

Cable Management System

PERFORATED LADDER TRUNKING

Lines Metal Industries





Lines Metal Industries
Sister Company





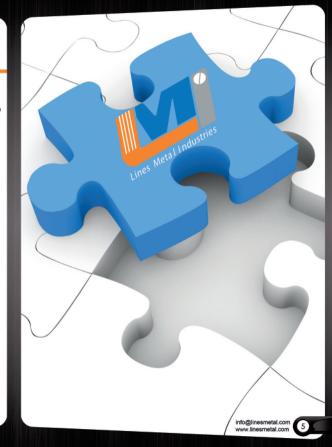
For Earthing & Lightining Protection

"Welcome to the Lines Metal Industries Cable trays Systems Catalogue, Our Catalogue designed to be help our costumers to select the right choice from cable trays systems products to meet them requirements in the application, constructions and maintenance,

"We looking forward to trusting us ,Our success is rooted in "listening to our customers" and using this knowledge to drive our new products development to be ready to manufacture special metal products not included in this catalogue as our custmomers requirements by a good quality and realistic cost ,,

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Technical Information Benefits of Cable Tray

Benefits of Cable Tray :-

Cable tray wiring systems offer significant advantages over conduit pipe and other wiring systems.

Cable tray is less expensive, more reliable, more adaptable to changing needs and easier to maintain. In addition, its design does not contribute to potential safety problems associated with other wiring systems.

An evaluation of the costs and benefits of various wiring systems should be done in the design phase. Unfortunately, many engineers who are unfamiliar with wiring systems avoid the system selection process or defer it until construction-often resulting in higher costs, scheduling delays and a system that will not meet future needs.

Selection of wiring system that is not the most suitable for a particular application in terms of cost, potential corrosion and electrical considerations can lead to numerous problems, including excessive initial cost, poor design, faulty installation, extra maintenance, future power outgaes and unnecessary safety concerns.

Cost :-

Extensive experience has shown that the initial cost of a cable tray installation (including conductor, material and installation labor costs) may be as much as 60% less than a comparable conduit wiring system.

Cable tray system, including trays, supports, fittings and other materials, are generally much less expensive than conduit wiring systems. In addition, major cost savings are generated by the relative ease of installation. Labor cost of installing a cable tray system can run up to 50 % less. Total cost savings will vary with the complexity and size of the installation.

Reliability :-

Cable tray systems offer unsurpassed reliability, resulting in less need for maintenance and less down time-important considerations for all installations but especially for such industries as data communication and financial services.

In addition, since cable tray isn't a closed system, moisture build up problems are eliminated and damage to cable insulation during installation is also greatly reduced.

Adaptability :-

A major advantage of cable tray systems derives from their adaptability to new needs and technology. The pace of change in the economy, constantly shifting competitive pressures and rapid introduction of innovative technologies are all accelerating. More than ever before, businesses must be prepared to quickly expand facilities; change products are introduce new processes.

Modifying a cable tray system or adding cables to meet new needs is relatively easy because cables can enter or exit a tray of any point. And initial design considerations can build-in extra capacity as part of the planning process. Cable tray's inherent adaptability allows rewifing for future expansion. building redesign or new technologies without disruption or need to replace the entire wiring system.

Technical Information Benefits of Cable Tray

Maintenance :-

Cable tray wiring systems require less maintenance than conduit systems. When maintenance is necessary, it is easier, less time-consuming and less labor intensive.

The physical condition and status of both the cable tray and the tray cables can be inspected visually, something that is not possible with conduit systems. In addition, it is also easy to see if there is sufficient capacity in the trays for additional cables. As was noted above, changing or adding cables can also be accomplished without difficulty.

Another comparative benefit of cable tray systems is that they do not act as channels of moisture paths, as conduit wiring systems do. Conduit systems tend to collect condensation resulting from changes in temperature and then channel the moisture to electrical equipment, where it can lead to corrosion and failure.

Cable tray and tray cable are also less susceptible to fire loss than conduit. An external fire usually results in damage to only a few feet of a cable tray system, while wire insulation inside a conduit suffers significant damage and thermoplastic insulation may actually fuse to the conduit.

Safety:-

Cable tray wiring systems lack the inherent safety concerns of conduit systems.

By its nature, a conduit wring system can serve as a flow-through for corrosive, explosive and toxic gases in the same way that it channels moisture.

The conduit installation process can also present a safety issue for electricians. The process requires that a conduit system be installed from one enclosure to another before pulling in the conductors, leaving the electricians exposed to any live.

energized equipment that may be in the enclosures. In contrast, installers can pull tray cables from near one termination

enclosure to the next before they are inserted into the enclosures and then terminated.

Finally, in installations where cable tray can be used as the equipment grounding conductor (per NEC standards), it is easy to visually check the system components as well as conduct checks for electrical continuity.

Technical Information Cable Tray Selection

How to Select Cable Tray :-

A number of basic decisions must be made before a cable tray system can be specified. It is our pleaser to develop a simple Six-step process to guide you in the process:

- 1-Select Material and Finish
- 2-Select the Tray Class / Load Capacity (loading)
- 3-Select the Tray Type
- **4-Select the Tray Dimensions**
- 5-Select the Fittings
- 6-Consider Deflection

For many applications, however, you may also have to take the following into account:-

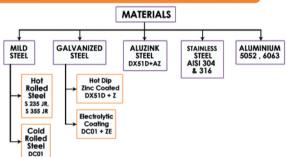
- Weight of the installation, which affects the cost of the support structure and the ease of installation.
- Corrosion resistance of the material is one of the most important selection criteria. Cable tray materials may not respond the same way in different environments. Chemicals or combinations of chemicals have corrosion effects on some materials that can be compounded by temperature or even the speed at which the corrosive elements contact the cable tray. For example, some grades of stainless steel may be resistant to salt water at high flow rates (perfect for heat exchangers), while exhibiting some corrosion pitting in standing salt water. Only the designer can quantify the various elements that affect the corrosion resistance of the cable tray system in a specific application.
- Galvanic effect can cause corrosion even if the cable tray material is resistant to its
 chemical environment. Dissimilar metals in contact (e.g., aluminum tray on steel supports or
 bare copper bonding conductor in aluminum tray) in the presence of an electrolyte are
 susceptible to galvanic effect. If there is a hazard of galvanic corrosion, it may be possible
 to isolate the tray system from other metals instead of using a more expensive type of tray
 that would resist corrosion in a given application.
- Melting point and flammability rating are primarily concerns for non-metallic tray. Local building codes may restrict the use of a given product if certain performance levels are not met.
- Relative cost varies dramatically, including material costs that float with the commodity index. For example, stainless steel prices may vary significantly according to daily changes in the market.

Technical Information Materials and Finishing

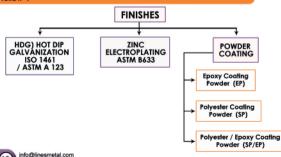


Technical Information Materials and Finishing

The Materials Specification and kinds that used in our industries divided as follow:



The Finishes Specification and kinds that used in our industries divided as follow:



Technical Information Materials

1. MILD STEEL

1.1 Hot Rolled Steel / S235 JR,S355 JR As Per Below Standards:-

Euro Norm	Euro Norm	Euro Norm	Germany	U.K.	France	USA	USA
EN 10025- 2	EN 10025:1990 +A I: 1993	EN 10025:1990	DIN 17100:1983	BS 4360:1996	NF A 35-501	ASTM A283M (A633M)	ASTM A 1011 -01A CS
S 235 JR	\$ 235 JRG2	Fe 360 B	RST 37-2	40 (A) B	E24-2	Grade C&D	SS Grade 33
S 355 JR	\$ 355 JR	Fe 510 B	St 52 -3	50 B	E36-2	с	SS Grade 50

Japan	Japan	China	India	Inter- national
JIS 3101	JIS 3106	GB 700 (GB/T 1591)	IS	ISO
SS 400	SM 400 A	Q 235 B	IS 226	E 235 B
SS 490	SM 490 A	Q 345 B	IS 961	E 355 C

Mechanical Specifications:

Name	Grade Number	YieldStress ReN/mm²	Tensile Strength Rm N/mm²		
S 235 JR	1.0037	≥ 235	360 - 510	27	20
S 355 JR	1.0045	≥ 355	510 - 680	27	20

For Clarify what is S 235 JR or S 355 JR Code Mean?

Structural Steel .

235 Minimum yield strength in N/mm² or MPA.

Flat products , longitudinal charpy v-notch impact strength class 27J at 20 °C .

1.2 Cold Rolled Steel / DC01
As Per Below Standards:-

Euro Norm	Germany	U.K.	France	Italy	USA	Japan	India	China
EN 10130	DIN 1623, Part 2	BS 1449, Part 1	NF A 36-401	UNI 5866	ASTM A366	JIS G 3141	513/94	GB 699-88
DC01	\$T12 (Fe01)	CR4	F12	Fe P01	SAE 1010	SPCC	-	Grade 08/08F

Mechanical Specifications:

Name	Grade No	Yield Stress Re N/mm²	Tensile Strength Rm N/mm²	Fracture Elongation A 80%	
DC 01	1.0330	140 - 280	270 - 410	≥ 28	l

Surface Quality (S.Q):

Euro Norm	Germany	U.K.	France	Italy	USA
EN 10130	DIN 1623, Part 2	BS 1449, Part 1	NF A 36-401	UNI 5866	ASTM A366
A Normal S.Q	3	GR General Purpose	х	МА	Class 2
B Best S.Q	5	FF Full Finish	z	МВ	Class 1

Surface Finish (S.F): Matt Finish / Bright Finish

Surface Treatment :

P	PC	PO	С	CO	0	U
Phosphates	Phosphates & Chemically Passivity	Phosphates & Oiled	Chemically Passivity	Chemically Passivity & Oiled	Oiled	Untreated

Technical Information Materials

2. GALVANIZED STEEL

2.1 Continuously Pre-Galvanized Hot-Dip Zinc Coated / DX 51D+Z As Per Below Standards:

Euro Norm	Germany	U.K.	France	Italy	USA	USA	Japan	India
EN 10327 (EN DIN / EN BS)	DIN 17162/1	BS 2989	NFA 36-421	UNI 5753	ASTM (OLD)	ASTM (AMENDMENT)	JIS G 3302	IS
DX 51 D + Z	St 02 Z (Fe P02 G) Z	72	RST 37-2GC	Fe P02 G	A 527 M	E24-2A 653-LFQ	SG CD1	D

Mechanical Specifications:

11100111	moonamour opcomounour									
Steel Grade			Tensile Strength Rm N/mm²	Fracture Elongation						
DX51 D + Z	1.0226	140	270 - 500	≥ 22						

Coating Thickness:

Euro Norm	Germany	U.K.	France	Italy	USA	Japan
Z 100	100	G 100 (100 g/sqm)	Z 100	Z 100	G40	Z 12 (120 g/sqm)
Z 120	-	-	-	-	-	-
Z 140	-	-	-	-	-	-
Z 200	200	G 200 (200 g/sqm)	Z 200	Z 200	G60	Z 18 (180 g/sqm)
Z 225	-	-	-	-	-	-
Z 275	275	G 275 (275 g/sqm)	Z 275	Z 275	G90	Z 27 (270 g/sqm)
Z 350	350	G 350 (350 g/sqm)	-	Z 350	-	Z 35 (350 g/sqm)

2.2-Electro Galvanized Steel / DC01+ZE,

As Per Below Standards:

Euro Norm	Euro Norm	Germany	U.K.	France	Italy	USA	Japan	Japan
EN 10152	EN 10152-92	DIN 17163-88	BS 1449/1	NF 36-401	UNI 5866	ASTM A146	JIS G 3313	JIS G 3141
DC01+ZE	Fe PO1 ZE	St 12 ZE	CR 4	С	Fe P01	A591 - CQ	SECC	SPCC

Mechanical Specifications:

Name	Grade Number	Yield Stress Re N/mm²	Tensile Strength Rm N/mm²	Fracture Elongation A 80%
DC 01 + ZE	1.0330	140 - 280	270 - 410	≥ 28

3. ALUZINK STEEL:

3.1-Aluzink Steel / DX51D + AZ,

Ma FUI I	us.	
Euro Norm	Germany	USA
EN 10215 /10143	DIN 55928/8	ASTM A792
DX 51D + AZ	-	-

Aluzink Layer:

Weight Class	Aluzink Welght (g/sqm), Sum of both sides					
	Triple spot test	Single spot test				
AZ 100	100	85				
AZ 150	150	130				
AZ 165	165	150				
AZ 185	185	160				
AZ 200	200	170				

Surface Treatment:

Sunace			
С	0	s	со
Chemically Passivity	Olled	Anti finger print (ALC-Surface)	

Technical Information Materials

4.STAINLESS STEEL

A-Austenitic Stainless Steels / AISI 304 & 316

As Per Below Standards:

- EN 10088-2/ ASTM A240 / ASTM A480 / ASTM A666

USA	Euro Norm	Germany	U.K.	France	Italy	Japan
ASTM A240 AISI	Steel Name EN 10088-2	DIN Steel NO.17440	BS 1449, Part 2	AFNOR	EN 10088-2	JIS G 4304
304	X5 CrNi 18-10	1.4301	304\$15	Z6CN 18.09	X5 CrNi 18-10	SUS304
304 L	X2 CrNi 19-11	1.4306	304511	Z2CN 18.10	X2 CrNi 18-11	SUS304L
316	X5 CrNi MO 17-12-2	1.4401	3016531	Z6CND 17.11	X5 CrNi MO 17-12	SUS316
316 L	X2 CrNi MO 17-12-2	1.4404	316511	Z2CND 17.12	X2 CrNi MO 17-17-12	SUS316L

Mechanical Specifications:

ASI	Minimum 0.2 % Ultimate Tensile Strength Rm (N/mm²)		Tensile/ Compression (N/mm²)	Share (N/mm²)					
304	210	520-720	140	93					
304 L	185	485-650	133	89					
316	220	520-670	146	97					
316 L	200	500-670	146	97					

Notes:

Type 304 - the most common grade; the classic 18/8 stainless steel. Also referred to as "A2" in accordance with ISO 3506

Type 304L - the 304 grade but specially modified for welding.

Type 316 - the second most common grade (after 304), alloy addition of molybdenum prevents specific forms of corrosion, also referred to as "A4" in accordance with ISO 3506.

Type 316L - the 304 grade but specially modified for welding.

5.ALUMINIUM 5052 & 6063 :-

Aluminum is on eof the most abundant metals and therefore cost - efficient.

High strength - to - weight ration combined with extraordinary corrosion resistance and flexibility make aluminum a desirable solution to product design.

5.1-ALUMINIUM / 5052 :-

-5052 is the alloy most suitable to forming operations, with good workability and higher strength than that of the 1100 or 3003 alloys that are commercially available.

-5052 has very good corrosion resistance and can be easily welded . 54052 is not a good choice for extensive machining operations, as it has only a fair machine ability rating.

5.2-ALUMINIUM / 6063 :-

-6063 is often called architectural aluminum for two reasons: It has a surface finish that is far smoother than the other commercially available alloys. Its strength is significantly low (roughly half the strength of 6061), making it suitable for applications where strength is onto the foremost consideration.

-6063 is rated "Good" for forming and cold working operations. "Excellent" for anodizing, and "Fair" for machining.

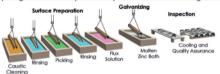
Technical Information

1.Hot Dip Galvanization (HDG) After Fabrication ISO 1461/ASTM A 123:-

The Hot Dip Galvanization process consists of dipping steel in melted **Zinc** at 450° Celsius temperature at which iron and zinc share great affinity, and allowing an alloy to form where pure zinc prevails to the outside.

Due to the difference of electrochemical potential between zinc and steel (cathodic protection), a zinc coating can protect steel in such a way that vigorous forces, such as cutting, scratching or piercing, are equally protected against corrosion.

What considerably affects the appearance and gauge of galvanization is contents of allowable elements that are generally present in steel: Carbon, Magnesium, and Silicon. If the contents of these elements increase, the coating gauge also increases and it becomes matte arev. The areatest effects is produced by silicon in concentration higher than 0.12%.



2.Zinc Electroplating After Fabrication ASTM B633 :-

The Zinc Electroplating is the most common, low cost, electroplated coating that is normally applied to ferrous components to give corrosion protection. The coating can be calored to give gold; black or olive drab coatings by post treatment. The relatively low cost, protective nature and attractive appearance of zinc make it a popular coating for nuis, bolts, washers, metal stampings and automotive parts, such as interior components and gas filters. In addition, zinc serves as an effective undercoat for paints when high corrosion performance is required.

Steps of Commercial Zinc Electroplating ProcessOn the commercial scale, zinc electroplating is done by the following steps.

1.Cleaning the surface, which is normally done in alkaline detergent type solutions, followed by acid treatments to

remove any rust or surface scale

2. Depositing zinc: The work is held on specially designed racks, immersed in a chemical bath containing dissolved zinc and a DC current is applied resulting in zinc being deposited on the work (cathode). Finished Products use alkaline zinc baths, which are more environmentally friendly and produce a more consistent zinc thickness especially in recesses.

3. Post treatment: This provides increased corosion protection to reduce the corosion of the deposited zinc. These coating can increase the time to white rust by 10 fold with the yellow giving the best results. Enished Products also apply sealers that are now commonly being specified by the automotive industry that further increase corosion protection and reduce fingerprinting.

3.Powder Coating:-

There are two main types of powder coating-Epoxy and Polyester, Or mix between them (Epoxy/Polyester):



Epoxy coating possess is very good chemical resistance excellent mechanical values such as

high elasticity or impact resistance. Epoxy powder are used for corrosion-resistant applications, they have no physiologically negative characteristics. One disadvantage is their tendency to "go chaliky" and turn yellow under external factors.

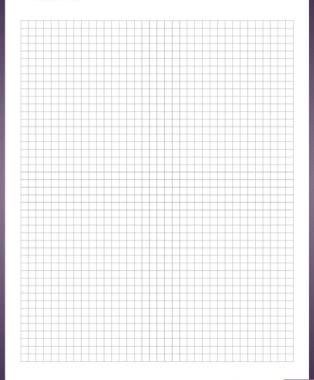
B- Polyester coating powder:

Polyester coating powders are weather proof and don not "go chalky" so they can be used out-doors, they have good mechanical properties such as blow and impact resistance and good adherence...

C- Polyester/Epoxy coating powder:

The mixing ratio between epoxy resin and polyester resin varies between 60/40 and 10/9 the resultant powder films are far more resistant to yellowing and less liable to "go chalky" and also was excellent mechanical qualifies.

NOTES



NOTES

Cable Tray

Perforated Type



Cable Tray Perforated Type System Design. Cable Tray Perforated Type Straight Section. Cable Tray Perforated Type Fittings Section:-



- Horizontal Elbow 90°
- Horizontal Elbow 45°
- Horizontal Cross
- Horizontal TEE
- Vertical Outside Elbow
- Vertical Inside Elbow
- Central Reducer
- Right Side Reducer
- Left Side Reducer

Cable Tray Perforated Type is a prefabricated metal structure consisting of a one-piece ventilated bottom channel section. Used for light and medium Power cables.

Side Shapes :-



Can provide side types shapes as below : -









C - Type Inside (CTI)

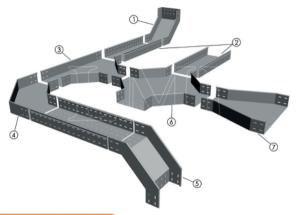
U - Shape Type (UST)

Thickness (T):-



Can provide material thickness as below:-

0.90 mm , 1.00 mm , 1.25 mm , 1.50 mm , 2.00 mm



Nomenclature :-

- Vertical Inside Elbow Cornered Type Perforated Cable Tray.
- Straight Section Perforated Cable Tray.
- Tee Section Perforated Cable Tray.
- (4) Horizontal Elbow Cornered Type Perforated Cable Tray.
- (5) Vertical Outside Elbow Cornered Type Perforated Cable Tray.
- 6 Cross Section Perforated Cable Tray.
- Reducer Section Perforated Cable Tray.

System Design Cable Tray Perforated Type

System Design

Cable Tray Dimentions :-

Base width (w), Side Height (H) & Length (L)





Shape of Fittings:-

Can provide Shape of Fittings as below:-





Inner Radius for Fittings (R):-



Can provide Inner Radius for fittings as below:-

R = 200 mm, 300 mm, 400 mm, 500 mm, 600 mm.



Straight Shape



Straight Section is a length of cable tray which has no change in direction or size

How to Order for straight Section?



Hot Dip Galvanized after fabrication perforated cable tray ,Straight Section , 100 mm width .50 mm side height. Thickness 1.5 mm. Click Lock Type . Length of Piece 3000 mm.

TPS	- BS	- 15	- HD -	CLT	- 4 -	2 -	300
Cable Tray Tyl Tray Perforat Straig! Type	BS: Black Steel	Materials Thickness (T) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 25:2.50 mm 30:3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coaling ZE: Zinc Electropiating HP: Hot dip Galv.+ Powder Coaling ZF: Zinc Electropiating PT: Zinc Electropiating + Powder Coaling	Side Type RFI: Return Flange inside U-Shape Type CTI: C-Type Inside CLT: Click Lock Type	Base Width (W) (INCH) 2" : 50 mm 3" : 75 mm 4" : 100 mm 6" : 1200 mm 10" : 250 mm 10" : 250 mm 10" : 250 mm 24" : 600 mm 24" : 600 mm 28" : 700 mm 32" : 800 mm 40" : 1000 mm	Side Height (H) (INCH) 1":25 mm 2":50 mm 3":75 mm 4":100 mm 5":125 mm 6":150 mm	Length Of Piece (L) 200 : 2000 mm 244 : 2440 mm 250 : 2500 mm 300 : 3000 mm

All types we can provide Example code

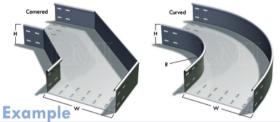
Cable Tray Perforated Type

Horizontal Elbow

Cable Tray Fitting section is a device which is used to change the direction, elevation or size of a cable tray system.

Horizontal Elbow is a cable tray fitting which changes the direction in the same plane.

How to Order for horizontal Elbow?



Zinc Electroplating after fabrication perforated cable tray Horizontal Elbow 90°, 200 mm width .100 mm side height. Thickness 1.5 mm. Return Flange Inside . curved type .with radius 200 mm .

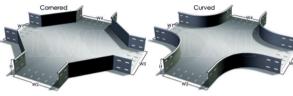
TPHEV	- 90	- BS	- 15 -	ZE -	RFI	- 8/8 -	. 4 -	20	
Horizontal	Direction		Materials	Finished	Side	Base Width	Side	Curve	П
Elbow shape	Degree	Materials	Thickness	Type	Type	(W1/W2)(INCH)	Height	Radius	п
snape	45 : 45°	BS:	(1)	HD : Hot dip	RFI:	2":50 mm	(H) (INCH)	00.000	п
TPHEV:	40.40	Black	10:1.00 mm	Galvani-	Return	3" : 75 mm	1": 25 mm	20 : 200 mm	п
Tray	90 : 90°	Steel		zation	Flange	4" : 100 mm	1 . 25 mm	30 : 300 mm	п
Perforated Horizontal		GS:	12:1.25 mm	PC : Powder	inside	6" : 150 mm	2": 50 mm	00.000 111111	п
Elbow		Galvanized	15:1.50 mm	Coaling	UST:			40: 400 mm	п
Curved		Steel	10.1100 111	Country	U-	0 1200 11111	3": 75 mm		п
			20:2.00 mm	ZE : Zinc	Shape	10" : 250 mm		50 : 500 mm	п
TPHEN:		AL:		Electro-	Type	12":300 mm	4": 100 mm		п
Tray Perforated		Aluminum	22:2.25 mm	plating	CTI:	16":400 mm	FT. 10F	60 : 600 mm	п
Horizontal		A2:	25:2.50 mm	HP : Hot dip	C-	20":500 mm	5": 125 mm		
Elbow		SS 304		Galv.+Powd	Type	24":600 mm	6": 150 mm		
Cornered			30:3.00 mm	er Coaling	Inside	28":700 mm	0 . 150 11111		
		A4: SS 316		ZP : Zinc	CLT:	32":800 mm			
		33 316		Electroplat-	Click	36": 900 mm			
				ing +Powder	Lock	40" : 1000 mm			
	l .			Coating	Type	40 . 1000 111111			

Cross Section

Fitting section Cable Tray Perforated Type

Cross Section is a cable tray fitting which is suitable for joining cable trays in Four directions in the same plane.

How to Order for Cross Section?



W1: Left Direction W2: Down Middle Direction W3: Right Direction W4: Up Middle Direction

Example

Galvanized Steel perforated cable tray Cross Section, Width: 300/500/150/100 mm, side height: 50 mm, Thickness: 2 mm, Return Flange Inside, Curved type, Radius 300 mm., Note: (It is Galvanized Steel so no finished Type in this example)

	TPCRV	- GS ·	- 20 -	RFI -	12/20/6/4	- 2 -	30
	Cross Section Type	Kind of Materials	Materials Thickness (T)	Side Type	Width Of Direction (W1/W2/W3/W4)	Side Height (H) (INCH)	Curve Radius
	TPCRV:	BS : Black Steel	10 : 1.00 mm	RFI: Return	(INCH)	1":25 mm	20 : 200 mm
	Tray Perforated	GS:	12 : 1.25 mm	Flange inside	2" : 50 mm 3" : 75 mm	2":50 mm	30 : 300 mm
	Cross Section	Galvanized Steel	15 : 1.50 mm	UST :	4" : 100 mm 6" : 150 mm	3" :75 mm	40 : 400 mm
	Curved TPCRN:	AL: Aluminum	20 : 2.00 mm	U- Shape Type	8" : 200 mm 10" :250 mm	4" :100 mm	50 : 500 mm
	Tray Perforated	A2:	22 : 2.25 mm	CTI:	12":300 mm 16":400 mm	5" :125 mm	60 : 600 mm
	Cross Section	SS 304	25 : 2.50 mm	C -Type Inside	20" : 500 mm	6" :150 mm	
	Cornered	A4: \$\$ 316	30 : 3.00 mm	CLT:	28":700 mm		
				Click Lock	32":800 mm 36":900 mm		
				Type	40" : 1000 mm		

Tee Section is a cable tray fitting which is suitable for joining cable trays in Three directions in the same plane.

How to Order for TEE Section ?



Example

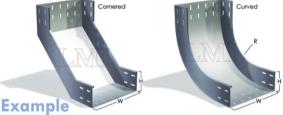
Epoxy Powder Coating after fabrication perforated cable tray Tee Section, Width: 400/600/200 mm, side height: 75 mm, Thickness 2 mm, U shape type, Cornered Shape.

Note: (It is Cornered Type so There is no Curve Radius in this example)

TPTN	- BS	- 20 -	PC -	UST -	16/24/8	- 3
TEE Section	Kind of Materials	Materials Thickness (T)	Finished Type HD: Hot dip	Side Type	Width Of Direction (W1/W2/W3)	Side Height (H) (INCH)
TPTV : Tray	BS: Black Steel	10 : 1.00 mm	Galvanization	Return Flange	(INCH)	1":25 mm
Perforated TEE	GS:	12 : 1.25 mm	PC : Powder Coating	inside	2":50 mm 3":75 mm	2":50 mm
Section curved	Galvanized Steel	15 : 1.50 mm	ZE : Zinc Electroplating	UST : U- Shape Type	4" : 100 mm 6" : 150 mm	3":75 mm
TPTN: Tray	AL: Aluminum	20 : 2.00 mm	HP : Hot dip	CTI:	8" : 200 mm 10" :250 mm	4" :100 mm
Perforated TEE	A2:	22 : 2.25 mm	Galv.+ Powder Coating	C -Type Inside	12":300 mm 16":400 mm	5" :125 mm
Section Cornered	SS 304 A4:	25 : 2.50 mm 30 : 3.00 mm	ZP : Zinc Electroplating	CLT: Click Lock	20": 500 mm 24": 600 mm	6" :150 mm
	SS 316	30 : 3.00 mm	+ Powder Coating	Type	28":700 mm 32":800 mm	
			5531119		36": 900 mm 40": 1000 mm	

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Vertical Inside Elbow?



Hot Dip Galvanization after fabrication perforated cable tray Vertical Inside elbow 90°, 200 mm width, 100 mm side height, Thickness 1.5 mm, U Shape Type, curved type, with radius 200 mm

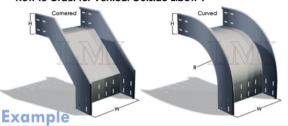
COLVE	aiype,	milli radio	3 200 111111	•				
TPVEIV	- 90	- BS ·	- 15 -	HD -	UST	- 8/8 -	- 4 -	20
Vertical	Direction	Kind of	Materials	Finished	Side	Base Width	Side	Curve
Elbow shape	Degree	Materials	Thickness (T)	Type	Type	(W1/W2) (INCH)	Height (H) (INCH)	Radius
TPVEIV:	45 : 45°	BS: Black	10 : 1.00 mm	HD : Hot dip Galvaniza-	RFI: Return	2" : 50 mm	, ,	20: 200 mn
Tray	90 : 90°	Steel	10 : 1.00 mm	tion divaniza-	Flange	2":50 mm 3":75 mm	1": 25 mm	30: 300 mn
Perforated Vertical		GS:	12 : 1.25 mm	PC : Powder	inside	4":100 mm	2": 50 mm	30: 300 mn
Elbow		Galvanized	15 : 1.50 mm	Coaling	UST:	6" : 150 mm 8" :200 mm		40: 400 mn
Inside Curved		Steel	20 : 2.00 mm	ZE : Zinc	U- Shape	10" : 250 mm	3": 75 mm	50: 500 mn
		AL:		Electroplat-	Туре	12":300 mm	4":100 mm	
TPVEIN: Tray		Aluminum	22 : 2.25 mm	ing	CTI:	16" : 400 mm	5":125 mm	60: 600 mn
Perforated		A2:	25 : 2.50 mm		C-	20":500 mm 24":600 mm	5 .125 mm	
Vertical Elbow		SS 304	30 : 3.00 mm	Galv.+Powd er Coating	Type Inside	28": 700 mm	6":150 mm	
inside		A4:		70.7		32":800 mm		
Cornered		SS 316		ZP : Zinc Electroplat-	CLT: Click	36": 900 mm 40": 1000 mm		
				ing +Powder	Lock	10 11000111111		

Coaling

Vertical Elbow

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An Inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Vertical Outside Elbow?



Hot Dip Galvanization after fabrication perforated cable tray Vertical Outside elbow 90°, 200 mm width, 100 mm side height. Thickness 1.5 mm, U Shape Type.

cornere	cornered type . Note: it is cornered type so there is no curve radius .									
PVEON	- 90	- BS -	- 15 -	- HD -	UST	- 8/8	- 4			
Vertical Elbow shape TPVEOV: Tray Perforated Vertical Elbow Outside Curved TPVEON: Tray Perforated Vertical Elbow Outside Cornered	Direction Degree 45:45° 90:90°	Kind of Materials BS: Black Sleel GS: Galva-nized Sleel AL: Aluminum A2: SS 304 A4: SS 316	Malerials Thickness (1) 10 : 1.00 mm 12 : 1.25 mm 15 : 1.50 mm 20 : 2.00 mm 22 : 2.25 mm 25 : 2.50 mm 30 : 3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coating ZE: Zinc Electroplating HP: Hot dip Galv.+Powder Coating ZP: Zinc Electroplating FP: Zinc Electroplating Fowder Coating	Side Type RFI: Return Flange Inside UST: U- Shape Type CTI: C- Type Inside CLT: Click Lock Type	Base Width (W1/W2) (INCH) 2":50 mm 3":75 mm 4":100 mm 6":150 mm 6":250 mm 10":250 mm 10":250 mm 16":400 mm 20":500 mm 32":800 mm 32":800 mm	Side Height (H) (INCH) 1": 25 mm 2": 50 mm 3": 75 mm 4":100 mm 5":125 mm 6":150 mm			
						40" : 1000 mm				

Reducer Section

Cable Tray Perforated Type

Reducer Section is a cable tray fitting which is suitable for joining cable trays of different widths in the same plane.

A Central reducer has two symmetrical offset sides.

How to Order for Central Reducer Section?



Epoxy Powder Coating after fabrication perforated cable tray Central Reducer Section, 600/400mm width, 75 mm side height. Thickness 2 mm, U shape type.

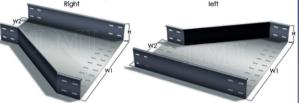
TPCR	- BS	- 20 -	PC -	UST	- 24/16	- 3
Reducer	Kind of	Materials	Finished Type	Side	Width Of	Side Heigh
Section	Materials	Thickness		Type	Direction	(H) (INCH
		(T)	HD : Hot dip		(W1/W2) (INCH)	
TPCR: Tray	BS:		Galvanization	RFI:		1":25 mr
Perforated	Black Steel	10 : 1.00 mm		Return	2" : 50 mm	20
Central			PC : Powder	Flange	3" : 75 mm	2":50 mr
Reducer	GS:	12: 1.25 mm	Coating	inside		2 : 30 mi
Section	Galvanized					
	Steel	15 : 1.50 mm	ZE : Zinc	UST:	6" : 150 mm	3":75 mr
TPRR: Tray			Electroplating	U-	8" : 200 mm	
Perforated	AL:	20 : 2.00 mm		Shape	10": 250 mm	4" : 100 mr
Right	Aluminum		HP : Hot dip	Type		
Reducer		22 : 2.25 mm	Galv.+ Powder			5" : 125 mr
Section			Coating			
	SS 304	25 : 2.50 mm			20": 500 mm	6" : 150 mr
				Inside	24": 600 mm	
		30 : 3.00 mm			28" - 700 mm	
	SS 316					
Reducer			Coating			
Section				Lock	36": 900 mm	
				Type	40" : 1000 mm	
	Reducer Section TPCR: Tray Perforated Central Reducer Section TPRR: Tray Perforated Right Reducer Section TPLR: Tray Perforated Left	Reducer Section IPCE reg Perforated Cenhal Reducer Section IPRE tray Perforated Right Reducer Section IPRE tray Perforated Right Reducer Section IPRE tray Perforated Left Reducer S S 336 Reducer S 336 Reducer S 336	Reducer Section Materials Thickness (T) FCR: Tray Perforated Central Reducer Section FRR: Tray Perforated Right Reducer Section FRR: Tray Perforated Right Reducer Section FRR: Tray Perforated Right Reducer Section FRR: Tray Perforated Left Reducer A2: SS 304 FLR: Tray Perforated Left Reducer SS 316 Reducer SS 316	Reducer Section Force Materials Materials Finished Type	Reducer Section Molerials Thickness Finished Type Typ	Reducer Section Moleriols Thickness Thicknes

Cable Tray Perforated Type

Reducer Section

A right-hand reducer, when viewed from the large end, has a straight side on the right. A left-hand reducer, when viewed from the large end, has a straight side on the left.

How to Order for Right/Left Reducer Section?



W1: Large End Direction W2: Small End Direction

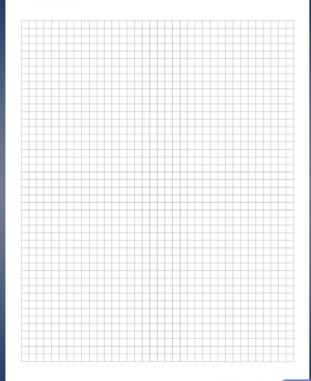
Example

Hot Dip Galvanization after fabrication perforated cable tray Left Reducer Section , 600/400mm width , 100 mm side height, Thickness 1.5 mm, U shape type

type.						
TPLR	- BS	- 15 -	HD -	UST	- 24/16	- 4
Reducer Section	Kind of Materials	Materials Thickness (T)	Finished Type HD: Hot dip	Side Type	Width Of Direction (W1/W2) (INCH)	Side Height (H) (INCH)
TPCR: Tray Perforated	BS: Black Steel	10 : 1.00 mm	Galvanization	RFI: Return	2" : 50 mm	1":25 mm
Central Reducer	GS:	12 : 1.25 mm	PC : Powder Coating	Flange inside	3" : 75 mm 4" : 100 mm	2":50 mm
Section TPRR: Tray	Galvanized Steel	15 : 1.50 mm	ZE : Zinc Electroplating	UST :	6" : 150 mm 8" : 200 mm	3":75 mm
Perforated Right	AL: Aluminum	20 : 2.00 mm	HP : Hot dip	Shape Type	10": 250 mm 12": 300 mm	4" : 100 mm
Reducer Section	A2:	22 : 2.25 mm	Galv.+ Powder Coating	CTI:	16":400 mm 20":500 mm	5" : 125 mm
TPLR: Tray	SS 304	25 : 2.50 mm	ZP : Zinc	C -Type Inside	24" : 600 mm 28" : 700 mm	6" : 150 mm
Perforated Left Reducer	A4: SS 316	30 : 3.00 mm	+ Powder Coating	CLT: Click	32" : 800 mm	
Section			County	Lock	40" : 1000 mm	

Type

NOTES



NOTES

Cable Tray

Ladder Type



Cable Tray Ladder Type System Design. Cable Tray Ladder Type Straight Section. Cable Tray Ladder Type Fittings Section:-



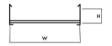
- Horizontal Elbow 90°
- Horizontal Elbow 45°
- Horizontal Cross
- Horizontal TEE
- Vertical Outside Elbow
- Vertical Inside Elbow
- Central Reducer
- Right Side Reducer
- Left Side Reducer

Cable Tray Ladder Type is a prefabricated metal structure consisting of two longitudinal side rails connected by individual transverse members. Used for Heavy Power Cables.

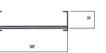
Side Shapes :-



can provide side types shapes as below : -



Return Flange inside Type (RFI)



C - Type Inside (CII)



Click Lock Type (CLT)



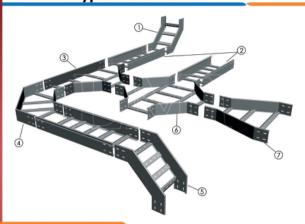
Rib Type Inside (RTI)

Thickness (T):-



Can provide material thickness as below:-

0.90 mm , 1.00 mm , 1.25 mm , 1.50 mm , 2.00 mm



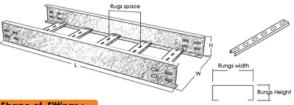
Nomenclature :-

- Vertical Inside Elbow Cornered Type Ladder Cable Tray.
- Straight Section Ladder Cable Tray.
- Tee Section Ladder Cable Tray.
- (4) Horizontal Elbow Cornered Type Ladder Cable Tray.
- (5) Vertical Outside Elbow Cornered Type Ladder Cable Tray.
- Cross Section Ladder Cable Tray.
- Reducer Section Ladder Cable Tray.

System Design

Cable Tray Dimentions :-

Base width (w), Side Height (H) & Length (L)



Shape of Fittings:-

Can provide Shape of Fittings as below:-



Inner Radius for Fittings (R):-

Can provide Inner Radius for fittings as below:-

200 mm, 300 mm, 400 mm, 500 mm, 600 mm



Straight Shape

Straight section Ladder Type

Straight Section is a length of cable tray which has no change in direction or size.

How to Order for Ladder straight section?



Example

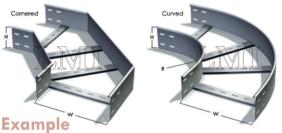
Hot Dip Galvanized after fabrication Ladder cable tray ,Straight Section ,400 mm width, 100 mm side Rail height, Thickness 1.5 mm, Click Lock Type, Rungs spaces 250mm, Length of piece 3000 mm

TLS	- BS	- 15 -	· HD -	CLT	- 16 -	4 -	25 -	300
Cable Tray Type	Kind of Materials	Materials Thickness (T)	Finished Type HD: Hot dip	Side Type	Base Width (W1/W2) (INCH)	Side rail Height (H) (INCH)	Rungs Spaces	Length Of Piece (L)
Tray Ladder	BS : Black Steel	10 : 1.00 mm	Galvanization PC : Powder	RFI: Return Flange	2" : 50 mm	1" : 25 mm	25: 250mm 30: 300mm	200 : 2000 mr 244 : 2440 mr
Straight Type	GS : Galvanized Steel	12 : 1.25 mm	Coating ZE : Zinc	RTI:	3" : 75 mm 4" :100 mm 6" :150 mm	2" : 50 mm	40: 400mm	250 : 2500 mr
	AL: Aluminum	20 : 2.00 mm	Electropiating HP: Hot dip Galv.+Powder	Type Inside	8" : 200 mm 10" : 250 mm	4" :100 mm		300 : 3000 mr
	A2 : SS 304	22 : 2.25 mm	Coating ZP : Zinc	CTI: C- Type	12":300 mm 16":400 mm	5" :125 mm		
	A4: SS 316	25 : 2.50 mm 30 : 3.00 mm	Electroplating +Powder Coating	Inside CLT:	20":500 mm 24":600 mm 28":700 mm	6" :150 mm		
				Click Lock Type	32":800 mm 36":900 mm			
					40" : 1000 mm			

Horizontal Elbow

Horizontal Elbow is a cable tray fitting which changes the direction in the same plane.

How to Order for horizontal Elbow?



Zinc Electroplating after fabrication Ladder cable fray Horizontal Elbow 90° , 200 mm width ,100 mm side height, Thickness 1.5 mm, Return Flange Inside , curved type, with radius 200 mm

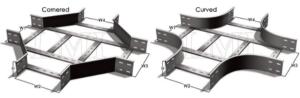
TLHEV	- 90	- BS -	15	- ZE -	RFI	- 8/8	- 4 -	20
Horizontal	Direction	Kind of	Materials	Finished Type	Side	Rungs Width	Side rail	Curve
Elbow	Degree	Materials	Thickness		Type	(W1/W2)	Height	Radius
shape			(T)	HD : Hot dip		(INCH)	(H) (INCH)	
	45 : 45°	BS:		Galvanization	RFI:			20 : 200 mm
TLHEV:		Black Steel	10 : 1.00 mm		Return	2" :50 mm	1" : 25 mm	
Tray	90:90°			PC : Powder	Flange	3" : 75 mm		30 : 300 mm
Ladder		GS:	12:1.25 mm	Coating	inside	4" : 100 mm	2" : 50 mm	
Horizontal		Galvanized				6" : 150 mm		40 : 400 mm
Elbow		Steel	15:1.50 mm		RTI:		3" : 75 mm	
Curved				Electroplating	Rib	8" : 200 mm		50 : 500 mm
		AL:	20 : 2.00 mm		Type	10": 250 mm	4":100 mm	
TLHEN:		Aluminum		HP : Hot dip	inside	12":300 mm	5":125 mm	60 : 600 mm
Tray			22 : 2.25 mm		on.	16": 400 mm	5":125 mm	
Ladder		A2:	05 - 0 50	Coating	CTI:		48.150	
Horizontal		SS 304	25 : 2.50 mm		C-	20" : 500 mm	6":150 mm	
Elbow				ZP : Zinc	Type	24":600 mm		
Cornered		A4:	30 : 3.00 mm	Electroplating	Inside	28":700 mm		
		SS 316		+Powder	CLT:	32":800 mm		
				Coating	Click	36" : 900 mm		
					Lock			
						40" : 1000 mm		
			l l		Type			

Cross Section

Cable Tray

Cross Section is a cable tray fitting which is suitable for joining cable trays in Four directions in the same plane.

How to Order for Ladder Cross Section?



W1: Left Direction W2: Down Middle Direction W3: Right Direction W4: Up Middle Direction

Example

Mil Galvanized Steel Ladder cable tray Cross Section, 300/500/150/100 mm, 50 mm side height, Thickness 2 mm, Return Flange Inside, Curved type. Radius 200mm...(No finished Type in this example).

TLCRV	- GS	- 20 -	RFI -	12/20/6/4	- 2 -	20
Cross Section Type ILCRV: Iroy Ladder Cross Section curved ITCRN: Iray Ladder Cross Section corred	Kind of Materials Bate Steel GS: Back Steel GS: Galvanized Steel AL: Aluminum A2: SS:304 A4: SS:316	Materials Thickness (1) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 30:3.00 mm	Side Type RFI: Reburn Flange inside RTI: Rib Type Inside CTI: C -Type Inside CLT: Click Lock Type	Width Of Direction (WI/W2/W3/W4) (INCH) 2" : 50 mm 3" : 75 mm 4" : 100 mm 6" : 150 mm 8" : 200 mm 12" : 300 mm 12" : 300 mm 20" : 500 mm 24" : 600 mm 32" : 800 mm 33" : 800 mm 40" : 1000 mm 40" : 1000 mm	Side Height (H) (INCH) 1":25 mm 2":50 mm 3":75 mm 4":100 mm 5":125 mm 6":150 mm	Curve Radius 20 : 200 mm 30 : 300 mm 40 : 400 mm 50 : 500 mm 60 : 600 mm

Tee Section is a cable tray fitting which is suitable for joining cable trays in Three directions in the same plane

How to Order for TEE Section ?



Example

Epoxy Powder Coating after fabrication Ladder cable tray Tee Section, 400/600/200 mm, 75 mm side height, Thickness 2 mm, Return Flange Inside ,Cornered type .

Note:(It is Cornered shape so There is no Curve Radius in this example)

TLTN	- BS -	20	PC -	RFI -	16/24/8	- 3
TEE	Kind of	Materials	Finished Type	Side Type	Width Of	Side rail
Section	Materials	Thickness			Direction	Height
		(T)	HD : Hot dip	RFI:	(W1/W2/W3)	(H) (INCH)
TLTV:	BS:		Galvanization	Return	(INCH)	(, ()
Tray	Black Steel	10 : 1.00 mm		Flange	(iiiii)	1":25 mm
Ladder			PC : Powder	inside	2" : 50 mm	1 :25 mm
TEE	GS:	12: 1.25 mm	Coating		3" : 75 mm	
Section	Galvanized			RTI:	4" : 100 mm	2":50 mm
curved	Steel	15: 1.50 mm	ZE : Zinc	Rib Type		
			Electroplating	Inside	6" : 150 mm	3":75 mm
TLTN:	AL:	20 : 2.00 mm			8" : 200 mm	
Tray	Aluminum		HP: Hot dip	CTI:	10": 250 mm	4" :100 mm
Ladder		22 : 2.25 mm	Galv.+ Powder	C -Type	12":300 mm	
TEE	A2:		Coating	Inside	16": 400 mm	5" :125 mm
Section	SS 304	25 : 2.50 mm				J .12511111
Cornered			ZP : Zinc	CLT:	20":500 mm	
	A4:	30 : 3.00 mm	Electroplating	Click Lock	24":600 mm	6" :150 mm
	SS 316		+ Powder	Туре	28":700 mm	
			Coating	.,,,,	32":800 mm	
					36": 900 mm	

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An Inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Ladder In Side Vertical Elbow?

Vertical Elbow



Hot Dip Galvanization after fabrication Ladder cable tray Vertical Inside elbow 90°, 200 mm width 100 mm side height. Thickness 1.5 mm, Return Flange Inside. curved type, with radius 200 mm

TLVEIV	- 90	- BS -	15 -	HD -	RFI -	- 8/8 -	4 -	20
Vertical	Direction		Materials	Finished Type	Side	Base Width	Side	Curve
Elbow	Degree	Materials	Thickness		Type	(W1/W2)	Height	Radius
shape			(T)	HD : Hot dip		(INCH)	(H) (INCH)	
	45 : 45°	BS:		Galvanization	RFI:			20 : 200 mr
TLVEIV:		Black	10 : 1.00 mm		Return	2" : 50 mm	1": 25 mm	
Tray	90:90°	Steel		PC : Powder	Flange	3" : 75 mm		30 : 300 mr
Ladder			12:1.25 mm	Coating	inside	4" : 100 mm	2": 50 mm	
Vertical		GS:						40 : 400 mr
Elbow		Galvanized	15: 1.50 mm	ZE : Zinc	RTI:	6" : 150 mm	3": 75 mm	
In Side		Steel		Electroplating	Rib	8" : 200 mm		50 : 500 mr
Curved			20 : 2.00 mm		Type	10":250 mm	4" :100 mm	
		AL:		HP : Hot dip	Inside	12":300 mm		60 : 600 mr
TLVEIN:		Aluminum	22: 2.25 mm	Galv.+Powder			5" :125 mm	
Tray				Coating	CTI:	16":400 mm		
Ladder		A2:	25: 2.50 mm		C-	20":500 mm	6" :150 mm	
Vertical		SS 304		ZP : Zinc	Type	24":600 mm		
Elbow			30: 3.00 mm	Electroplating	Inside	28" : 700 mm		
In Side		A4:		+Powder				
Cornered		SS 316		Coaling	CLT:	32":800 mm		
					Click	36": 900 mm		
					Lock	40" - 1000		

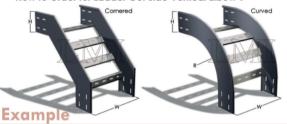
Type

Cable Tray

Vertical Elbow

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An Inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Ladder Out Side Vertical Elbow?



Hot Dip Galvanization after fabrication Ladder cable tray Vertical Outside elbow 90°, 200 mm width 100 mm side height. Thickness 1.5 mm. Return Flage Inside. curved type, with radius 200 mm

TLVEOV- 90 20 Vertical Direction Kind of Materials Finished Type Side Rase Width Side Curve Height Radius (H) (INCH) 20: 200 mm

Lock

40": 1000 mm

Elbow	Degree	Materials	Thickness		Type	(W1/W2)
shape			(T)	HD : Hot dip		(INCH)
	45:45°	BS:		Galvanization	RFI:	
TLVEOV:		Black	10: 1.00 mm		Return	2" :50 mm
Tray	90:90°	Steel		PC : Powder	Flange	3" : 75 mm
Ladder			12: 1.25 mm	Coating	inside	4" : 100 mm
Vertical		GS:				
Elbow		Galvanized	15: 1.50 mm	ZE : Zinc	RTI:	6" :150 mm
Out Side		Steel		Electroplating	Rib	8" : 200 mm
Curved			20 : 2.00 mm		Type	10": 250 mm
		AL:		HP: Hot dip	inside	12":300 mm
TLVEON:		Aluminum	22: 2.25 mm	Galv.+Powder		
Tray				Coating	CTI:	16": 400 mm
Ladder		A2:	25 : 2.50 mm		C-	20":500 mm
Vertical		SS 304		ZP : Zinc	Type	24": 600 mm
Elbow			30: 3.00 mm	Electroplating	Inside	28": 700 mm
Out Side		A4:		+Powder		
cornered		SS 316		Coating	CLT:	32":800 mm
					Click	36": 900 mm

Reducer Section

Fitting section Cable Tray

Reducer Section is a cable tray fitting which is suitable for joining cable trays of different widths in the same plane. A central reducer has two symmetrical offset sides.

How to Order for Reducer Section?



Epoxy Powder Coating after fabrication Ladder cable tray Central Reducer Section, 600/400mm, 75 mm side height. Thickness 2 mm, Return Flange Inside.

	TLCR	- BS -	- 20	- PC -	RFI	- 24/16	- 3
ı	Reducer	Kind of	Materials	Finished Type	Side	Width Of	Side Heigh
	Section	Materials	Thickness (T)	HD : Hot dip	Type	Direction (W1/W2) (INCH)	(H) (INCH)
	TLCR:	BS:		Galvanization	RFI:	2" : 50 mm	1":25 mm
	Tray Ladder	Black Steel	10 : 1.00 mm	PC : Powder	Return Flange	3" : 75 mm	
	Central	GS:	12 : 1.25 mm	Coating	inside	4" :100 mm	2":50 mm
	Reducer	Galvanized Steel	15 : 1.50 mm	ZE : Zinc	RTI :	6" : 150 mm	3":75 mm
	TLRR:			Electroplating	Rib	8" : 200 mm 10" : 250 mm	
	Tray Ladder	AL: Aluminum	20 : 2.00 mm	HP : Hot dip	Type Inside	12" : 300 mm	4" :100 mm
	Right Side		22 : 2.25 mm	Galv.+		16" : 400 mm	5" :125 mm
	Reducer	A2 : SS 304	25 : 2.50 mm	Powder Coat- ing	CTI:	20" : 500 mm	6" :150 mm
	TLLR:				Inside	24" : 600 mm	6 :130 mm
	Tray Ladder	A4 : SS 316	30 : 3.00 mm	ZP : Zinc Electroplating	CLT:	28" : 700 mm 32" : 800 mm	
	Left Side			+ Powder	Click	36" : 900 mm	
	Reducer			Coating	Lock Type	40" : 1000 mm	

1": 25 mm

2": 50 mm

3": 75 mm

4":100 mm

5":125 mm 6":150 mm 30:300 mm

40: 400 mm

50:500 mm

60: 600 mm

Cable Tray Ladder Type

Reducer Section

A right-hand reducer, when viewed from the large end, has a straight side on the right. A left-hand reducer, when viewed from the large end, has a straight side on the left.

How to Order for Ladder Right/Left Reducer Section?



W1: Large End Direction W2: Small End Direction

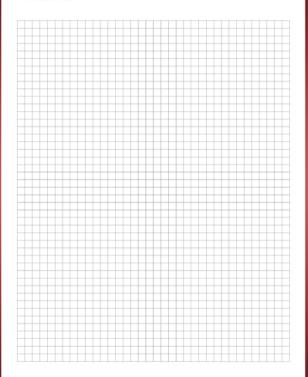
Example

Hot Dip Galvanization after fabrication Ladder cable tray Left Reducer Section, 600/400mm, 100 mm side height, Thickness 1.5 mm, Return Flange Inside.

T	LLR	-	BS	-	15	-	HD	-	RFI	-	24/16	-	4
р.	ducar	$\neg \Box$	Kind of	┰	Materials	π.	Finished Type	П	Side	7	Width Of	ei.e	de Wei

			110	1411	2 1/ 10	
Reducer	Kind of	Materials	Finished Type	Side	Width Of	Side Height
Section	Materials	Thickness		Type	Direction	(H) (INCH)
		(T)	HD : Hot dip	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(W1/W2) (INCH)	(11) (111011)
TLCR:	BS:	4.7	Galvanization	RFI:		
Tray	Black Steel	10 : 1.00 mm	Garranganon	Return	2" : 50 mm	1":25 mm
Ladder	DIGCK SICCI	10 . 1.00 11111	PC : Powder	Flange	3" : 75 mm	
Central	GS:	12 : 1.25 mm	Coating	inside	4" : 100 mm	2":50 mm
Reducer	Galvanized	12 : 1.25 mm	Coding	inside		
Keaucer					6" : 150 mm	3" :75 mm
****	Steel	15 : 1.50 mm	ZE : Zinc	RTI:	8" : 200 mm	3 ./3
TLRR:			Electroplating	Rib	10" :250 mm	47.100
Tray	AL:	20 : 2.00 mm		Type		4" :100 mm
Ladder	Aluminum		HP : Hot dip	Inside	12":300 mm	
Right Side		22 : 2.25 mm	Galv.+ Powder		16":400 mm	5" :125 mm
Reducer	A2:		Coating	CTI:	20" : 500 mm	
	SS 304	25 : 2.50 mm		C -Type		6" :150 mm
TLLR:			ZP : Zinc	Inside	24":600 mm	000
Tray	A4:	30 : 3.00 mm	Electroplating		28" : 700 mm	
Ladder	SS 316		+ Powder	CLT:	32" : 800 mm	
Left Side			Coating	Click		
Reducer				Lock	36":900 mm	
				Type	40" : 1000mm	
			II I	.,,,,,		

NOTES



NOTES

Cable Tray

Trunking Type

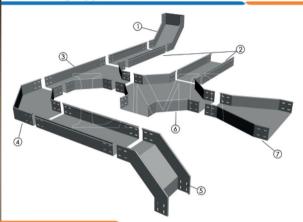


Cable Tray Trunking Type System Design . Cable Tray Trunking Type Straight Section . Cable Tray Trunking Type Fittings Section:-



- Horizontal Elbow 90°
- Horizontal Elbow 45°
- Horizontal Cross
- Horizontal TEE
- Vertical Outside Elbow
- Vertical Inside Elbow
- Central Reducer
- Right Side Reducer
- Left Side Reducer

System Design



Nomenclature :-

- Vertical Inside Elbow Cornered Type Trunking Cable Tray.
- Straight Section Trunking Cable Tray.
- Tee Section Trunking Cable Tray.
- (4) Horizontal Elbow Cornered Type Trunking Cable Tray.
- (5) Vertical Outside Elbow Cornered Type Trunking Cable Tray.
- 6 Cross Section Trunking Cable Tray.
- Reducer Section Trunking Cable Tray.

System Design

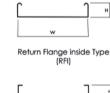
Cable Tray Trunking Type

Cable Tray Trunking Type is a prefabricated metal structure consisting of a one-piece Solid bottom channel section. Used for light current cable.

Side Shapes :-



Can provide side types shapes as below : -









C - Type Inside (CTI)

U - Shape Type (UST)

Thickness (T):-



Can provide material thickness as below:-

0.90 mm , 1.00 mm , 1.25 mm , 1.50 mm , 2.00 mm

System Design

Straight Section

Cable Tray Trunking Type

Cable Tray Dimentions :-

Base width (w), Side Height (H) & Length (L)



Shape of Fittings:-

Can provide Shape of Fittings as below:-





Inner Radius for Fittings (R):-



Can provide Inner Radius for fittings as below :-

 $R=200\; mm$, $300\; mm$, $400\; mm$, $500\; mm$, $600\; mm$.



Straight Section is a length of cable tray which has no change in direction or size

How to Order for straight Section?



Hot Dip Galyanized

Hot Dip Galvanized after fabrication cable tray Trunking Type, Straight Section, 100 mm width, 50 mm side height, Thickness 1.5 mm, Click Lock Type, Length of Piece 3000 mm

	TTS	- BS	- 15	- HD -	CLT	- 4	- 2 -	- 300
ı	Cable Tray	Kind of Materials	Materials Thickness	Finished Type	Side Type	Base Width (W) (INCH)	Side Height (H) (INCH)	Length Of Piece (L)
	Туре	BS : Black Steel	(T) 10 : 1.00 mm	HD : Hot dip Galvanization	RFI : Return Flange inside	2" : 50 mm 3" : 75 mm	1": 25 mm	200 : 2000 mm
۰	Tray Trunking Straight	GS: Galvanized	12 : 1.25 mm	PC : Powder Coating	UST:	4" : 100 mm 6" : 150 mm	2": 50 mm	244 : 2440 mm
۰	Type	Steel	15 : 1.50 mm	ZE : Zinc Electroplating	U- Shape Type	8" : 200 mm	3" : 75 mm	250 : 2500 mm
۰		AL: Aluminum	20 : 2.00 mm	HP : Hot dip Galv.+ Powder	CTI: C -Type	10": 250 mm 12": 300 mm	4" :100 mm 5" :125 mm	300 : 3000 mm
۱		A2 : SS 304	25 : 2.50 mm	Coating	Inside	16":400 mm 20":500 mm	6" :150 mm	
ı		A4: SS 316	30 : 3.00 mm	ZP : Zinc Electroplating + Powder	CLT : Click Lock	24" : 600 mm 28" : 700 mm		
ı		35 0.0		Coating	Type	32":800 mm 36":900 mm		
۰						40" : 1000 mm		

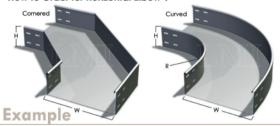
Cable Tray Trunking Type

Horizontal Elbow

Cable Tray Fitting section is a device which is used to change the direction, elevation or size of a cable tray system.

Horizontal Elbow is a cable tray fitting which changes the direction in the same plane.

How to Order for horizontal Elbow?



Zinc Electroplating after fabrication Trunking cable tray Horizontal Elbow 90°, 200 mm width , 100 mm side height , Thickness 1.5 mm , Return Flange Inside , curved type with radius 200 mm

TTHEV 20 Base Width Side Height Horizontal Kind of Materials Finished Type Curve Elbow Materials Thickness (W1/W2)(INCH) (H) (INCH) Radius Degree shape

	45:45°	BS:		Galvanization	RFI:	2" : 50 mm	1": 25 mm	20 : 200 mm
THEV:		Black	10: 1.00 mm		Return	3" : 75 mm		
Tray	90:90°	Steel		PC : Powder	Flange	4" : 100 mm	2": 50 mm	30:300 mm
runking			12: 1.25 mm	Coating	inside			
orizontal		GS:				6" : 150 mm	3": 75 mm	40:400 mm
Elbow		Galvanized	15: 1.50 mm	ZE : Zinc	UST:	8" : 200 mm		
Curved		Steel		Electroplating	U-	101 050	4":100 mm	50 : 500 mm
			20: 2.00 mm		Shape	10" : 250 mm		
THEN:		AL:		HP : Hot dip	Type	12" : 300 mm	5":125 mm	60 : 600 mm
Tray		Aluminum	22: 2.25 mm	Galv.+Powder		16" : 400 mm		
runking				Coating	CTI:	001 500	6":150 mm	
orizontal		A2:	25: 2.50 mm	_	C-	20" : 500 mm		
Elbow		SS 304		ZP : Zinc	Type	24" : 600 mm		
ornered			30: 3.00 mm	Electroplating	Inside	28" : 700 mm		
		A4:		+Powder		32" : 800 mm		
		SS 316		Coating	CLT:	32 : 800 mm		
					Click	36" : 900 mm		
	I				Lock	40"-1000 mm		

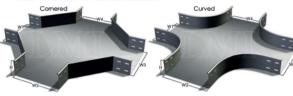
Type

Cross Section

Cable Tray Trunking Type

Cross Section is a cable tray fitting which is suitable for joining cable trays in Four directions in the same plane.

How to Order for Cross Section?



W1: Left Direction W2: Down Middle Direction W3: Right Direction W4: Up Middle Direction

Example

Mil Galvanized Steel Trunking cable tray Cross Section, 300/500/150/100 mm, 50 mm side height, Thickness 2 mm, Return Flange Inside, Curved type . Radius 300mm .. (No finished Type in this example)

TTCRV		GS	-	20		RFI - 12/20/6/4		2		30	
-------	--	----	---	----	--	-----------------	--	---	--	----	--

				/, .		
Cross Section Type	Kind of Materials	Materials Thickness (T)	Side Type	Width Of Direction (W1/W2/W3/W4)	Side Height (H) (INCH)	Curve Radius
TICRV:	BS : Black Steel	10 : 1.00 mm	Return Flange	(INCH)	1":25 mm	20 : 200 mm
Tray Trunking	GS:	12 : 1.25 mm	inside	2" : 50 mm 3" : 75 mm	2":50 mm	30 : 300 mm
Cross Section	Galvanized Steel	15 : 1.50 mm	UST : U-Shape	4" : 100 mm 6" : 150 mm	3":75 mm	40 : 400mm
curved	. AL:	20 : 2.00 mm	Туре	8" : 200 mm 10" :250 mm	4" :100 mm	50 : 500 mm
TTCRN : Tray Trunking	Aluminum A2 :	22 : 2.25 mm 25 : 2.50 mm	CTI: C-Type Inside	12":300 mm	5" :125 mm	60 : 600 mm
Cross Section	SS 304	30 : 3.00 mm	CLT:	16":400 mm 20":500 mm	6" :150 mm	
Cornered	A4: SS 316	50 . 5.50 11111	Click	24" : 600 mm 28" : 700 mm		
			Type	32":800 mm 36":900 mm		
				40" : 1000mm		

Cable Tray Trunking Type

Tee Section

Tee Section is a cable tray fitting which is suitable for joining cable trays in Three directions in the same plane.

How to Order for TEE Section ?



W1: Left Direction

W2 Middle Direction W3 Right Direction

Example

Epoxy Powder Coating after fabrication Trunking cable tray Tee Section, 400/600/200 mm, 75 mm side height, Thickness 2 mm, U shape type, Cornered type . (There is no Curve Radius in this example)

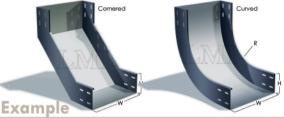
TTTN	- BS	- 20 ·	· PC -	UST -	16/24/8	- 3
TEE	Kind of	Materials	Finished Type	Side Type	Width Of	Side Height
Section	Materials	Thickness			Direction	(H) (INCH)
		(T)	HD : Hot dip	RFI:	(W1/W2/W3)	(, ()
TITV:	BS:		Galvanization	Return	(INCH)	1":25 mm
Tray	Black Steel	10 : 1.00 mm		Flange	01 . 50	1 . 23 11111
Trunking			PC : Powder	inside	2" :50 mm	2":50 mm
TEE	GS:	12:1.25 mm	Coating		3" :75 mm	2 : 30 mm
curved	Galvanized			UST:	4" : 100 mm	
	Steel	15 : 1.50 mm	ZE : Zinc	U- Shape	6" : 150 mm	3":75 mm
TITN:			Electroplating	Type	8" : 200 mm	
Tray	AL:	20 : 2.00 mm			10": 250 mm	4" :100 mm
Trunking	Aluminum		HP : Hot dip	CTI:	12" : 300 mm	
TEE		22 : 2.25 mm	Galv.+ Powder	C -Type		5" :125 mm
Cornered	A2:		Coating	Inside	16": 400 mm	
	SS 304	25 : 2.50 mm			20":500 mm	6" :150 mm
			ZP : Zinc	CLT:	24":600 mm	
	A4:	30 : 3.00 mm	Electroplating	Click Lock	28": 700 mm	
	SS 316		+ Powder	Type	32":800 mm	
			Coating		36" : 900 mm	
					40" : 1000 mm	
					40 : 1000 mm	

Vertical Elbow

Cable Tray Trunking Type

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An Inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Vertical Inside Elbow?



Hot Dip Galvanization after fabrication Trunking cable tray Vertical Inside elbow 90°, 200 mm width ,100 mm side height , Thickness 1.5 mm , U Shape Type, curved type, with radius 200 mm

_	. / Pr -	,							
	TTVEIV	- 90	- BS	- 15 -	HD -	UST	- 8/8	- 4 -	- 20
	Vertical	Direction	Kind of	Materials	Finished Type	Side	Base Width	Side	Curve
	Elbow	Degree	Materials	Thickness		Type	(W1/W2)(INCH)	Height	Radius
	shape			(T)	HD : Hot dip			(H) (INCH)	
		45:45°	BS:		Galvanization	RFI:	2" : 50 mm		20 : 200 mr
	TTVEIV:		Black	10: 1.00 mm		Return	3" : 75 mm	1": 25 mm	
	Tray	90:90°	Steel		PC : Powder	Flange			30 : 300 mr
	Trunking			12: 1.25 mm	Coating	inside	4" : 100 mm	2": 50 mm	
	Vertical		GS:				6" : 150 mm		40 : 400 mr
	Elbow		Galvanized	15: 1.50 mm	ZE : Zinc	UST:	8" : 200 mm	3": 75 mm	
	Inside		Steel		Electroplating	U-			50 : 500 mr
	Curved			20 : 2.00 mm		Shape	10" : 250 mm	4":100 mm	
			AL:		HP: Hot dip	Type	12" : 300 mm		60 : 600 mm
			Aluminum	22: 2.25 mm	Galv.+Powder		16" : 400 mm	5":125 mm	
	TIVEIN:				Coating	CTI:			
	Tray		A2:	25 : 2.50 mm		C-	20" : 500 mm	0 .130 IIIIII	
	Trunking		SS 304		ZP : Zinc	Type	24" : 600 mm		
	Vertical			30 : 3.00 mm	Electroplating	Inside	28" : 700 mm		
	Elbow		A4:		+Powder				
	Inside		SS 316		Coating	CLT:	32" : 800 mm		
	Cornered					Click	36" : 900 mm		
						Lock	40" - 1000 mm		

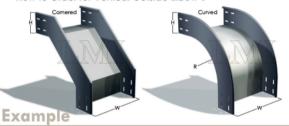
Type

Cable Tray Trunking Type

Vertical Elbow

Vertical Elbow is a cable tray fitting which changes direction to a different plane. An Inside vertical elbow changes direction upward from the horizontal plane. An Outside vertical elbow changes direction downward from the horizontal plane.

How to Order for Vertical Outside Elbow?



Hot Dip Galvanization after fabrication Trunking cable tray Vertical Outside elbow 90°, 200 mm width ,100 mm side height, Thickness 1.5 mm, U Shape Type, curved type, with radius 200 mm

TTVEOV - 90 20 Vertical Direction Kind of Materials Finished Type Side **Base Width** Curve

Elbow	Degree	Materials	Thickness		Type	(W1/W2)(INCH)	Height	Radius
shape			(T)	HD : Hot dip			(H) (INCH)	
	45 : 45°	BS:		Galvanization	RFI:	2" : 50 mm		20 : 200 mm
TTVEOV:		Black	10: 1.00 mm		Return	3" : 75 mm	1": 25 mm	
Tray	90:90°	Steel		PC : Powder	Flange			30 : 300 mm
Trunking			12:1.25 mm	Coating	inside	4" :100 mm	2": 50 mm	
Vertical		GS:				6" : 150 mm		40 : 400 mm
Elbow		Galvanized	15: 1.50 mm	ZE : Zinc	UST:	8" : 200 mm	3": 75 mm	
Outside		Steel		Electroplating	U-	0 .200		50 : 500 mm
Curved			20: 2.00 mm		Shape	10" : 250 mm	4" :100 mm	
		AL:		HP : Hot dip	Type	12" : 300 mm		60 : 600 mm
TTVEON:		Aluminum	22: 2.25 mm	Galv.+Powder		16" : 400 mm	5" :125 mm	
Tray				Coating	CTI:			
Trunking		A2:	25: 2.50 mm		C-	20" : 500 mm	6" :150 mm	
Vertical		SS 304		ZP : Zinc	Type	24" : 600 mm		
Elbow			30: 3.00 mm	Electroplating	Inside	28" : 700 mm		
Outside		A4:		+Powder				
Cornered		SS 316		Coating	CLT:	32" : 800 mm		
					Click	36" : 900 mm		
					Lock			
					-	40" : 1000 mm		

Reducer Section

Cable Tray Trunking Type

Reducer Section is a cable tray fitting which is suitable for joining cable trays of different widths in the same plane.

A Central reducer has two symmetrical offset sides.

How to Order for Central Reducer Section?



Epoxy Powder Coating after fabrication Trunking cable tray Central Reducer Section 400/400mm 75 mm side height Thickness 2 mm II shape type

TTCD	DC	20	DC.	HET	04/1/	-
ecilon,	000/40011111,	75 IIIII 3IGC	r neigin, mic	Kiless 2 IIIII	, o shape typ	e.

TTCR	- BS	- 20	- PC -	UST	- 24/16	- 3
Reducer	Kind of	Materials	Finished Type	Side	Width Of	Side Heigh
Section	Materials	Thickness (T)	HD : Hot dip	Type	Direction (W1/W2)(INCH)	(H) (INCH)
TTCR :Tray	BS:	(1)	Galvanization	RFI:	(, X	1" : 25 mn
Trunking	Black Steel	10 : 1.00 mm		Return	2" : 50 mm	20
Central			PC : Powder	Flange	3" : 75 mm	2":50 mn
Reducer	GS:	12 : 1.25 mm	Coating	inside	4" : 100 mm	2 . 50
Section	Galvanized Steel	15 : 1.50 mm	ZE : Zinc	UST:	6" : 150 mm	3":75 mn
TTRR :Tray	3ieei	15 : 1.50 mm	Electroplating	U-Shape	8" : 200 mm	0 .70
Trunking	AL:	20 : 2.00 mm	Lieciropiding	Type	10" : 250 mm	4" :100 mn
Right	Aluminum		HP : Hot dip	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	12": 300 mm	
Reducer		22 : 2.25 mm	Galv.+ Powder	CTI:	16": 400 mm	5" :125 mn
Section	A2:		Coating	C -Type		
	SS 304	25 : 2.50 mm		Inside	20":500 mm	6" :150 mn
TTLR :Tray		30 : 3.00 mm	ZP : Zinc	017	24": 600 mm	
Trunking Left	A4 : SS 316	30 : 3.00 mm	Electroplating + Powder	CLT: Click	28":700 mm	
Reducer	33 310		Coating	Lock	32":800 mm	
Section			County	Type	36":900 mm	
					40" : 1000 mm	

Reducer Section

A right-hand reducer, when viewed from the large end, has a straight side on the right. A left-hand reducer, when viewed from the large end, has a straight side on the left.

How to Order for Right/Left Reducer Section?



W1: Large End Direction W2: Small End Direction

Example

Hot Dip Galvanization after fabrication Trunking cable tray Left Reducer Section, 600/400mm, 100 mm side height, Thickness 1.5 mm, U shape type.

TTL	R	-	BS	-	15	HD -	UST	-	24/16	4
Redu		Г	Kind of Materials	T	Materials Thickness (T)	Finished Type HD: Hot dip	Side Type	0	Width Of Direction W1/W2 ((INCH)	Side Hei (H) (INC

TTCR :Tray Trunking Central Reducer Section

Galvanized Steel TTRR :Tray Trunking AL: Aluminum Right Reducer

Section TTLR :Trav Trunking Left Reducer Section

10: 1.00 mm Black Steel GS:

SS 304

A4:

SS 316

12: 1.25 mm 15: 1.50 mm 20: 2.00 mm 22: 2.25 mm

25 : 2.50 mm 30: 3.00 mm

HD: Hot dip Galvanization

Coating

Return PC : Powder Flange Coating inside ZE : Zinc UST: Electroplating U-HP: Hot dip Galv.+

Shape Type Powder CTI: Coating C -Type Inside ZP : Zinc Electroplatina CLT: Click + Powder

RFI:

Lock

Type

3" : 75 mm 4" : 100 mm 6" : 150 mm 8" : 200 mm 10": 250 mm 12": 300 mm 16": 400 mm

2" : 50 mm

20": 500 mm 24": 600 mm 28": 700 mm 32":800 mm 36": 900 mm 40": 1000mm

eight ICH)

1":25 mm 2":50 mm

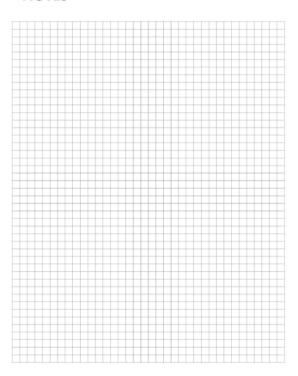
3":75 mm 4":100 mm

5":125 mm

6":150 mm

All types we can provide Example code

NOTES



NOTES

Cable Tray







- Cable Tray Connectors.
- Cover Straight Section.
- Cover Fitting Section.
- Cover Clamps Section.
- Hardware Section.







Connectors

Covers

Cable Tray

Cable Tray Accessories IS :-

Devices which are used to supplement the function of straight sections and fittings, and include such items as Connectors, Dropouts, Covers, Conduit Adapters, Hold-Down devices and Dividers.

A- Cable Tray Connectors (Splice Plate) :-

A device which joins cable tray straight sections or fittings, or both.

The Famous types of connectors are: 1. L. Angle Connector, 2. Adjustable Connector.

How to Order for cable tray L Connector?





Example

TIC

Hot Dip Galvanized after fabrication Cable Tray Connector , (L) Type , Length 200mm , for Cable Tray Side Height 100 mm , 1.50 mm Thickness.

ILC .	- po -	15 -	nu -		4
Reducer Section	Kind of Materials	Materials Thickness (T)	Finished Type HD: Hot dip	Connector Length	Side Height (H) (INCH)
TLC : Tray L Angle	BS : Black Steel	10 : 1.00 mm	Galvanization	8" : 200 mm	1":25 mm
Connector	GS:	12 : 1.25 mm	PC : Powder Coating	16":400 mm	2":50 mm
TAC: Tray	Galvanized Steel	15 : 1.50 mm	ZE : Zinc Electroplating		3":75 mm
Adjustable Connector	AL:	20 : 2.00 mm	HP : Hot dip		4" : 100 mm
00111100101	Aluminum	22 : 2.25 mm	Galv.+ Powder Coating		5" : 125 mm
	A2: SS 304	25 : 2.50 mm	ZP : Zinc		6" : 150 mm
	A4:	30 : 3.00 mm	Electroplating + Powder Coating	The sale of a	
	SS 316				

Cable Tray Covers :-

Tray covers are available for all classes of tray. They should be installed where falling objects may damage cables or where vertical tray run is accessible by pedestrian or vehicular traffic.

Cover mounting hardware must be ordered separately.

Solid Covers (VSS)

These covers provide maximum mechanical protection for cables with limited heat build up. Solid covers are available with or without flange.



Ventilated Covers (VVS)

This design offers excellent mechanical protection while allowing heat produced by cables to dissipate.

Peaked Covers: (VPS)

Peaked covers offer mechanical protection reduce pooling of liquids on the cover and accumulation of snow or ice. Peaked covers have 15° rise.

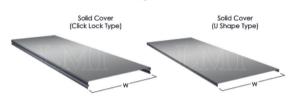
Covers greater than 12" wide available in 72" and 3m lengths only.

Fittings covers are not available in Peaked



Cable Tray Cover Straight Section :-

How to Order for Cover Straight Section?



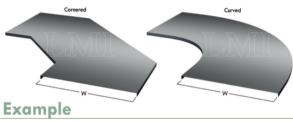
Example

Hot Dip Galvanized after fabrication cable tray Cover, Solid Type, Straight Section .100 mm width . Thickness 1.50 mm. Click Lock Type . Length of Piece 3000 mm.

VSS	- BS	- 15 -	HD -	CLT	- 4 -	300
Cable Tray Type VSS: Cover Solid Straight VVS: Cover Ventilated Straight VPS: Cover Peaked Straight	Kind of Materials BS: Black Steel GS: Galvanized Steel AL: Aluminum A2: SS 304 A4: SS 316	Materials Thickness (1) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 30:3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coating ZE: Zinc Electroplating HP: Hot dip Galv.+ Powder Coating ZP: Zinc Electroplating Prowder Coating Prowder Coating Coating	Side Type UST: U-Shape Type CIT: Click Lock Type	Base Width (W) (NCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 10": 250 mm 10": 250 mm 16": 400 mm 20": 500 mm 24": 700 mm 28": 700 mm 34": 900 mm	Length Of Piece (L) 200 : 2000 mm 244 : 2440 mm 250 : 2500 mm 300 : 3000 mm
	l .				40" : 1000mm	

Cable Tray Cover Straight Section :-

How to Order for horizontal Elbow Cover?



Zinc Electroplating after fabrication Horizontal Elbow 90° Cover, Solid Type, 200 mm width, Thickness 1.00 mm, U Shape Type, curved type, with radius 200 mm

ı		VHEV	- 90	- BS	- 10	- ZE -	UST	- 8/8 -	20
		Horizontal Elbow shape Cover Horizontal Elbow Curved VHEN: Cover Horizontal Elbow Cornered	- 90 Direction Degree 45:45° 90:90°	Kind of Materials Black Steel GS: Galvanized Steel Alunium A2: SS 304 A4: SS 316	- 10 Materials Thickness (T) 10: 1.00 mm 12: 1.25 mm 15: 1.50 mm 20: 2.00 mm 22: 2.25 mm 30: 3.00 mm	- ZE - Finished Type HD:Hd dig Galvanization PC :Powder Coating ZE : Zinc Electroplating HP : Hot dip Galv.+Powder Coating ZP : Zinc Electroplating + Powder Coating	UST: U- Shape Type CLT: Click Lock Type	- 8/8 Base Width (W1/W2) (INCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 10": 250 mm 10": 250 mm 12": 300 mm 20": 500 mm 24": 600 mm 28": 700 mm 32": 800 mm	Curve Radius 20 : 200 mm 30 : 300 mm 40 : 400 mm 50 : 500 mm
Į	ш							40" : 1000mm	

Cable Tray

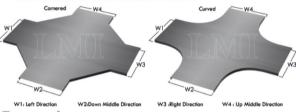
Cross Section

Tee Section

Fitting Cable Tray

Cable Tray Cover Cross Section :-

How to Order for Cross Section Cover?



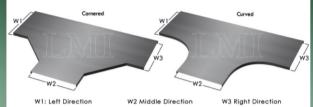
Example

Galvanized Steel Cross Section Cover, Solid Type, Width: 300/500/150/100 mm, Thickness: 1.50 mm, U Shape Type, Curved type. Radius 300mm... Note: (It is Galvanized Steel so no finished Type in this example)

Cross Section Type Cover State Section Curved Section Curved Cover Cross Section Curved Cover Cross Section Curved Cover Cross Section Curved Aliminum A2:		7,000					
Type Cover Molerials Thickness (T) U-Shape 2": 50 mm 3": 75 mm 4": 100 mm 5": 55 mm 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 8": 200 mm 2": 50 mm 4": 100 mm 6": 150 mm	VCRV -	GS	- 15 -	UST -	12/20/6/4	- 30	
36" : 900 mm 40" : 1000mm	Type Cover VCRV: Cover Cross Section Curved VCRN: Cover Cross	Materials BS: Black Steel GS: Galvanized Steel AL: Aluminum A2: SS:304 A4:	Thickness (T) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm	UST: U- Shape Type CLT: Click Lock	(W1/W2/W3/W4) (INCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 10": 250 mm 10": 250 mm 12": 300 mm 12": 300 mm 20": 500 mm 24": 400 mm 28": 700 mm 32": 800 mm	Radius 20 : 200 mm 30 : 300 mm 40 : 400 mm 50 : 500 mm	

Cable Tray Cover TEE Section Section :-

How to Order for TEE Section Cover?



Example

Epoxy Powder Coating after fabrication Tee Section Cover, Solid Type, Width: 400/600/200 mm, Thickness 2 mm, U shape type ,Cornered Shape . Note: (It is Cornered Type so There is no Curve Radius in this example)

VTN	- BS	- 20	- PC -	UST -	16/24/8
TEE	Kind of	Materials	Finished Type	Side Type	Width Of Directio
Section	Materials	Thickness			(W1/W2/W3)
Cover		(T)	HD : Hot dip	UST:	(INCH)
	BS:		Galvanization	U- Shape	2" : 50 mm
VIN:	Black Steel	10 : 1.00 mm		Type	3" : 75 mm
Cover			PC : Powder		4" : 100 mm
TEE	GS:	12 : 1.25 mm	Coating		
Section	Galvanized			CLT:	6" : 150 mm
curved	Steel	15 : 1.50 mm	ZE : Zinc	Click Lock	8" : 200 mm
			Electroplating	Type	10": 250 mm
VTN:	AL:	20 : 2.00 mm			12": 300 mm
Cover	Aluminum		HP : Hot dip		16": 400 mm
TEE		22 : 2.25 mm	Galv.+ Powder		20" : 500 mm
Section	A2:		Coating		24" : 600 mm
Cornered	SS 304	25 : 2.50 mm			28" : 700 mm
			ZP : Zinc		
	A4:	30 : 3.00 mm	Electroplating		32": 800 mm
	SS 316		+ Powder		36": 900 mm
			Coating		40": 1000 mm

Cable Tray

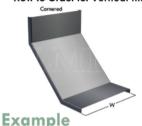
Vertical Inside Elbow

Vertical Outside Elbow

Cable Tray

Cable Tray Vertical Inside Elbow Section :-

How to Order for Vertical Inside Elbow Section Cover?



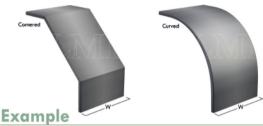


Hot Dip Galvanization after fabrication Vertical Inside elbow 90° Cover. 200 mm width Thickness 1.5 mm, U Shape Type, curved type, with radius 200 mm

VVEIV	- 90	- BS -	15	· HD -	UST	- 8/8 -	- 20
Vertical Elbow shape Cover	Direction Degree 45:45° 90:90°	Kind of Materials BS: Black Steel GS:	Materials Thickness (T) 10: 1.00 mm	Finished Type HD:Hot dip Galvanization PC :Powder Coating	Side Type UST: U- Shape	Base Width (W1/W2) (INCH) 2": 50 mm 3": 75 mm	Curve Radius 20 : 200 mm 30 : 300 mm
Verlical Elbow Inside Curved VVEIN: Cover Verlical Elbow Inside Cornered		Galvanized Steel AL: Aluminum A2: SS 304 A4: SS 316	15: 1.50 mm 20: 2.00 mm 22: 2.25 mm 25: 2.50 mm 30: 3.00 mm	ZE: Zinc Electroplating HP: Hot dip Galv.+Powder Coating ZP: Zinc Electroplating + Powder Coating	CLT: Click Lock Type	4": 100 mm 6": 150 mm 10": 250 mm 10": 250 mm 12": 300 mm 12": 300 mm 24": 400 mm 24": 600 mm 28": 700 mm 32": 800 mm 40": 1000 mm	40 : 400 mm 50 : 500 mm 60 : 600 mm

Cable Tray Vertical Outside Elbow Section :-

How to Order for Vertical Outside Elbow Section Cover?



Hot Dip Galvanization after fabrication Vertical Outside elbow 90° Cover. 200 mm width ,Thickness 1.5 mm, U Shape Type , curved type , with radius 200 mm

VVEOV	- 90	- BS -	15	- HD -	UST	- 8/8 -	- 20
Vertical Elbow shape Cover VVEOV: Cover Vertical Elbow Outside Curved VVEON:	- 90 Direction Degree 45:45° 90:90°	Kind of Materials BS: Black Steel GS: Galvanized Steel AL: Aluminum	Materials Thickness (T) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm	Finished Type HD:Hot dip Galvanization PC :Powder Coating ZE : Zinc Electroplating HP : Hot dip Galv.+Powder	UST: U- Shape Type CLT: Click Lock Type	Base Width (W1/W2) (INCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 8": 200 mm 10": 250 mm 12": 300 mm	- 20 Curve Radius 20 : 200 mn 30 : 300 mn 40 : 400 mn 50 : 500 mn
Cover Vertical Elbow Outside Cornered		A2: SS 304 A4: SS 316	25 : 2.50 mm 30 : 3.00 mm	ZP : Zinc Electroplating + Powder Coating		20": 500 mm 24": 600 mm 28": 700 mm 32": 800 mm 36": 900 mm 40": 1000 mm	

Cable Tray

Reducer Section

Reducer Section

Cable Tray

Cable Tray Cover Reducer Section :-

How to Order for Reducer Section Cover ?



Epoxy Powder Coating after fabrication Central Reducer Section Cover, 600/400mm. Thickness 2 mm, U shape type.

Cable Tray Reducer Section :-



Hot Dip Galvanization after fabrication Left Reducer Section Cover, 600/400mm, Thickness 1.5 mm, U shape type.

VCR	- BS	- 20	- PC -	UST	- 24/16	VLR	- BS -	- 15	- HD -	UST -	24/16
Reducer Section Cover VCR: Cover Central Reducer Section VRR: Cover Right Reducer Section VLR: Cover Left Reducer Section	Kind of Maderials BS: Black Steel GS: Galvnized Steel AL: Aluminum A2: SS 304 A4: SS 316	Materials Thickness (1) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 25:2.50 mm 30:3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coating ZE: Zinc Electroplating HP: Hot dip Gdiv.+ Powder Coating ZP: Zinc Electroplating PP: Hot dip Coating CP: Zinc Coating	Side Type UST: U- Shape Type CLT: Click Lock Type	Width Of Direction (WT/W2) (INCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 8": 200 mm 10": 250 mm 10": 250 mm 12": 300 mm 20": 500 mm 24": 600 mm 22": 500 mm 32": 800 mm 32": 800 mm	Reducer Section Cover VCR: Cover Central Reducer Section VRR: Cover Right Reducer Section VIR: Cover Left Reducer Section	Kind of Materials BS: GS: GS: Galvanized Steel AL: Aluminum A2: SS: 304 A4: SS: 316	Materials Thickness (1) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 25:2.50 mm 30:3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coating ZE: Zinc Electropiating HP: Hot dip Galv.+ Powder Coating ZP: Zinc Electropiating P: Zinc Electropiating P: Value Coating	Side Type UST: U- Shape Type CLT: Click Lock Type	Width Of Direction (W1/W2) (INCH) 2": 50 mm 3": 75 mm 4": 100 mm 6": 150 mm 8": 200 mm 10": 250 mm 12": 300 mm 12": 300 mm 20": 500 mm 28": 700 mm 28": 700 mm 32": 800 mm 34": 900 mm

Cable Tray

Covers Clamps

Cable Tray Cover Clamp Section :-

How to Order for Cover Clamp?



Cover Clamp (C - Type) (CT)

Universal Fitting Cover ClampRigid indoor cover clamp for flat and flanged covers



Cover Clamp (U - Type) (UT)

Wraparound design offers added protection for rugged applications and outdoor conditions.



Peaked Cover Clamp (PT)

Wraparound design formed to fit peaked cover for outdoor applications.

Example

V/C

Hot Dip Galvanized after fabrication, cable tray Cover Clamp U-Type, 100 mm. width, 50 mm Side Height, Thickness 1.50 mm.

Powder Coating

VC	- B2	- 15	- HD -	UT	-
Item	Kind of	Materials	Finished Type	Cover	Co
Type	Materials	Thickness		Clamp	
		(T)	HD : Hot dip	Type	(V
VC:	BS:		Galvanization	CT:	
Cover	Black Steel			C-Type	2"
Clamp		10 : 1.00 mm	PC : Powder	C-Type	3"
	GS:		Coating	UT:	4"
	Galva-	12 : 1.25 mm		U- Type	6"
	nized Steel	15 : 1.50 mm	ZE : Zinc		8"
		15 : 1.50 mm	Electroplating	PT:	10"
	AL:	20 : 2.00 mm		Peaked	12"
	Aluminum	20 : 2.00 mm	HP : Hot dip	Type	
		22 : 2.25 mm	Galv.+ Powder		16"
	A2:	22 : 2.25 mm	Coating		20"
	SS 304	25 : 2.50 mm			24"
	A4:	25 . 2.50 mm	ZP : Zinc		28"
	A4:		Electroplating +		32"

30: 3.00 mm

0.	-	
Cover Clamp Type	Cover Clamp Width (W) (INCH)	Side Height (H) (INCH)
CT: C-Type	2" : 50 mm	1": 25 mm
UT:	3" : 75 mm 4" : 100 mm	2": 50 mm
U- Type PT :	6" : 150 mm 8" : 200 mm	4" :100 mm
Peaked Type	10": 250 mm 12": 300 mm 16": 400 mm	5" :125 mm
	20" : 500 mm 24" : 600 mm	6" :150 mm
	28" : 700 mm 32" : 800 mm	
	36" : 900 mm 40" : 1000 mm	

All types we can provide Example code

Hardware Section

Cable Tray















Serrated Rods



SS 316

NOTES NOTES

Cable Tray

Support System









U - Channel C- Channel Unistrut channel Wall Brackets Ceiling Brackets

Cable Tray Support System

Suspension Channel

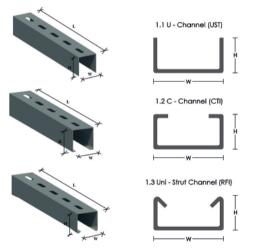
Cable Tray Support Is:-

A device which provides adequate means for supporting cable tray sections, fittings, or both. The basic types of cable tray supports are:

1. Suspension Channel, 2. Cantilever Bracket.

1. Suspension Channel

Suspension Channel are used for suspend the Cable trays systems , and the basic types of suspension channel are 1. U-Channel ; 2.C- Channel ; 3.Unisturt Channel .



Suspension Channel





How to Order for Suspension Channel?

Example

All types we can provide

Example code

Hot Dip Galvanization after fabrication Uni-Strut Channel (Return Flanged Type), 41mm Width, 21mm Height, 2 mm Thickness, 3000 mm Length

_								
	SC	- BS	- 20	- HD -	RFI	- 41	- 21	- 300
	SC: Suspension Channel	Kind of Materials B5 : Black Steel Galvantzed Steel AL: Aluminum A2 : S5 304 A4 : S5 316	Materials Thickness (1) 10:1.00 mm 12:1.25 mm 15:1.50 mm 20:2.00 mm 22:2.25 mm 25:2.50 mm 30:3.00 mm	Finished Type HD: Hot dip Galvanization PC: Powder Coating ZE: Zinc Electroplating HP: Hot dip Galv.+ Powder Coating ZP: Zinc Electroplating + Powder Coating - Powder Coating - Powder Coating	Side Type RFI: Return Flange Inside (Unistrut) UST: U- Shape Type CTI: C-Type Inside	Base Width (W) (mm) 30 : 30 mm 40 : 40 mm 41 : 41 mm 50 : 50 mm 60 : 60 mm	Side Height (H) (mm) 20 : 20 mm 21 : 21 mm 25 : 25 mm 26 : 26 mm 40 : 40 mm 41 : 41 mm	Length Of Piece (L) 200 : 2000 mm 244 : 2440 mm 250 : 2500 mm 300 : 3000 mm

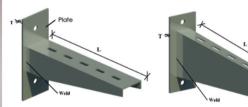
Cable Tray Support System

Cantilever Brackets

2. Wall Brackets:

A common solution for horizontal wall mounting or channel framing. Suitable for all sizes of Cable trays especially for wider trays and heavier loads, and here we can provide common Types of Wall Brackets.

A. Wall Brackets Welded Type (WBW):-



Welded Wall Bracket Hung Type (HT)



Welded Wall Bracket Single Uni-Strut Type (SU)

Welded Wall Bracket Double Uni-Strut Type (DU)

Welded Wall Bracket

Deep Hung Type (DH)

Cantilever Brackets

Cable Tray
Support System

B. Wall Brackets Bolted Type (WBB) :-



How to Order for Wall Brackets?

Example

Hot Dip Galvanization after fabrication Welded Wall Bracket Hung Type, Plate Thickness 5 mm, Arm Thickness 3 mm, Arm Length 500mm, Arm Width 75mm, Arm Levels (1) level.

WBW	- BS -	50/30	- HD -	HT -	3/20	- 1
Wall	Kind of	Plate	Finished Type	Wall Bracket	Width / Length	Arm Levels
Bracket	Materials	(U-Sec.)		Shape type	Of Arm (Inch)	
Type		/Arm	HD: Hot dip			1:1 Level
-	BS:	Materials	Galvanization	HT:	2" : 50 mm	
WBW:	Black Steel	Thickness		Hung Type	3" : 75 mm	2:2 Levels
Wall Bracket	GS:	(T)	PC: Powder Coating	DH:	4" : 100 mm	3:3 Levels
Welded	Galvanized	20 : 2.00 mm		Deep Hung	6" : 150 mm	
type	Steel		ZE: Zinc	Type	8" : 200 mm	4:4 Levels
		30: 3.00 mm	Electroplating		10": 250 mm	
WBB:	AL:			SU:	12":300 mm	5:5 Levels
Wall	Aluminum	40 : 4.00 mm	HP :Hot dip	Single	16" : 400 mm	
Bracket			Galv.+ Powder	Uni-Strut		6:6 Levels
Bolted	A2:	50 : 5.00 mm	Coating	Type	20":500 mm	
type	SS 304				24":600 mm	7:7 Levels
		60 : 6.00 mm	ZP : Zinc	DU:	28":700 mm	
	A4:		Electroplating	Double	32":800 mm	8:8 Levels
	SS 316		+ Powder	Uni-Strut	36" : 900 mm	1
			Coating	Type	40" : 1000mm	

Cantilever **Brackets**

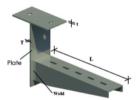
Cantilever **Brackets**

Suspension Channel Cable Tray Support System

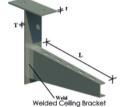
3. Ceiling Brackets

Ceiling Brackets are used to carry cable tray suspended from the ceiling.

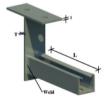
A. Ceiling Brackets Welded Type (CBW):-



Welded Ceiling Bracket Hung Type (HT)



Deep Hung Type (DH)



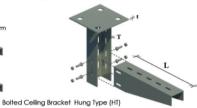
Welded Ceiling Bracket Single Uni-Strut Type (SU)



Welded Ceiling Bracket Double Uni-Strut Type (DU)

B. Ceiling Brackets Bolted Type (CBB):-





How to Order for Ceiling Brackets?

Example

Hot Dip Galvanization after fabrication Bolted Ceiling Bracket Hung Type, Cap Thickness 6mm, U-Section Thickness 5 mm, Arm Thickness 3 mm, Arm Length 500 mm, Arm width 100 mm . 2 Levels arm .

CBB	- BS -	60/50/30	- HD ·	- НТ -	4/20	- 2
Ceiling	Kind of	Cap/Plate	Finished Type	Wall Bracket	Width / Length	Arm Level
Bracket	Materials	(U-Sec)/Arm		Shape type	Of Arm (Inch)	Pieces
Type		Materials	HD: Hot dip		(L)	
	BS:	Thickness (T)	Galvanization	HT:		1:1 Leve
CBW:	Black Steel			Hung Type	2" : 50 mm	
Ceiling		20 : 2.00 mm	PC: Powder		3" : 75 mm	2:2 Levels
Bracket	GS:		Coating	DH:	4" : 100 mm	
Welded	Galvanized	30 : 3.00 mm		Deep Hung		3:3 Levels
type	Steel		ZE: Zinc	Type	6" : 150 mm	
		40 : 4.00 mm	Electroplating		8" : 200 mm	4:4 Levels
CBB:	AL:			SU:	10": 250 mm	l
Ceiling	Aluminum	50 : 5.00 mm	HP :Hot dip	Single	12":300 mm	5:5 Levels
Bracket			Galv.+ Powder	Uni-Strut	16":400 mm	
Bolted	A2:	60 : 6.00 mm	Coating	Type	20" : 500 mm	6:6 Levels
type	SS 304					
			ZP : Zinc	DU:	24":600 mm	7:7 Levels
	A4:		Electroplating	Double	28":700 mm	
	SS 316		+ Powder	Uni-Strut	32":800 mm	8:8 Levels
			Coating	Type	34" - 900 mm	I

NOTES NOTES



NOTES

Useful Information



Useful Information

Surface Area & Volume Formulas Calculate Surface Area and Volume

Surface area and volume formulas are part of the math used in common science calculations. You may need to calculate surface area and volume to determine density, pressure and Forces, for example. While it's a good idea to memorize these formulas, here a list of surface area and volume formulas to use as a handy reference.



Area Calculation:-



Triangle
Perimeter = a + b + c
Area = ½ × b × h
b = base
h = vertical height



Rectangle
Perimeter =2h + 2w
Area = w × h
w = width
h = height



Trapezoid
Perimeter = a + b1 + b2 + c
Area = ½(b1 + b2) x h
h = vertical height



Square
Perimeter = 4a
Area = a²
a = length of side



Parallelogram
Perimeter = 2a + 2b
Area = b × h
b = base
h = vertical height



Circle
Area = π × r2 , Area = π × d2 /4
Circumference = 2 × π × r
Circumference = π × d
r = radius d = diameter



Ellipse Area = π x r1 x r2



Sector
L= r × 0
Area = ½ × r2 × 0
r = radius
θ = angle in radians



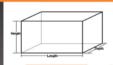
Hexagon Perimeter = 6r Area = (3√3/2)r2



Octagon Perimeter = 8a Area = (2 + 2√2)a2

Useful Information

Volume Calculation: π= 3.141592

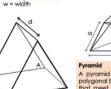


h

Rectangular Solid

Surface Area = 2(lh) + 2(lw) + 2(wh)

Volume = I x h x w where : I = length h = height



Prism

A prism can be described as a stack of shapes. The figure shows a prism of triangles stacked (d) thick, but any shape could be used.

Surface area = 2A + Pd where A = area of the base sh

A = area of the base shape P = perimeter of base shape d = height of prism

Volume = Ad

Cylinder

A cylinder is a prism with a circular base.

Surface Area = 2πr2+ 2πrh Volume = πr2h



A pyramid is a solid figure with a polygonal base and triangular faces that meet at a common point over the center of the base.

The height (h) is the distance from

the base to the apex or top of the pyramid.

The side length (s) is the height of the face triangles.

The perimeter (P) and the area (A) of the base is calculated according to the shape of the base.

Surface Area = (½ x P x s) + A Volume = 1/3 Ah

The figure shows a pyramid with a square base (a = b) with equilateral triangles for faces.

Surface area = a2 + √3(a2) Volume = √5(a3/6)



Sphere

A sphere is a shape where the distance from the center to the edge is the same in all directions.

This distance is called the radius (r).

Surface area = 4πr2 Volume = 4/3πr3



Cone

A cone is a pyramid with a circular base of radius [r] and the side length [s] is the length of the side.

 $s = \sqrt{(r^2 + h^2)}$

Surface Area = πr2 + π(rxs)

Volume = $1/3(\pi r^2h)$

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Useful Information

Density & Weight Formulas :-

Calculate Density and Weight:-

Density is defined as Weight divided by volume, or Weight per unit volume.

The density in kilograms per cubic meter can be obtained by multiplying the table value.

The density in kilograms per cubic meter can be obtained by multiplying the table values by 1000.

And here in this table you will find the common materials densities, and some formulas that you will need it in your weight & loads calculation.

Substance	Relative density				
Liquids					
Alcohol Mercury Paraffin Petrol Water (4oC) Sea water	0.82 13.95 0.80 0.72 1.00				
Solids					
Aluminum Brass Cadmium Chromium Copper Cast iron Lead Nickel Nylon PVC Steel Tin Zinc	2.72 8.48 8.57 7.03 8.79 7.20 11.35 8.73 1.12 1.36 0.96 7.82 7.28				
Gases at STP					
Acetylene	0.0017				

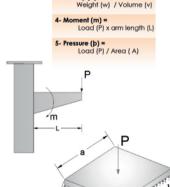
0.0013

0.00198

0.00126

0.00125

0.00143



1- Volume (v) =

2- Weight (w) =

3- Density (d) =

Weight (w) / Density (d)

Volume (v) x Density (d)

Useful Information

COMMON UNIT OF MEASURE CONVERSIONS :-

COMMONLY USED ABBREVIATIONS

Abbreviations may stand for singular or plural usage

 cm = centimeter
 cu, = cubic
 ft, = foot

 gr. = gram
 Imp, = Imperial
 in, = inch

 km, = kilometer
 I, = liter
 lb, = pond

 mi, = mile
 oz, = ounce
 qt, = quart

 US = United States
 vd, = vard

Length Measures :-

Commo	n Usag	e :-	Recipro	Reciprocal Value :-				
1 ft. =	12	in	1 in. =	0.0833	ft.			
1 yd. =	3	ft.	1 ft. =	0.3333	yd.			
1 mi. =	5,280	ft.	1 ft. =	0.000189	ml.			
1 mi. =	1,760	yd.	1 yd. =	0.000568	3 mi.			
1 in. =	2.54	cm.	1 cm. =	0.3937	in.			
1 ft. =	30.48	cm.	1 cm. =	0.0328	ft.			
1 m. =	3.2808	ft.	1 ft. =	0.3048	m.			
1 m. =	39.37	in.	1 in. =	0.0254	m.			
1 m. =	1.0936	yd.	1 yd. =	0.9144	m.			
1 rod =	5.029	m.	1 m. =	0.1988	rod			
1 km =	1000	m.	1 m. =	0.001	km.			
1 km =	0.621	mi.	1 mi. =	1.6103	km.			

Weight Measures :-

Common Usage :-

1 lb. = 16 oz.	1 oz. = 0.0625 lb.
1 ton = 2000 lb.	1 lb. = 0.0005 ton
MET	RIC
1 oz. = 28.35 gr.	1 gr. = 0.03527 oz.
1 kg = 1000 gm	1 gr. = 0.001 kg.
1 lb. = 0.4536 kg.	1 kg. = 2.2046 lb.
1 metric ton =	1 English ton =
0.9842 English ton	1.016 metric tons

gl. = gallon (US) kg. = kilogram

std. = standard

m. = meter

Temperature :-

Celsius or Centigrade	Fahrenheit
1 degree	
Celsius (C) =	5/9 x (F - 32)
(9/5 x C) + 32 =	1 degree Fahrenheit (F)

Area (Square Measures):-

Common Us	age :-	Reciprocal Value :-	
1 sq. ft. =	144 sq. in.	1 sq. in $= 0.0069$	sq. in.
1 sq. yd. =	9 sq. ft.	1 sq. ft. = 0.1111	sq. yd.
1 sq. rod =	30.25 sq. yd.	1 sq.yd. = 0.0331	sq.rods
1 sq. mi. =	640 acres	1 acre = 0.0016	sq. mi.
1 sq. cm. =	0.1550 sq. in.	1 sq. in. = 6.452	sq. cm.
1 sq. ft. =	0.0929 sq. m.	1 sq. m. = 10.7643	
1 sq. m. =	1.196 sq. yd.	1 sq.yd. = 0.8361	sq. m.
1 hectare =	2.47 acres	1 acre = 0.4049 h	
1 sa. km. =	0.386 sq. mi.	1 sq.mi. = 2.59	sq. km.

Dry air

Hydrogen

Nitrogen Oxvaen

Carbon dioxide

Carbon monoxide

Useful Information

Cubic & Volume Measures :-

Common Usage

Reciprocal Value

1 cu, ft. = 1,728 cu, in 1 cu, yd. = 27 cu, ft. 1 cord (wood) = 128 cu, ft. 1 Us std., gal. = 231 cu, in. 1 cu, ft. = 0.0076 croft 1 US std., gal. = 231 cu, in.

METRIC

1 cu, in, = 16.39 cu, cm, 1 cu, m, = 35.3357 cu, ft, 1 cu, m, = 1.308 cu, yd, 1 cu, yd, = 0.7646 cu, m,

DRY MEASURES

METRIC

1 qt. dry = 1.101 l. 1 l. = 0.908 qt. dry 1 peck = 8.810 l. 1 l. = 0.1135 peck 1 hectoliter = 2.8375 bushels 1 bushel = 0.3524 hectoliters

LIQUID MEASURES

IMPERIAL & METRIC LIQUID MEASURE

1 US gl. = 0.833 Imp. gl. 1 Imp. gl. = 1.201 US gl. 1 Imp. gl. = 1.201 US gl. 1 Imp. gl. = 1.201 US gl. 1 I. = 0.2200 Imp. gl. 1 I. = 0.264 US gl. 1 US gl. = 3.7879 I. I. = 1.0567 qt. liquid 1 qt. liquid = 0.9463 I. gl. = 3.7854 I. 1 I. = 0.2642 gl.

NOTES

