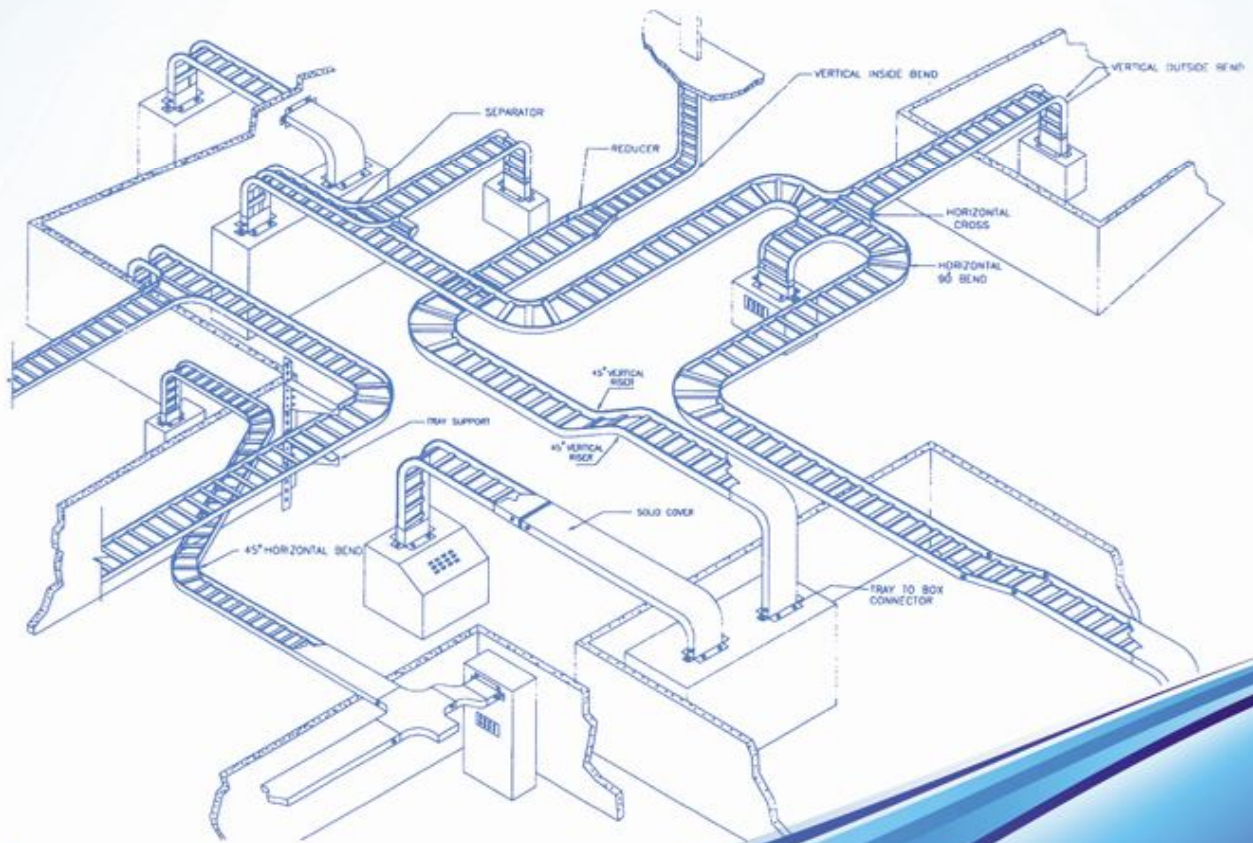




MASAR
ENGINEERING INDUSTRIES

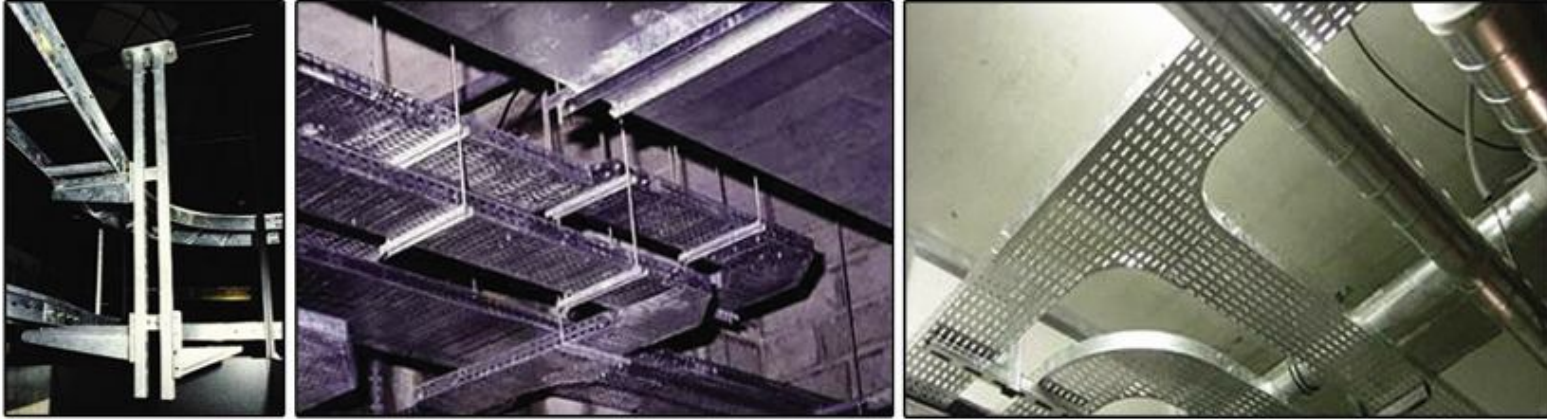
CABLE MANAGEMENT SYSTEM



Quality
 **ON TIME**



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MASAR ENGINEERING

Was established in 2010 as a company specialized in sheet metal works, having multi divisions to produce precision and complex works - a manufacturing yard is designated in Borg EL Arab industrial area on the west side of Alexandria, Egypt with a total area of almost 4,500 sq . MT



Modern Aid, Successful Aim Reliability

Focusing expertise, skills, experience with a vision to deliver powerful qualitative product in traditional sheet metal field. The success of our company depends on the commitment and efforts of every employee to offer an unmatched level of service to our customers.

Machine Technologies

As a precision sheet metal facility MASAR offers production, low cost technologies. MASAR success the latest in high tech equipment, operations are being under run by experienced well trained employees at every level. We are electronically linked with our customers from the engineering stage to the final quality inspections prior to shipment, MASAR is as committed to manufacture what you design and/or select. Thus, our business is to fulfill your designated need. Give us a call and let us go to work for you.



Assembly of cable support consisting of cable tray lengths or cable ladder lengths and other system components (IEC 61537)

The need for a cable tray system

As technology develops, in accordance to that the need for effective support systems arises. Today plants and buildings are moving more and more towards automation requiring complex system of wiring and cable reliance

Old methods of cable management become obsolete & out dated under these demanding conditions:

- regular inspections must be carried out for errors allocation
- many entry /exit points are required
- new cable may need to be installed, and old ones previously installed
- ventilation, essential to power and similar cables has to be present as well.

Today cable trays have become a necessary part of industrial and commercial construction

Cable trays are capable of supporting all types of wiring :

- High voltage power lines
- Power distributions cables
- Telecommunications wiring
- Optical cables

Advantages of Masar cable trays

Masar cable tray system are manufactured in alliance of the International Electrical Committee standards (IEC 61537)

Masar cable tray system offer the following Advantages :

- Easy installations
- Increased cable fill over other wiring method
- There by saving material costs and installation labour
- The metal can be used as an equipment ground conductor
- Less space utilization than other systems
- Easy inspection of cables
- Easy errors allocation & quick repair, without any replacements of cables
- Cables can instantly be added to existing trays at a later stage



Massar manufactures three types of cable trays :

- Ladder type
- perforated type
- Solid type

All of these are available with a full range of fixtures and accessories

Fixtures:

System component used to join ,change direction, change dimension or terminate cable tray lengths or cable ladder lengths.

Covers:

Covers act as an additional safeguard, providing shelter from sunlight dirt accumulation and accidental contact. They also isolate cables from fires and radio frequency interference .

Available in solid top or louvered top

Construction Accessories:

Masar manufactures all construction accessories to enable onsite installation of cable tray system, These include channel, hangers,...etc

Specific requirements:

Other types of cable trays and fixtures can be supplied to meet specific requirements.

Masar cable trays are available in these materials Aluminum, steel and stainless steel

Listed below the advantages of each material type.

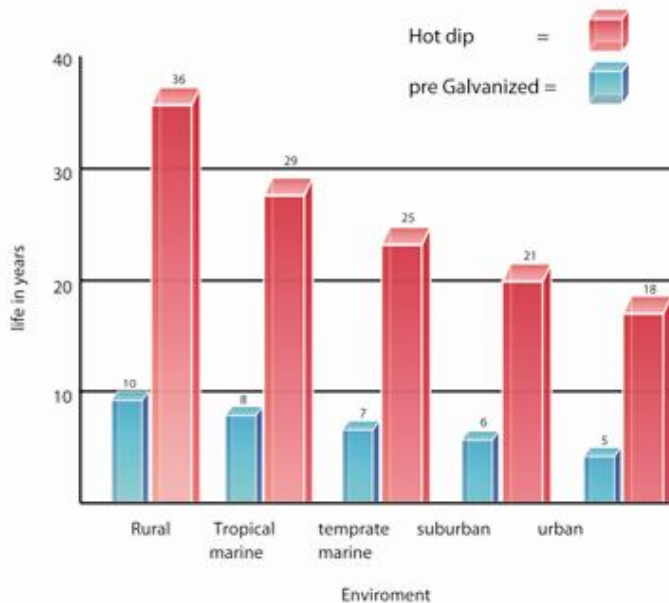
Materials	Advantages
Aluminum	<ul style="list-style-type: none">- Corrosion resistance- Easy field Fabrication & Installation- Excellent strength to weight ratio- Excellent grounding conductor
Steel	<ul style="list-style-type: none">- Electric shielding- Finish options- Low thermal expansion- Limited deflection
Stainless Steel	<ul style="list-style-type: none">- Superior corrosion resistance with stands high temperatures

All Masar cable trays are manufactured from prime quality sheet.

To provide adequate protection against corrosion, three types of protection are offered :

- Paint after manufacturing
- Fabricated from pre-galvanized sheets
- Hot dip galvanized after manufacturing

Service life is defined as the time of 5% rusting of steel service anticipated life zinc coatings in various atmospheric environments .



Dimensions

Massar cable tray are manufactured in the following standard dimensions :

Length mm	2000 & 3000
Depth mm	50, 75, 100, 125, 150
Width mm	100,150, 200, 250,.....900

Sheet metal thickness :

- 1mm for light loads
- 1.5mm for medium loads
- 2mm for heavy loads

Elbow and cross radius :

- 300mm, 600mm

Loading capability & support span all Masar cable trays are manufactured in accordance with the IEC standard(NO61537) thus they meet or exceed the loading capability of comparable cable trays .

Catalog Numbering System



For ease of ordering, each individual production is identified by a (catalog number) comprising Letters and numbers.

Format
Code



Code 1 type of cable trays & cover

- LT ladder
- PC perforated
- SC solid
- CS solid cover
- CV ventilated cover

Code 6 type of material

- AL aluminum
- ST steel
- Ss stainless steel

Code 2 type of cable trays & cover

- 2S 2 meter straight
- 3S 3 meter straight
- H horizontal
- I inside
- O outside
- T tee
- C cross
- R reducer

Code 7 type of finish

- P paint after fabrication
- G pre galvanized
- H Hot dip galvanized

Code 3 width in centimeters



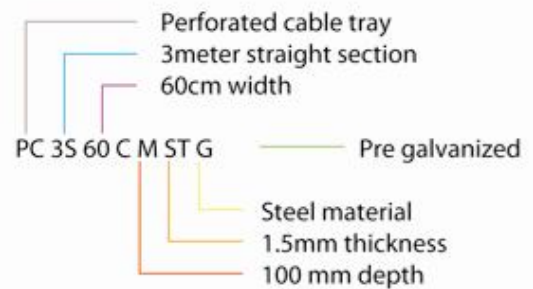
Code 4 nominal, depth in mm

- A 50
- B 75
- C 100
- D 125
- K 150

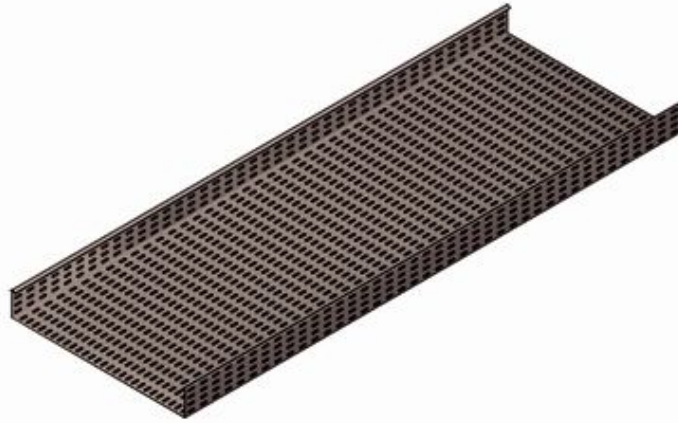
Code 5 sheet metal thickness in mm

- L 1mm
- M 1.5mm
- H 2mm

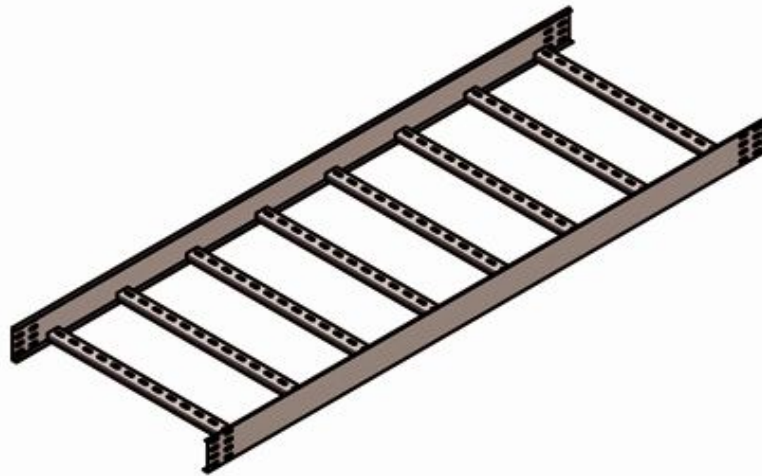
Example :



Perforated type



Ladder type



Solid type



Perforated Cable Tray



Perforated cable tray constructed from single sheet of perforated metal.

They are convenient for cables which require both a degree of protection from external damage and some ventilation.

Standard Dimensions :

Length mm	2000 & 3000
Depth mm	50, 75, 100, 125 & 150
Width mm	100,150, 200, 250,.....900

Sheet metal thickness :

- 1mm for light loads
- 1.5mm for moderate loads
- 2 mm for heavy loads

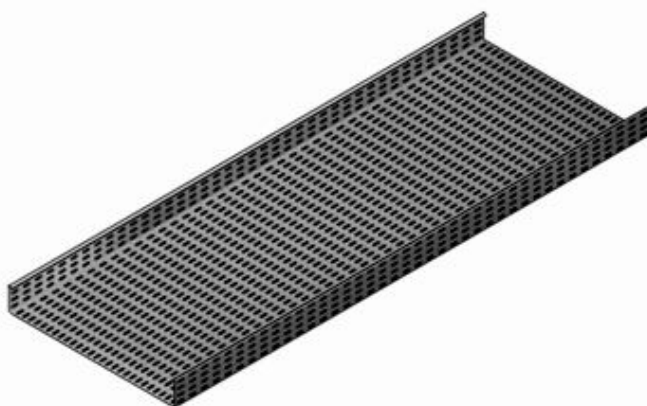
Designs other than those listed above can be manufactured to meet special requirements.

Material : Aluminum, steel, and stainless steel

Prime quality sheets finish (after fabrication)

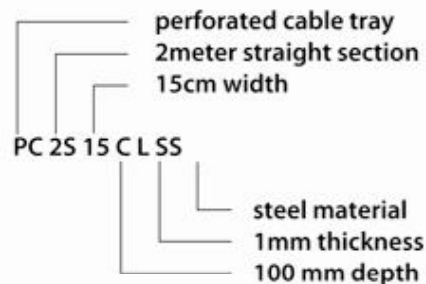
Finish :

- Pre galvanized
- Hot dip galvanized
- Powder coat painting



Straight section :

Example of catalog :
Numbering system :



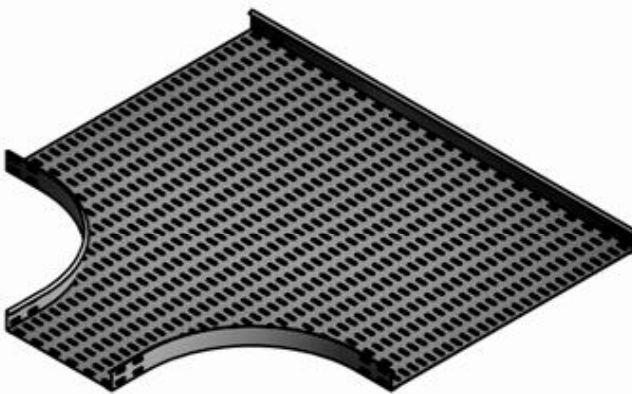


Perforated Cable Tray

Standard Dimensions :

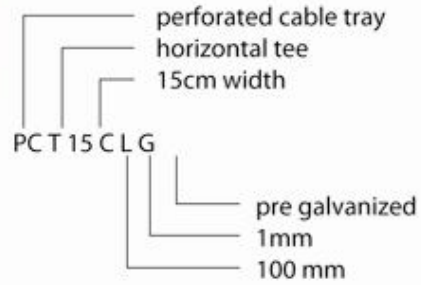
Radius R=300

Width mm	100,150, 200, 250, 300,.....
Length mm	90, 95,.....
Breadth mm	50, 55,.....



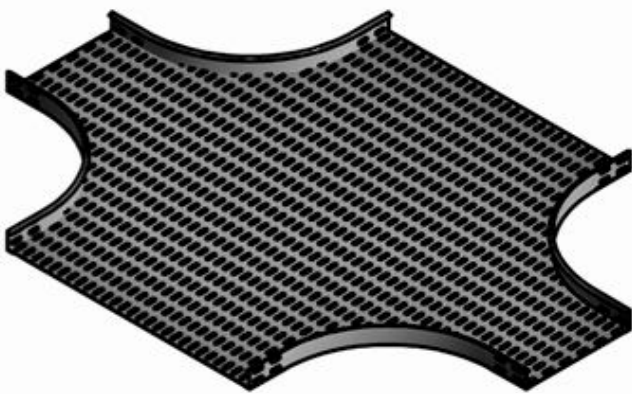
Horizontal tee :

Example of catalog numbering system



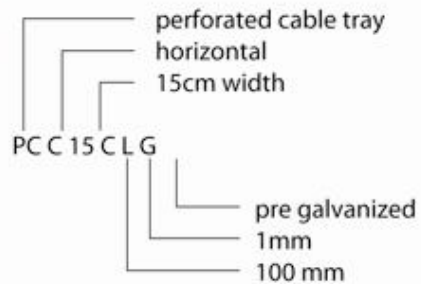
Standard Dimensions :

Radius R	300 mm
Width mm	100,150, 200, 250, 300,.....
Length mm	90, 95,.....



Horizontal cross :

Example of catalog numbering system



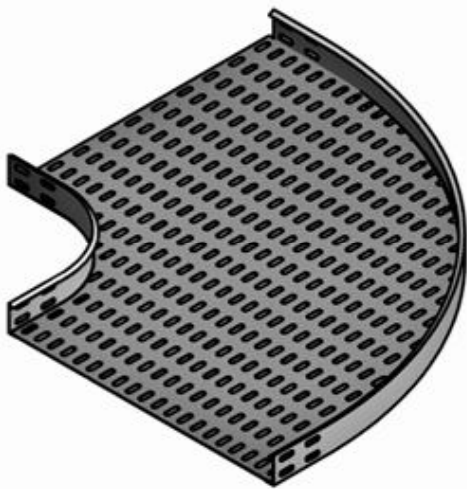
Perforated Cable Tray



Standard Dimensions :

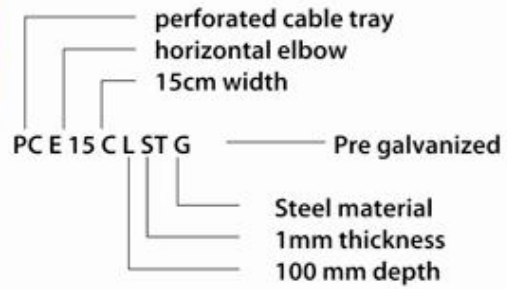
Radius R 300mm

Bend Angle	90°(30°,45°,60° also available)
Width mm	100, 150, 200, 250, 300, ...
Length mm	50, 55, 60, 65, 70,.....

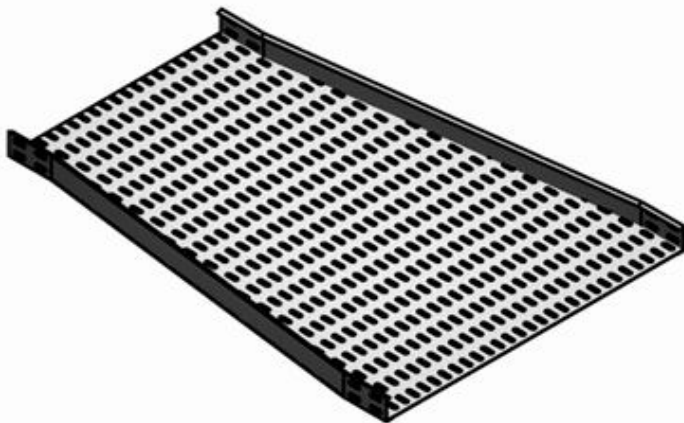


Horizontal elbow :

Example of catalog numbering system

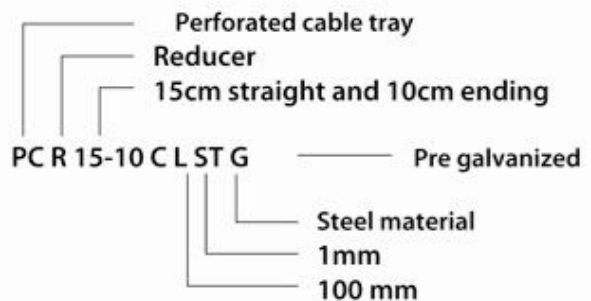


Masar manufactured a complete range of perforated cable tray reducer for joining any two sizes of straight section .
Please specify both starting and ending widths .



Reducer

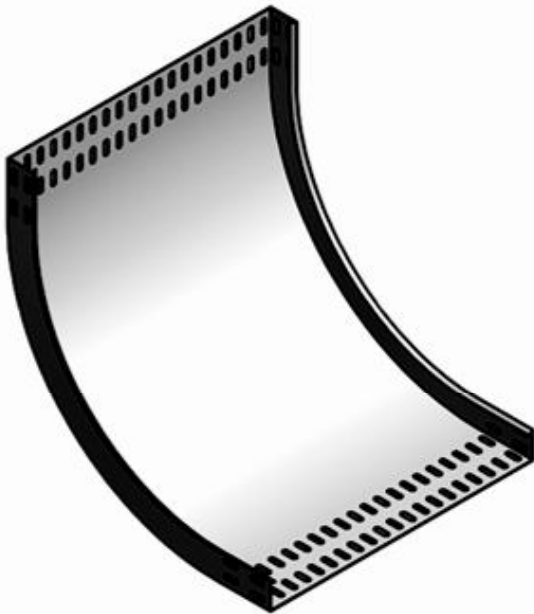
Example of catalog numbering system





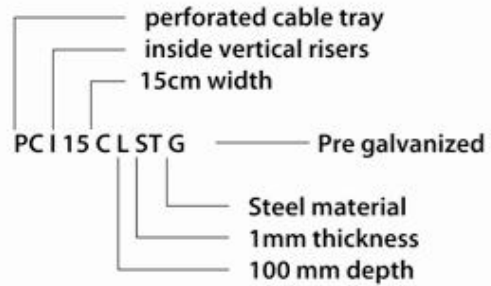
Perforated Cable Tray

Standard Dimensions :
Bend angle 90°



Inside vertical risers :

Example of catalog numbering system :

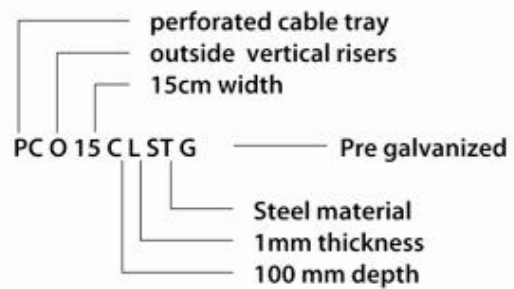


Standard Dimensions :
Bend angle 90°



Outside vertical risers :

Example of catalog numbering system



Ladder Cable Tray



Straight section of ladder type cable trays consist of two longitudinal side rails connected by individual transverse members, or rungs which are welded to the side rails or bolted this type of cable tray provides maximum ventilation of heat producing cable such as power cables.

Standard dimensions :

Length mm	2000 & 3000
Depth mm	50, 75, 100, 125, 150
Width mm	100,150, 200, 250,.....900

Rung spacing 300mm

Sheet metal thickness :

1 mm for light loads

1.5 mm for medium loads

2 mm for heavy loads

Designs other than those listed above can be manufactured to meet special requirements .

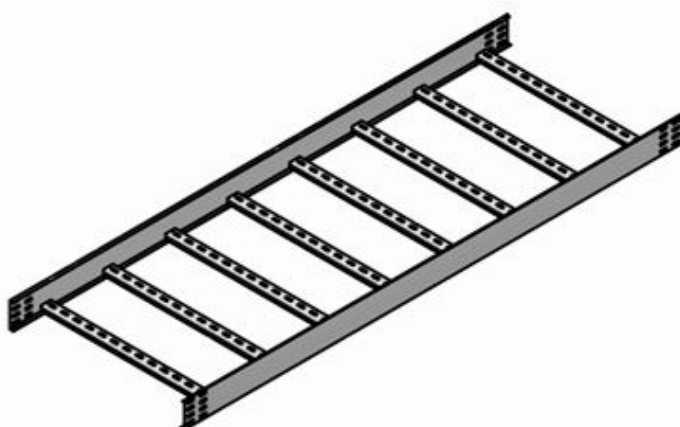
Material : Aluminum, steel and stainless steel

Finish :

Pre galvanized

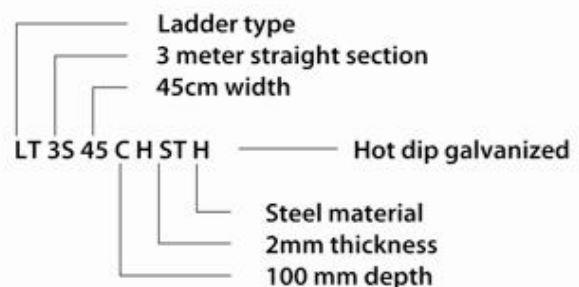
Hot dip galvanized

Powder coat painting



Straight section :

Example of catalog numbering system

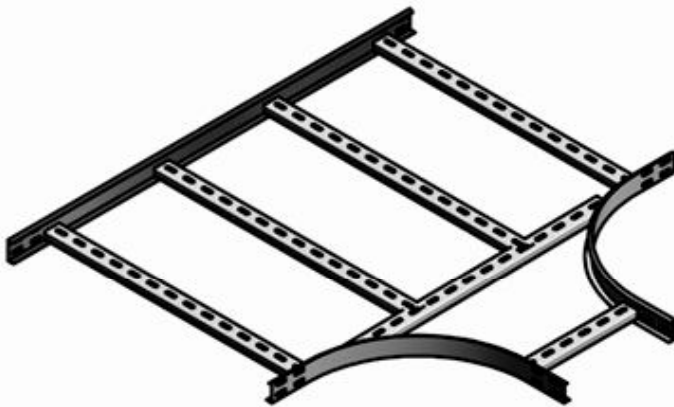




Ladder Cable Tray

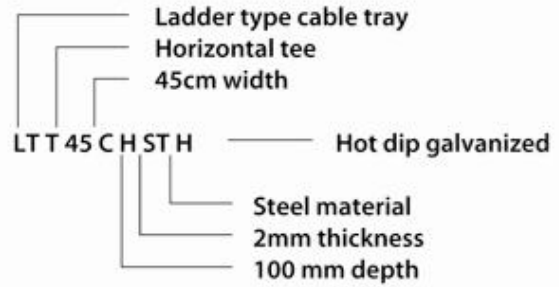
Standard Dimensions :

Radius R	300 mm
Width mm	100,150, 200, 250, 300,.....
Length mm	90, 95,.....



Horizontal Tee :

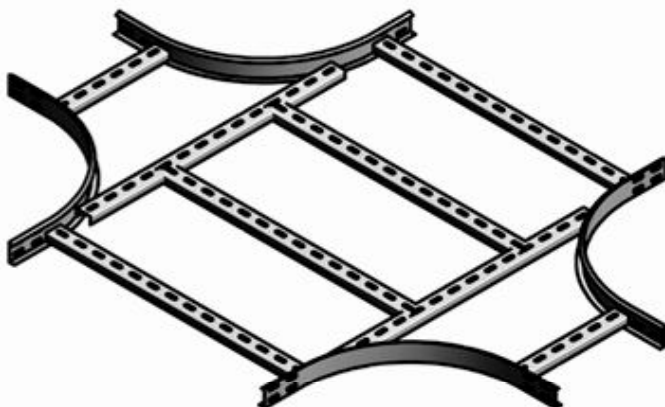
Example of catalog numbering system :



Standard Dimensions :

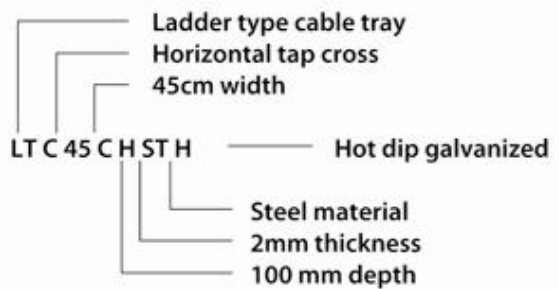
Radius R 300mm

Bend Angle	90°(30°,45°,60° also available)
Width mm	100, 150, 200, 250, 300, ...
Length mm	50, 55, 60, 65, 70,.....



Horizontal Cross :

Example of catalog numbering system :



Ladder Cable Tray



Standard Dimensions :

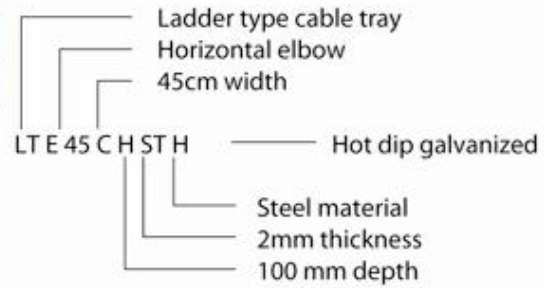
Radius R=300

Width mm	100,150, 200, 250, 300,.....
Length mm	90, 95,.....
Breadth mm	50, 55,.....



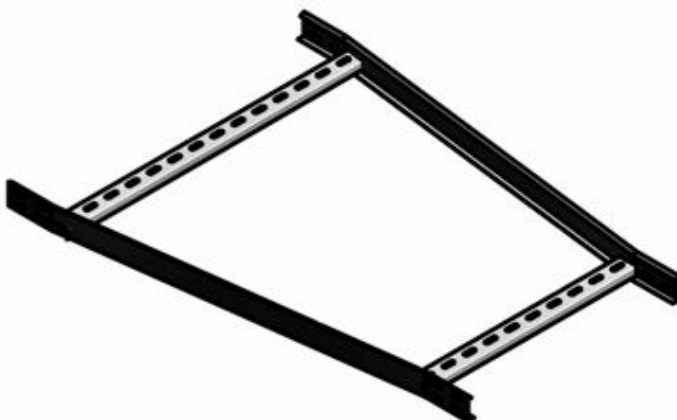
Horizontal Elbow :

Example of catalog numbering system :



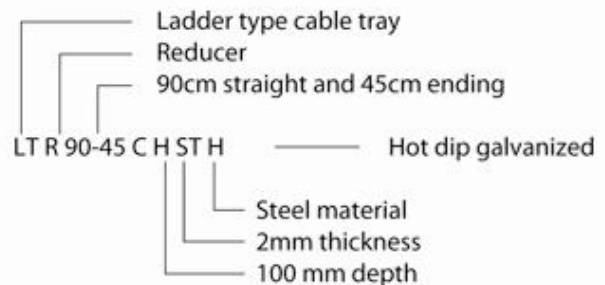
Massar manufactured a complete range of ladder reducers for joining any tow sizes of straight sections .

Please specify both starting and ending width .



Reducer :

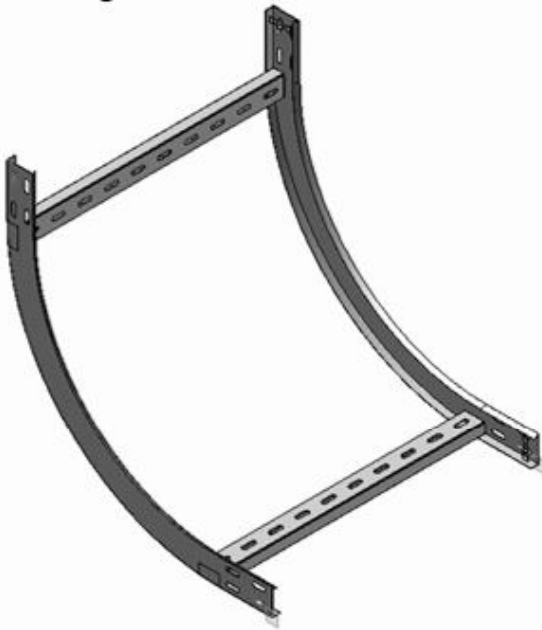
Example of catalog numbering system :





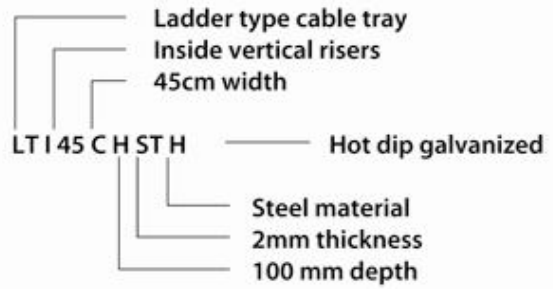
Ladder Cable Tray

Standard Dimension :
Bend Angle 90°

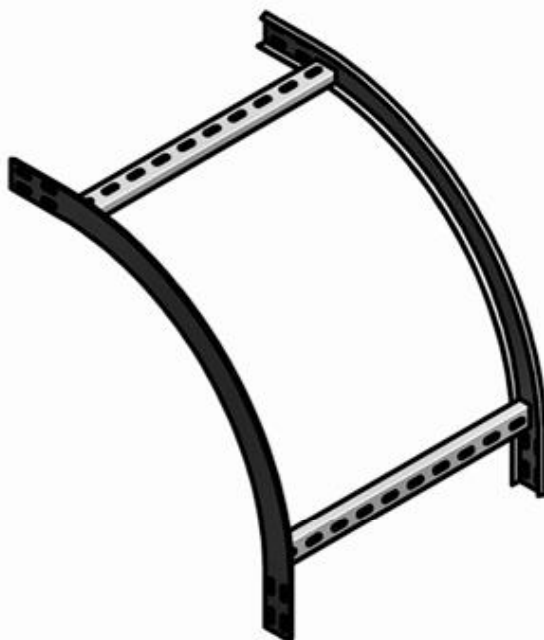


Inside vertical risers :

Example of catalog numbering system :

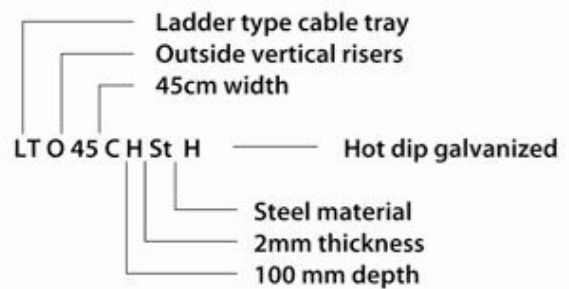


Standard Dimension :
Bend Angle 90°



Outside vertical risers :

Example of catalog numbering system :



Solid Cable Tray



Straight section of solid bottom cable trays constructed from single sheet of metal, providing excellent protection from external damage. They are used primarily for instrumental control, communication and other non heat producing cables.

Standard dimension :

Length mm	2000 & 3000
Depth mm	50, 70, 100, 125, 150
Width mm	100,150, 200, 250,.....900

Sheet metal thickness :

- 1 mm for light loads
- 1.5mm for medium loads
- 2 mm for heavy loads

Designs other than those listed above can be manufactured to meet special requirements.

Material: Aluminum, steel and stainless steel

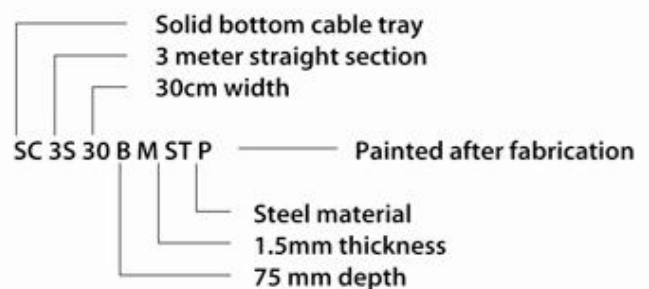
Finish :

- Pre galvanized
- Hot dip galvanized
- Powder coat painting



Straight section :

Example of catalog numbering system :

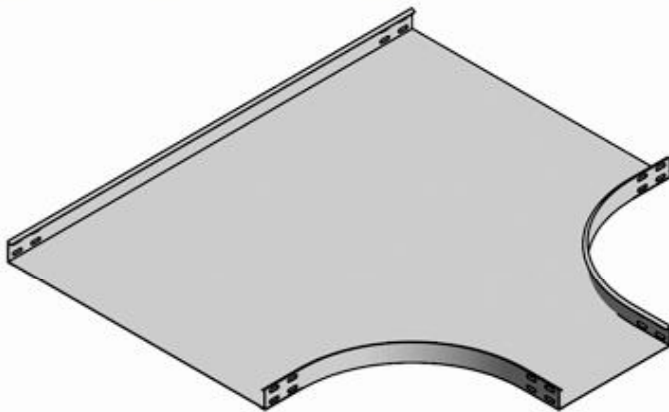




Solid Cable Tray

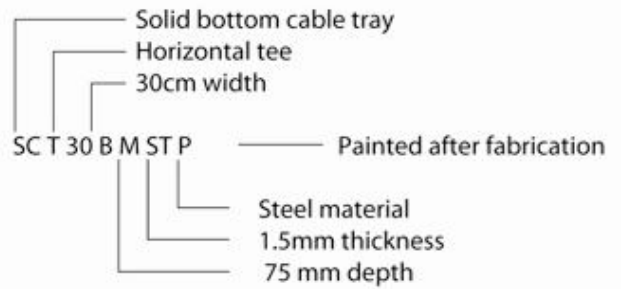
Standard Dimensions :

Radius R	3000 mm
Width mm	100,150, 200, 250,300.....
Length mm	90, 95,100, 110,



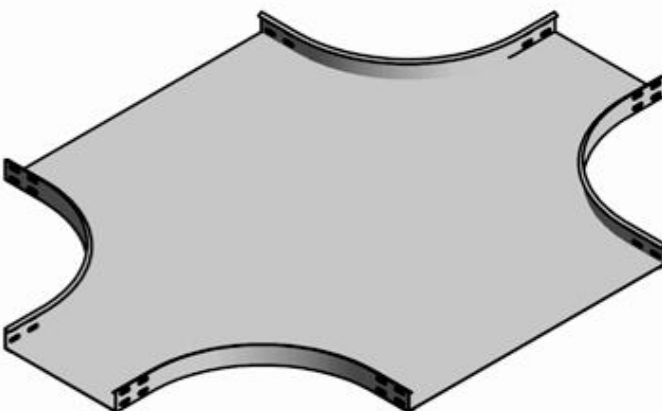
Horizontal tee :

Example of catalog numbering system :



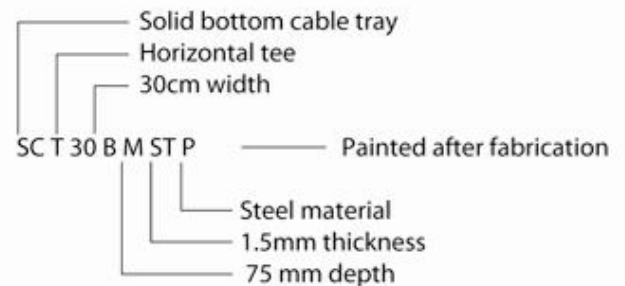
Standard Dimensions :

Radius R	3000 mm
Width mm	100,150, 200, 250,300.....
Length mm	50, 55, 60, 65, 70.....



Horizontal cross :

Example of catalog numbering system :



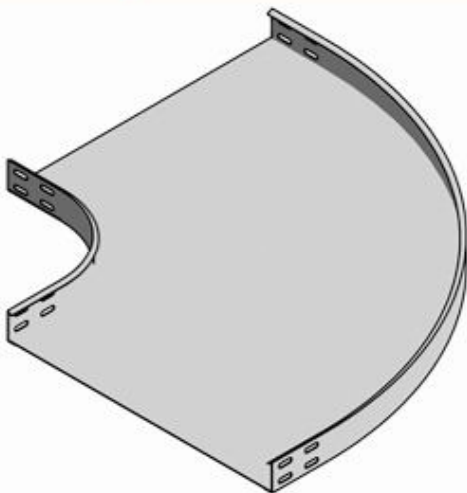
Solid Cable Tray



Standard Dimensions :

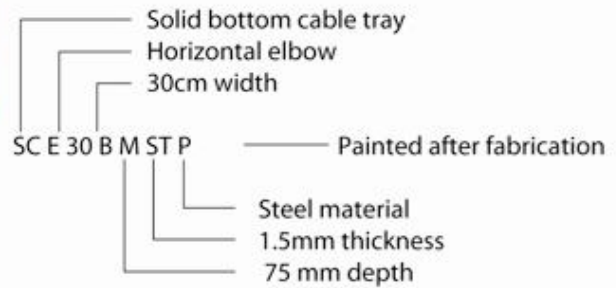
R 300mm

Width mm	100,150, 200, 250, 300,.....
Length mm	90, 95,100, 110,
Breadth mm	50, 55, 60, 65, 70



Horizontal elbow :

Example of catalog numbering system :



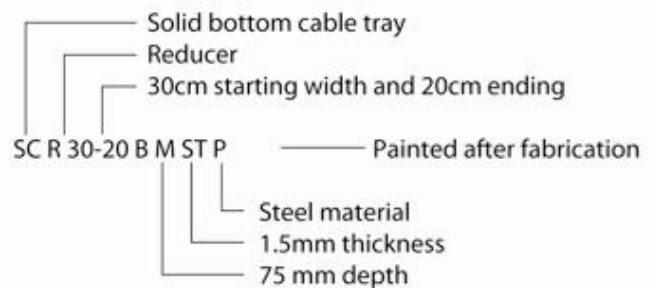
Massar manufactures a complete range of solid bottom reducers for joining any tow sizes of straight section .

Please specify both starting and ending width .



Reducer :

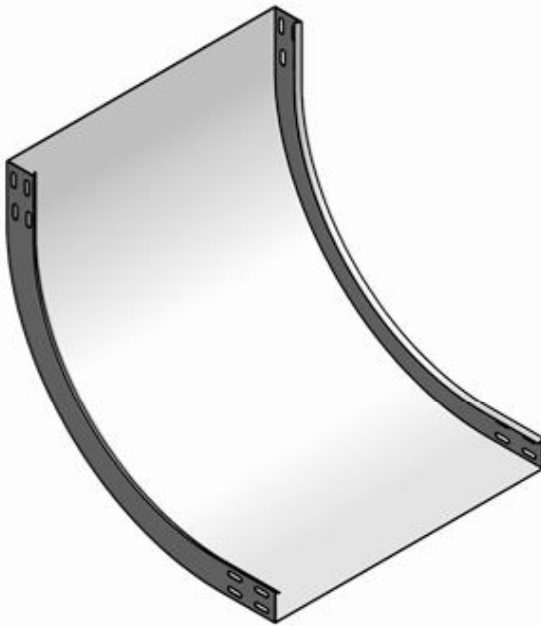
Example of catalog numbering system :





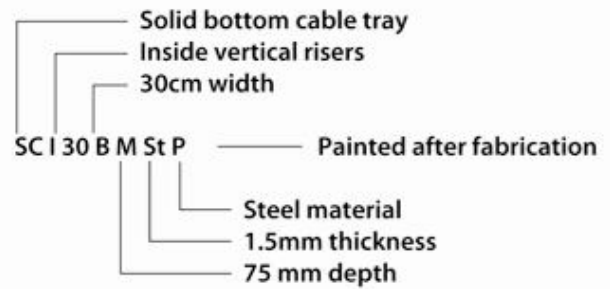
Solid Cable Tray

Standard Dimension :
Bend angle 90°

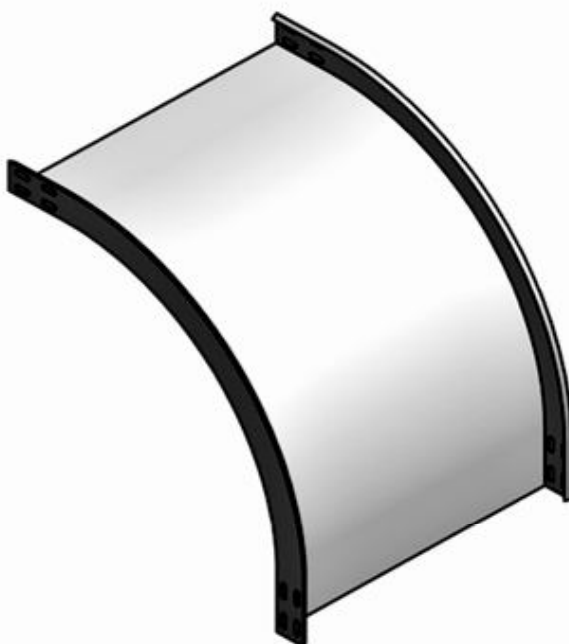


Inside vertical risers :

Example of catalog numbering system :

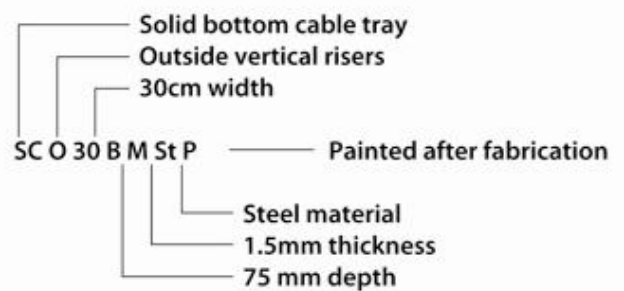


Standard Dimension :
Bend angle 90°



Outside vertical risers :

Example of catalog numbering system :



Standard dimensions :

Length mm : 2.00, 3.00mm

Depth mm : 15mm

Width cm : 10, 15,85, and 90

Sheet Metal Thickness :

1mm

1.5mm

2mm

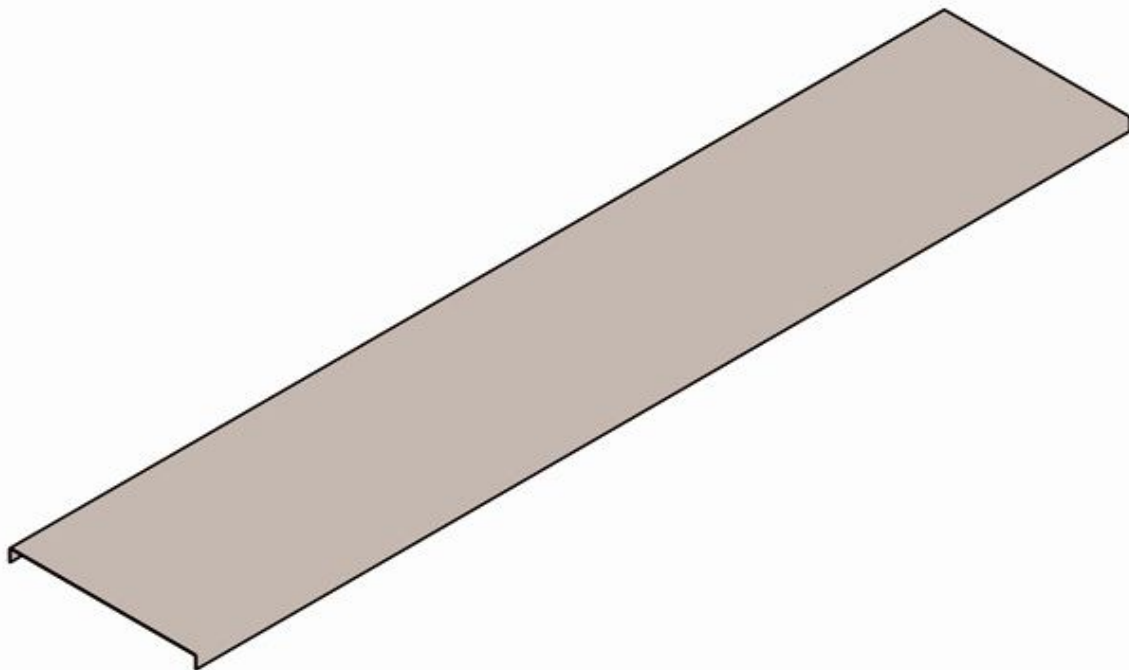
Designs other than those listed above can be manufactured to meet special requirements .

Material : Aluminum , steel and stainless steel

Finish :

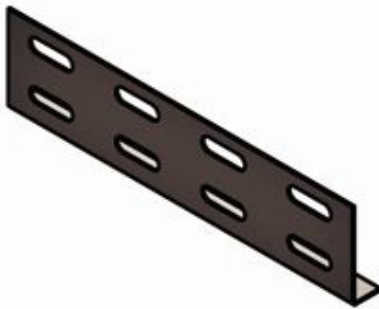
Pre galvanized

Hot dip galvanized



Standard Dimensions :

Length	200 mm
Depth	According to tray depth



Joining plate

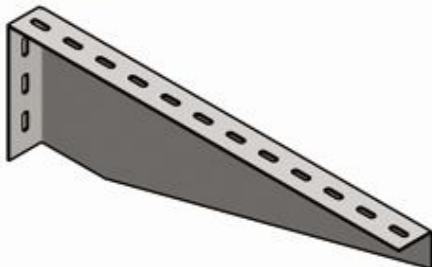
Sheet Metal Thickness as / tray thickness

Finish :

- Pre galvanized
- Hot dip galvanized
- Powder coat painting

Standard Dimensions :

Length	200 to 1000 mm
Height	140 mm, 180 mm



Bracket

Sheet Metal Thickness :

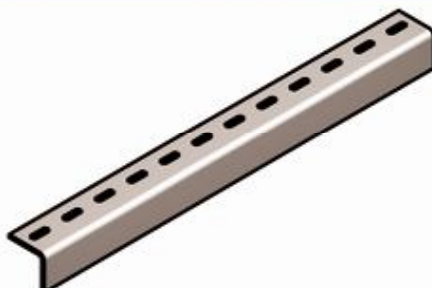
- 2.0, 2.5mm

Finish :

- Pre galvanized
- Hot dip galvanized
- Powder coat painting

Standard Dimensions :

Length	150 mm to 1000 mm
Standard size of 50*50 angles	



Hanger

Sheet Metal Thickness :

- 2mm to 3mm

Finish :

- Hot dip galvanized
- Powder coat painting
- Pre galvanized

Standard Dimensions :

Length 2.00, 3.00m

Depth 42mm

Width 42mm

Sheet Metal Thickness :

2mm

Finish :

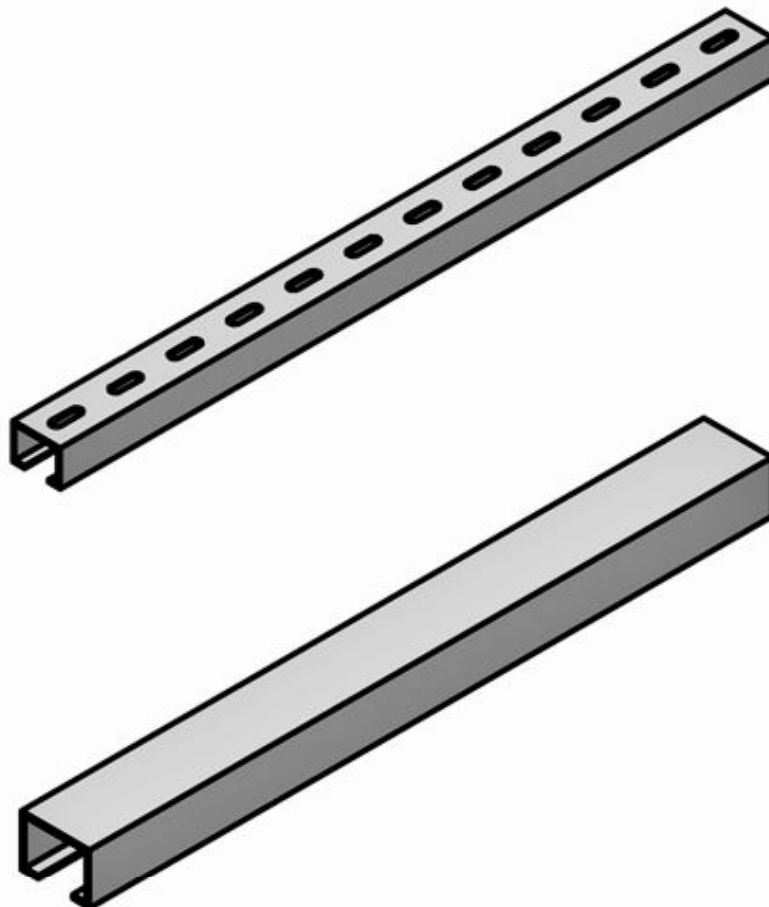
Pre galvanized

Hot dip galvanized

Powder coat painting

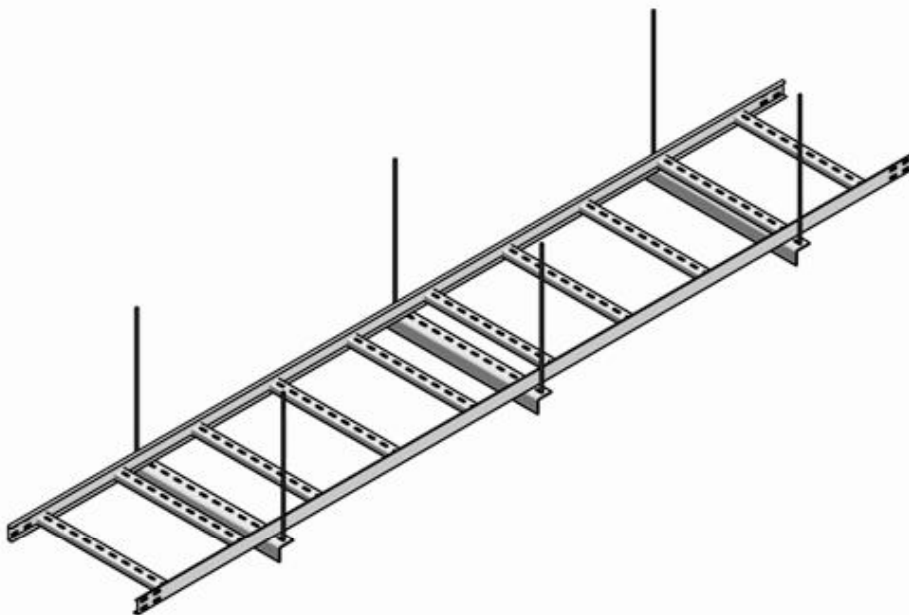
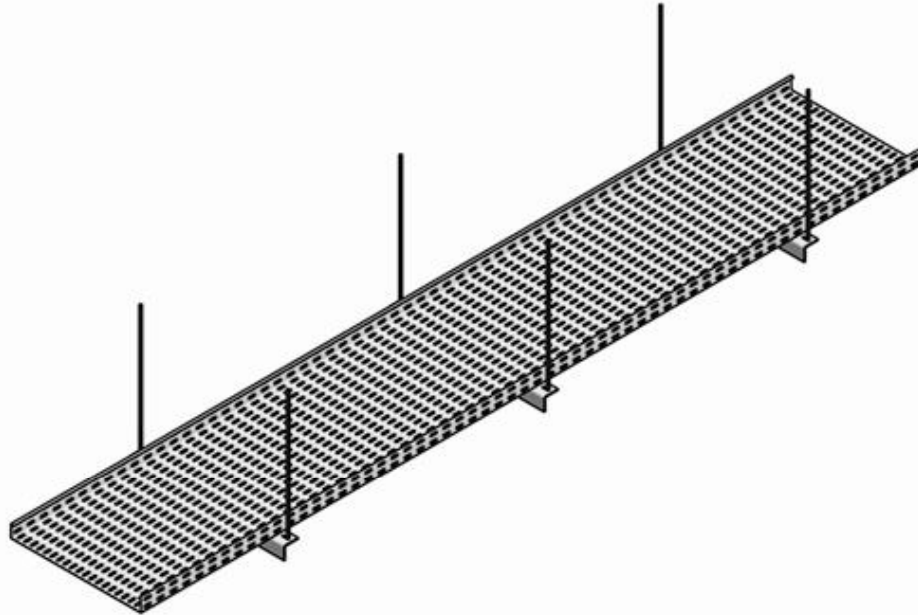
Channel

Channels are available in solid bottom and slotted type





Typical Installation

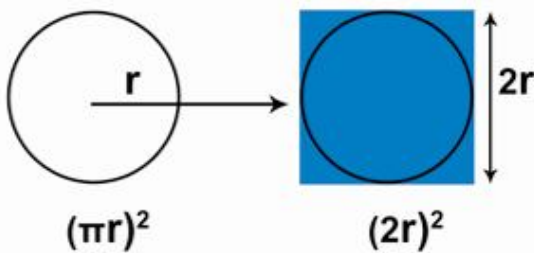


Selection of cable support systems

The following way can be followed up as being practical in selection of trays of ladders depending on cables to be used.

- 1- For calculation of cross sectional area of the cable use $(2r^2)$ formula instead of r^2
- 2- Find out total cross-section by calculating all cables.
- 3- leave 20% reservation allowance from viewpoint of forming ground to supplements.
- 4- Select appropriate cable support system from the following table.
- 5- Select nearest large value to your total cross-section while making your selection.

Cable Trays



Tray Width (mm)	Tray height (mm)				
	50	75	100	125	150
50	2500	.....	.....	.....	.....
100	3500	6000	8500	.....	.....
150	5250	9000	12750	16500	.....
200	7000	12000	17000	22000	27000
250	8750	.....	21250	27500	33750
300	10500	18000	25500	33000	40500
350	12250	21000	29750	38500	47250
400	14000	24000	34000	44000	54000
450	15750	27000	38250	49500	60750
500	17500	30000	42500	55000	67500
600	21000	36000	51000	66000	81000
700	24500	42000	59500	77000	94500
800	28000	48000	68000	88000	108000

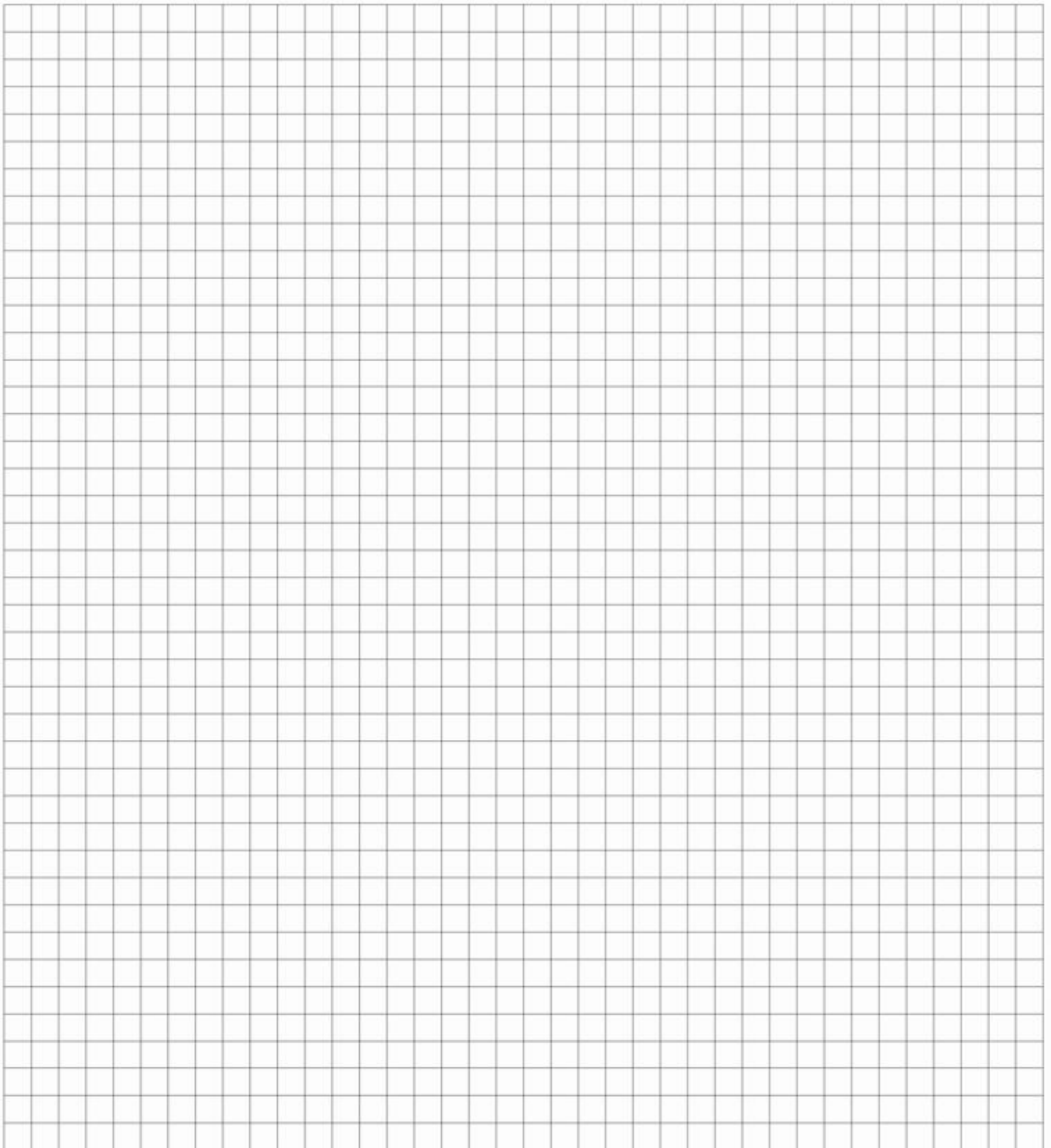
Cable Ladder

Tray Width (mm)	Tray height (mm)				
	50	75	100	125	150
50	1750	.....	.....	.....	.....
100	3500	6000	8500	.....	.....
150	5250	9000	12750	16500	.....
200	7000	12000	17000	22000	27000
250	8750	15000	21250	27500	33750
300	10500	18000	25500	33000	40500
350	12250	21000	29750	38500	47250
400	14000	24000	34000	44000	54000
450	15750	27000	38250	49500	60750
500	17500	30000	42500	55000	67500
600	21000	36000	51000	66000	81000
700	24500	42000	59500	77000	94500
800	28000	48000	68000	88000	108000



Factory Map







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