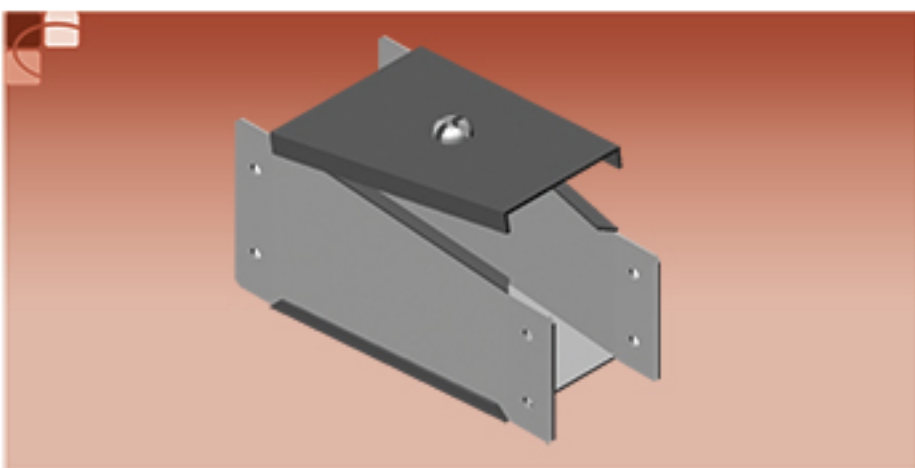




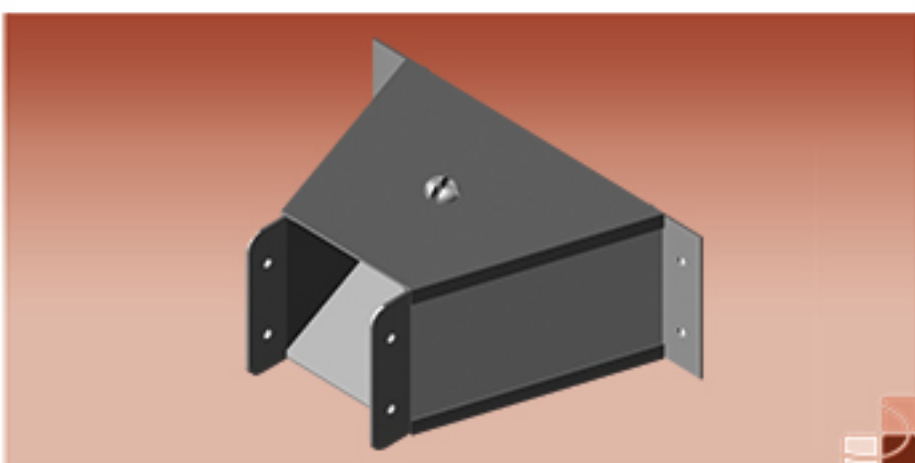
Offset Vertical



Offset Horizontal



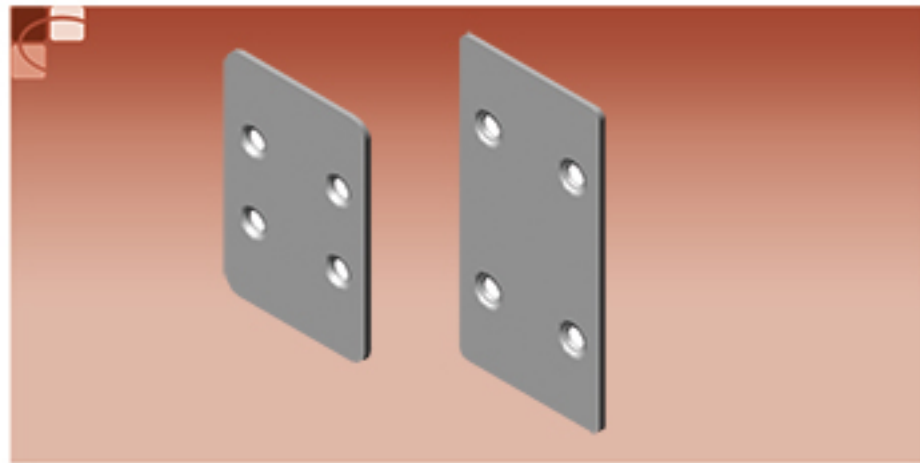
Reducer Straight



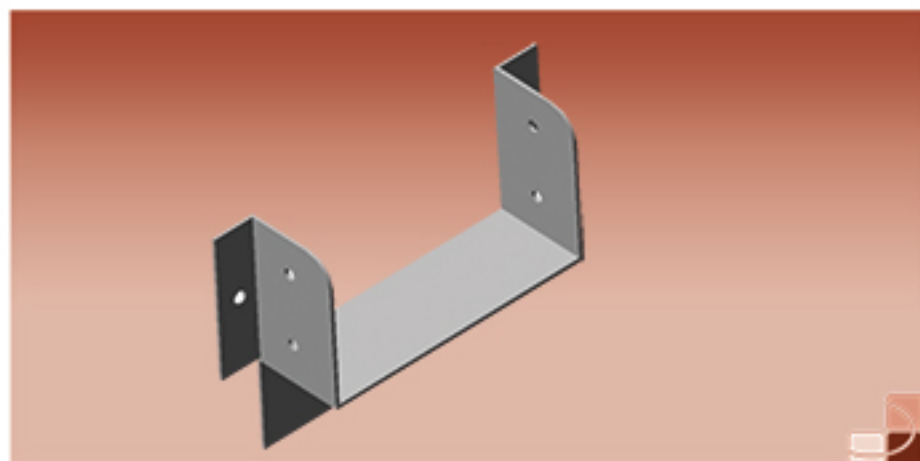
Ply Mouth

## CABLE TRUNKING ACCESSORIES

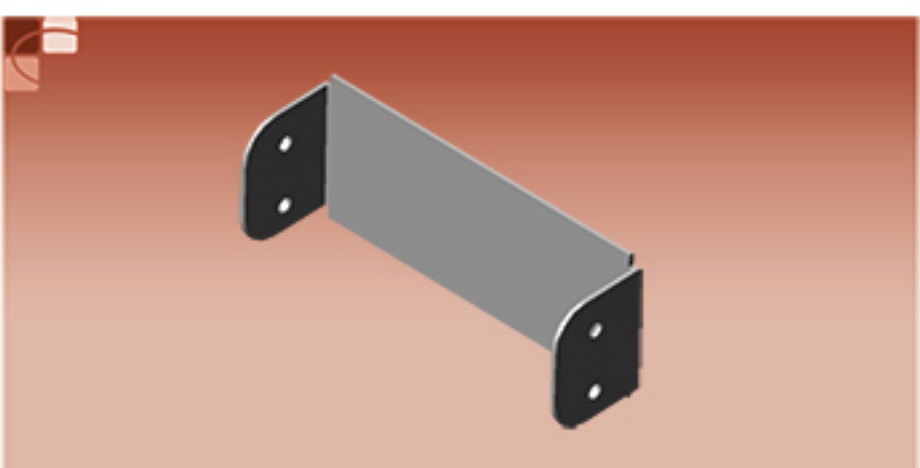
Devices which are used to supplement the function of straight sections and fittings or join cable trunking straight sections or fittings, or both.



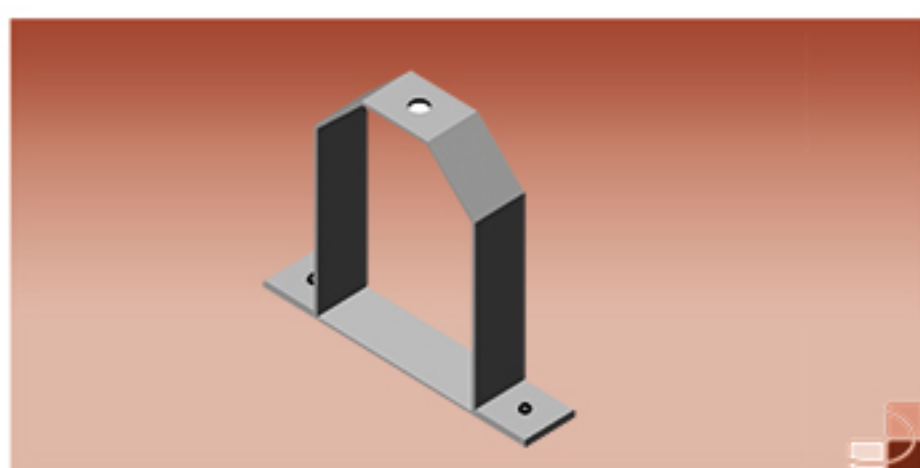
Connectors Standard



Box Connector



Blind End



Hanger