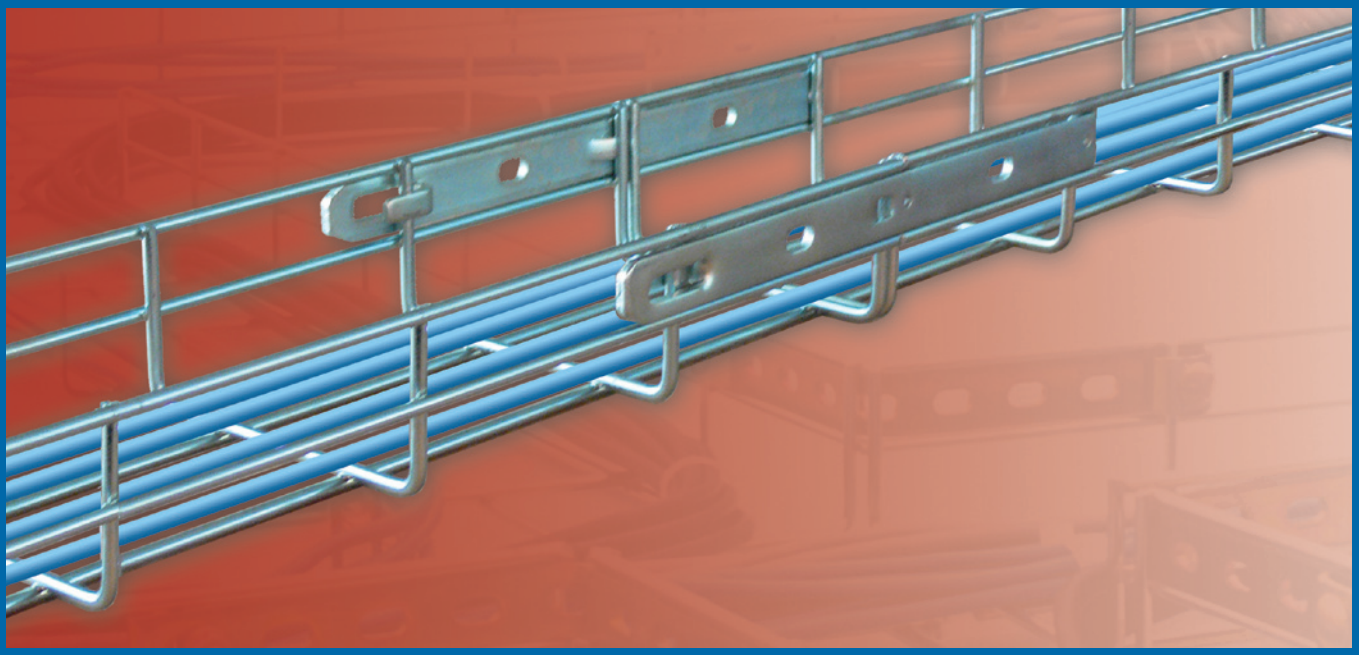
ACROFIL®
Cable Tray System



FEATURING

Exclusive Autolock
Connection System

UNISTRUT®

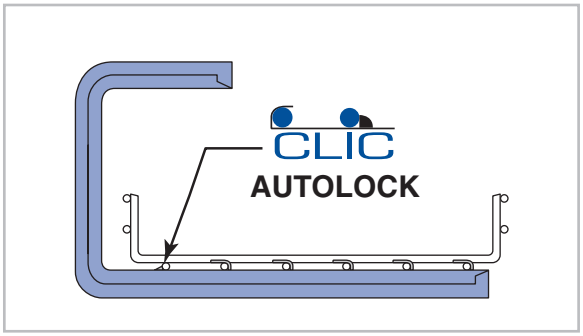
ACROFIL® SYSTEM

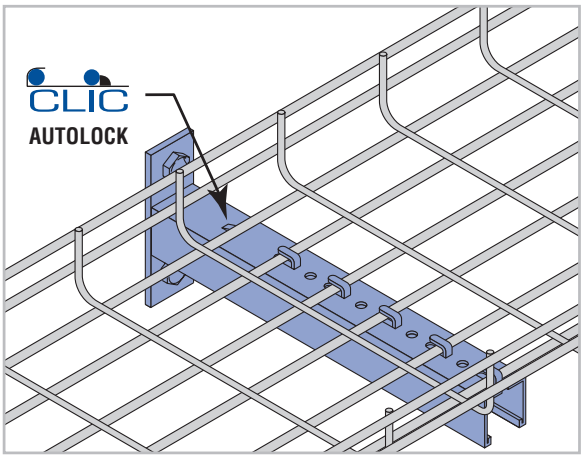
UNISTRUT® The premier name in electrical and metal infrastructure solutions has been designing and manufacturing products in Australia for over 50 years delivering superior performance in design, engineering excellence, distribution, and customer service.

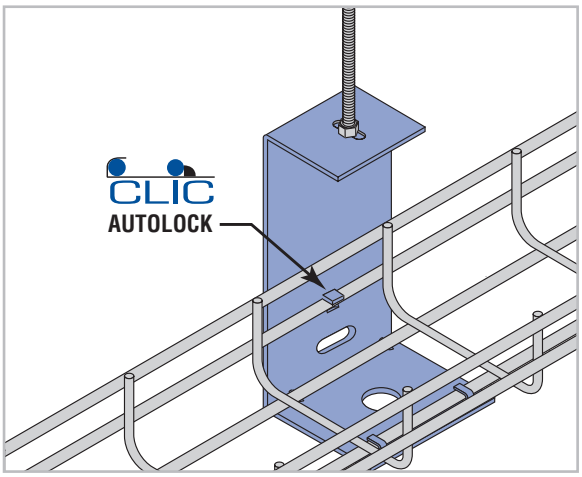
As part of global company Tyco – Electrical and Metal Products, Unistrut is able to provide the Acrofil range of wire-mesh cable tray, which features unique Autolock system and welded splices. Autolock and welded splices make connecting tray fast and simple and in turn eliminate the need for nut and bolt connection.

The addition of Acrofil to our range reinforces Unistrut Australia's commitment to being the one stop supplier for all your cable management solutions.

Visit **www.unistrut.com.au**





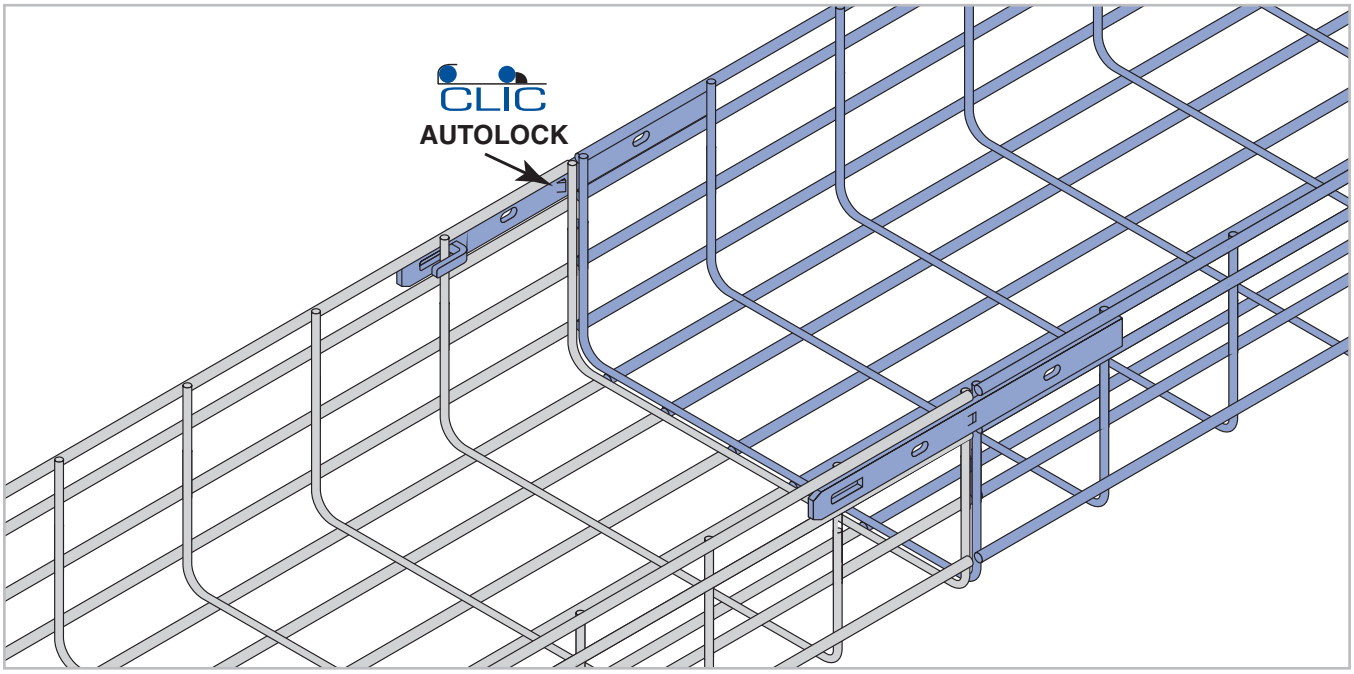


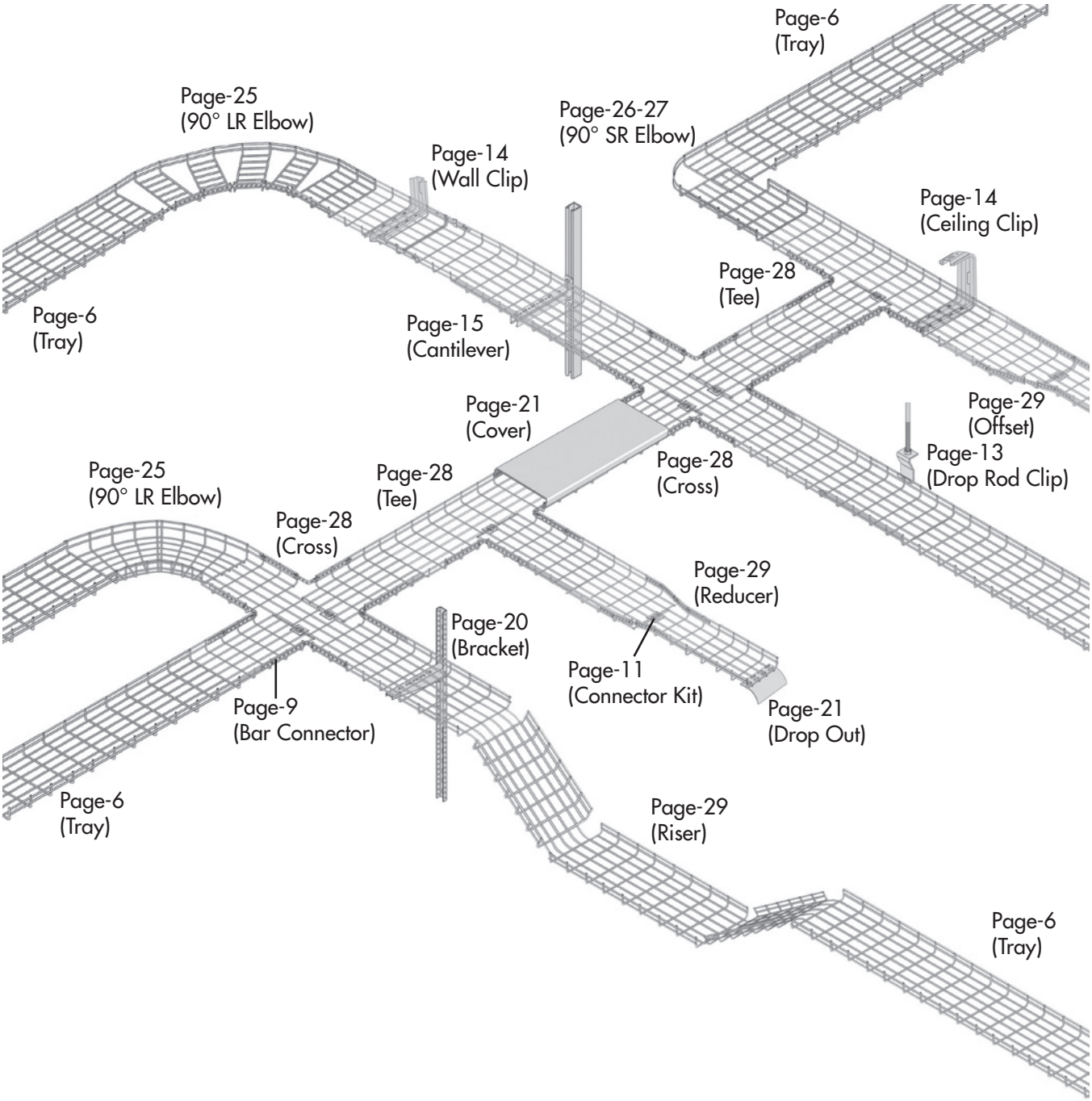
Connection Fast and Simple

Autolock System:

- **Time Saving,**
- **No Hardware,**
- **Increased Rigidity**

CLIC





ACROFIL® SYSTEM

OVERVIEW

Product Description

ACROFIL® is a welded wire mesh cable management system produced from high strength steel wires. ACROFIL is produced by first welding a net, forming the channel, and then finishing. The 50mmX100mm wire spacing permits continuous airflow to help prevent heat buildup. In addition this unique open design prevents the buildup of dust, contaminants and bacterial proliferation.

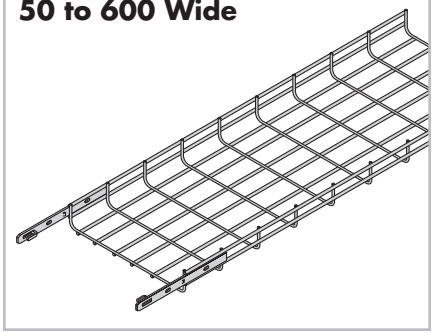
ACROFIL is produced in standard 3m lengths and is supplied in 2 standard depths: 50 and 100mm.

ACROFIL is offered in nine different widths:

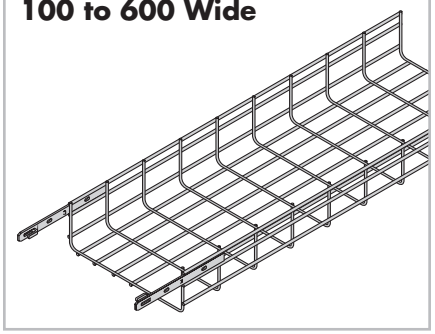
50 mm,	400mm,
100mm,	450mm,
150mm,	500mm,
200mm,	600mm
300mm.	

Special sizes are available to meet your unique requirements.

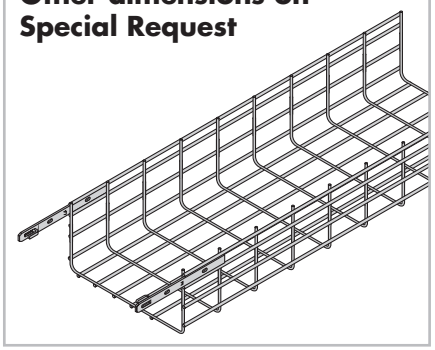
AF50 Series – 50 Depth, 50 to 600 Wide



AF100 Series – 100 Depth, 100 to 600 Wide



Other dimensions on Special Request



Standard Finish

ZINC PLATED (ZP) – (AS 1789)

Channel, fittings and components are electroplated generally in accordance with AS 1789.
Fasteners are electroplated generally in accordance with AS 1897.

Choice of Finishes

HOT DIP GALVANISED (HG) – (AS/NZS 4680)

Coatings are applied generally in accordance with AS/NZS 4680. The thickness of the coating is dependent on the material thickness of the component being galvanised. It should be noted that due to the galvanising process, the thickness of the coating will vary over the surface and should be taken into account during component assembly. It may be necessary to remove excess build-up prior to use.

316 TYPE STAINLESS STEEL (SS)

Corrosive resistant stainless steel with no additional surface treatment. This material option provides the best corrosion resistance available. Stainless steel is used primarily in marine environments or food processing facilities.

Other – Powder Coated (PC), Galvabond (GB), Plain (PL) and Grade 304 Stainless Steel (SS304).

When specific applications require other commercially available finishes, they can be supplied according to specification.

How To Order

Part numbers shown in the catalog are for the standard zinc plated finish.
For special order finishes, add the finish code as a suffix.

Example

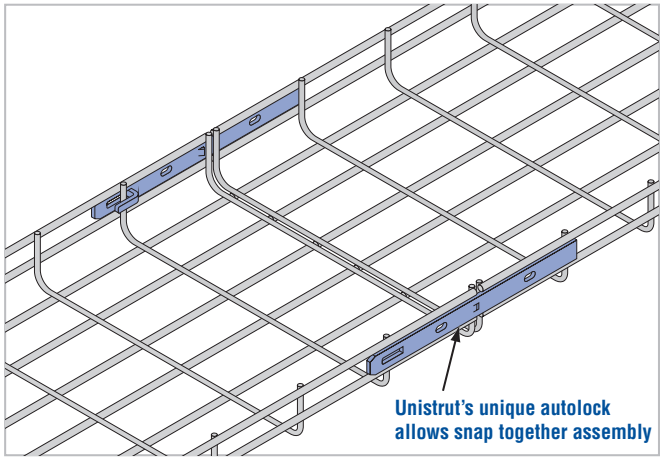
AF50-300 is zinc plated
AF50-300-SS is stainless steel type 316

Masses and Dimensions

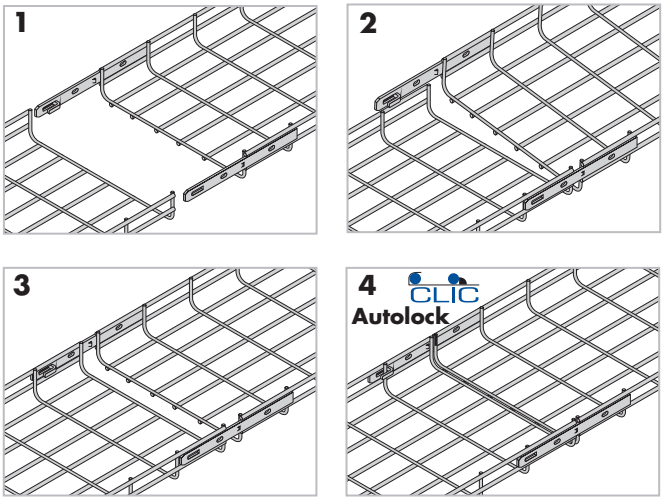
Masses given for all material are approximate shipping weights.
All dimensions subject to commercial tolerance variations.

Self-Splicing Straight Lengths

ACROFIL's exclusive autolock splicing system makes connecting ACROFIL fast and simple. The Autolock, or self splicing bars which come pre-installed on ACROFIL systems, eliminates the need for a typical nut and bolt type connection. For proper grounding of ACROFIL please refer to page 30.



ACROFIL Assembly - AF50, AF100, & AF150



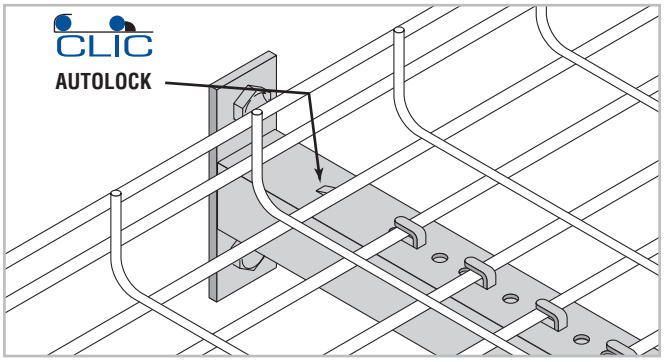
Step 1 Align the trays as shown.

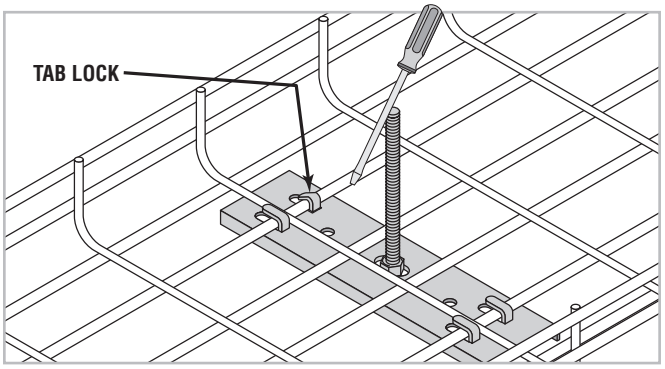
Step 2 While raising the rear edge of the male connection, slide the tray forward, but do not engage the locking clip.

Step 3 Push the rear locking clip over the back edge of the tray.

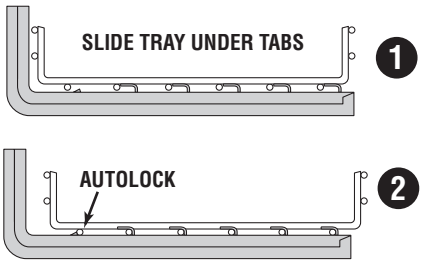
Step 4 Slide the tray forward to engage both front and rear locking clips.

Accessory Assembly

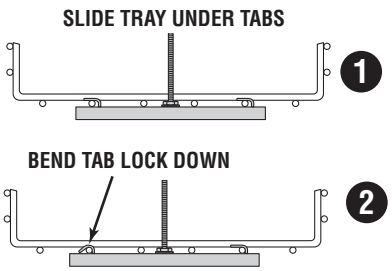




Many of the ACROFIL wire basket accessories feature the unique autolock. Just slide the tray under the tabs and then push down to engage the autolock. No tools, bending, or attachments are required for a secure connection.



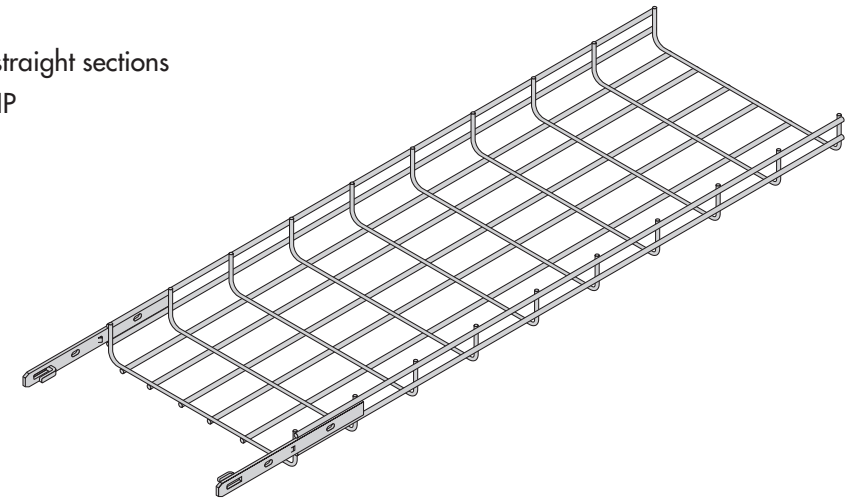
For accessories which use the tab lock, the tray is secured by using a screw driver to gently bend one of the tabs down over the tray.

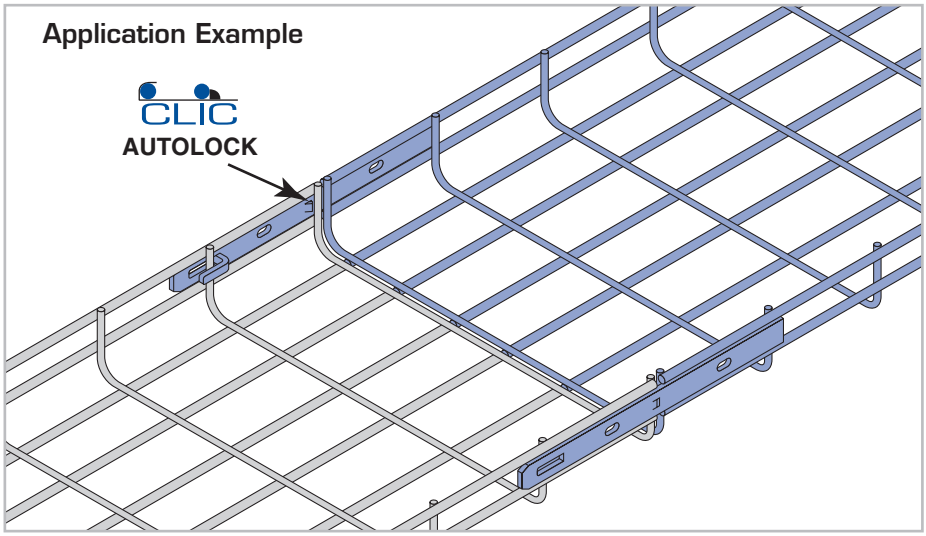


DOUBLE ROD REINFORCED TRAY (50mm DEPTH)

Double Rod Reinforced Tray (50mm Depth) [AF50-(W)]

- Double rod reinforced tray has a 50mm cable laying depth
- Standard length of tray is 3m
- Standard finish is zinc plated
- No hardware is necessary to connect straight sections
- For continuous grounding use AF-GCLIP
  (See page 30.)



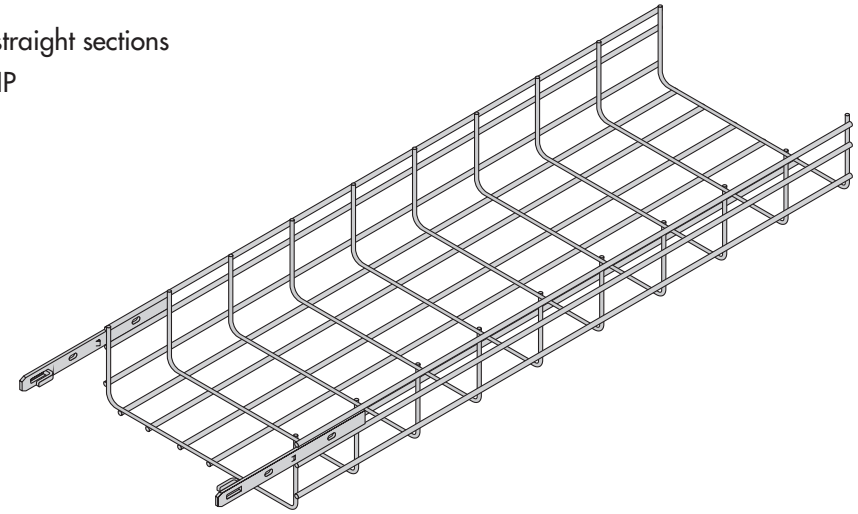


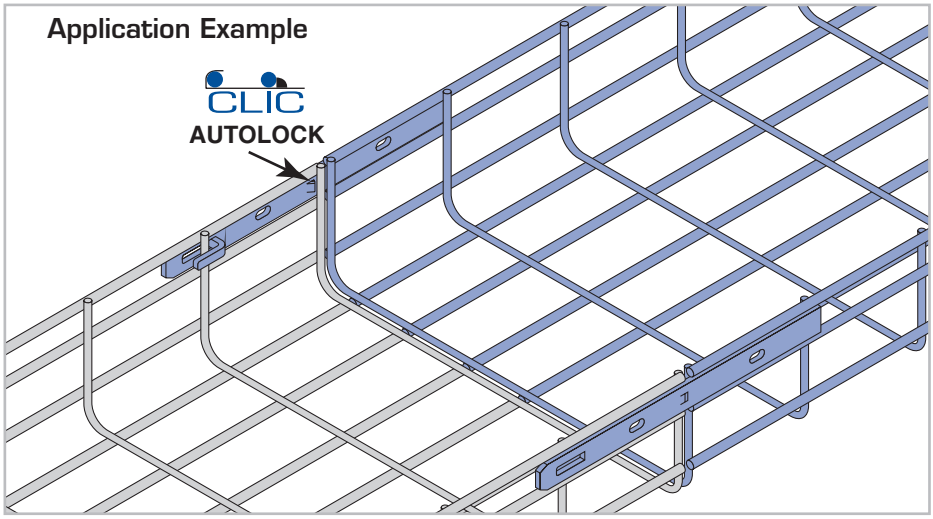
Part Description		Width Nominal (mm)	Depth (mm)	Wt. (kg) (piece)	Loading (kg/m)		
					1.5m Span	2.0m Span	2.5m Span
	AF50-50	50	50	1.9	25.1	17.8	13.1
	AF50-100	100	50	2.6	34.2	23.3	17.2
	AF50-150	150	50	3.6	56.3	36.6	27.8
	AF50-200	200	50	4.2	58.7	39.2	29.8
	AF50-300	300	50	5.5	64.0	39.3	29.0
	AF50-400	400	50	8.1	89.4	49.4	36.5
	AF50-450	450	50	8.8	97.5	53.9	39.8
	AF50-500	500	50	9.5	105.4	63.0	46.5
	AF50-600	600	50	10.8	114.9	68.7	50.7

Load Values are determined by IEC61537 testing. Copies of load tests available upon request.
Safety Factor 1.7

Triple Rod Reinforced Tray (100mm Depth) [AF100-(W)]

- Triple rod reinforced tray has a 100mm cable laying depth
- Standard length of tray is 3m
- Standard finish is zinc plated
- No hardware is necessary to connect straight sections
- For continuous grounding use AF-GCLIP
  (See page 30.)





Part Description		Width Nominal (mm)	Depth (mm)	Wt. (kg) (piece)	Loading (kg/m)		
					2.0m Span	2.5m Span	3.0m Span
	AF100-100	100	100	4.2	69.6	54.2	41.2
	AF100-200	200	100	5.5	78.4	58.4	46.4
	AF100-300	300	100	8.1	109.9	85.0	67.4
	AF100-400	400	100	9.5	129.3	96.1	76.3
	AF100-500	500	100	10.8	151.0	119.7	95.0
	AF100-600	600	100	17.6	164.6	130.5	103.6

Load Values are determined by IEC61537 testing. Copies of load tests available upon request.
Safety Factor 1.7

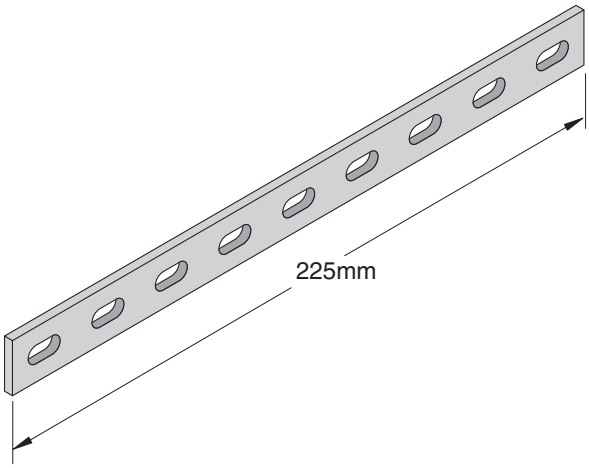
AF-SPLICE

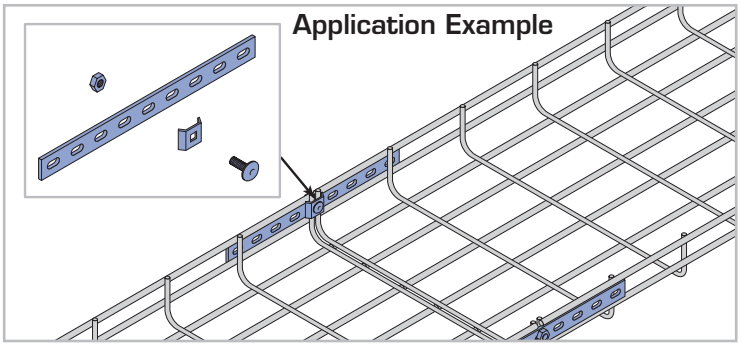
Weight: 0.13kg/each

- Splice bar connector is 19mm x 225mm long
- Standard finish is zinc plated
- Connect using AF-KITCH3 (sold separately)
- Bend 90° for use as an angle connector

NOTES:

1. Always place nut on outside of tray
2. For use with AF50, AF100 & AF150 tray
3. The splice connector is used connect remnant sections of tray cut from standard lengths and to field fabricate fittings.





Bend & Intersection Bars

AF-TBAR1100

Weight: 0.65/each

- AF-TBAR1100 connector is 19mm x 1100mm long
- Connect using AF-KITCH3 (sold separately)
- Bend 90° for use as an angle connector

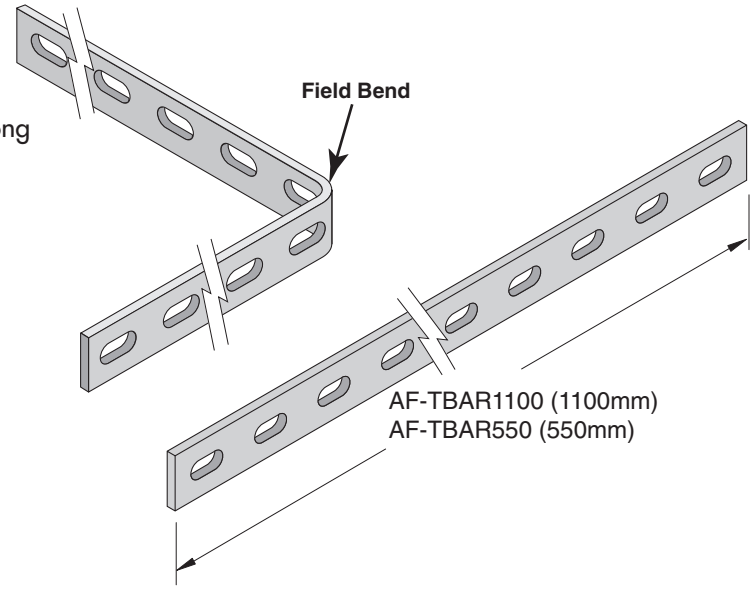
AF-TBAR550

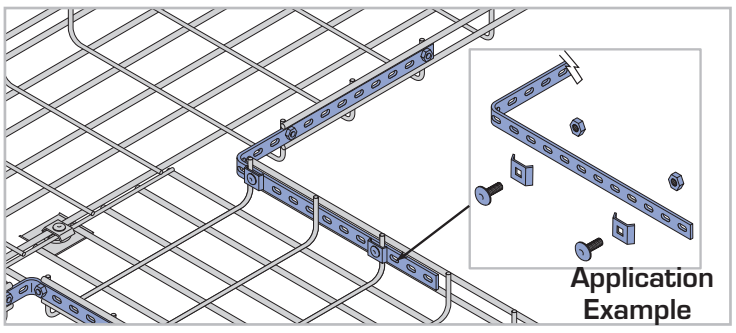
Weight: 0.32 kg/each

- AF-TBAR550 connector is 19mm x 550mm long
- Connect using AF-KITCH3 (sold separately)

NOTES:

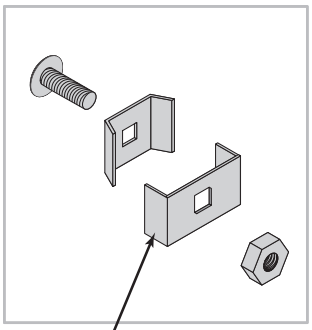
1. Always place nut on outside of tray
2. For use with AF50, AF100 & AF150 tray
3. Used for tees which require a heavier support
4. These bars are normally cut to appropriate length



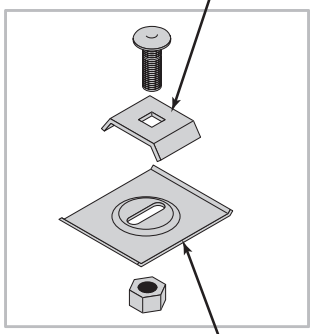


Connector Hardware Overview

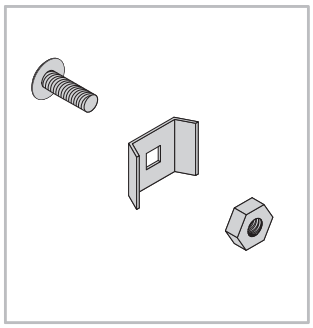
AF-KITCH1



AF-KITCH2



AF-KITCH3



AF-EG-CBN

AF-WCLIP

AF-BCLIP (Hold-Down)
(Also see page 31)

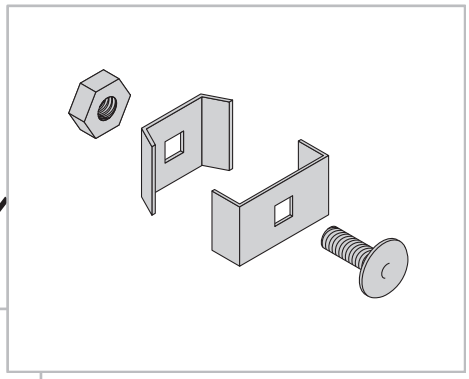
Part Kit	Weight (kg)	NO./ PKG
AF-KITCH1	0.32	10
AF-KITCH2	0.53	10
AF-KITCH3	0.20	10
AF-EG-CBN	0.09	10

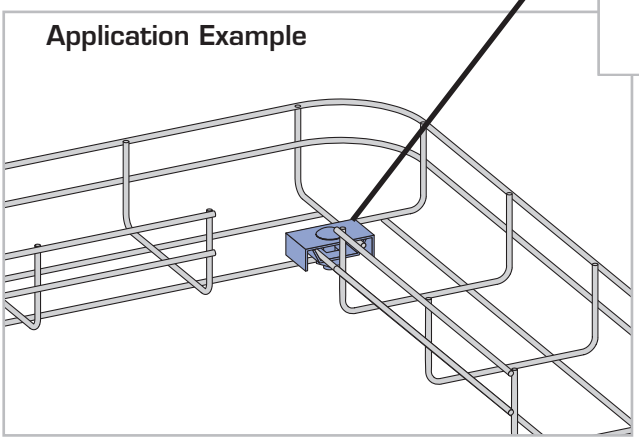
Single Part	Weight (kg)	NO./ PKG
AF-SCLIP	0.20	10
AF-WCLIP	0.31	10
AF-BCLIP	0.92	10

Connector Kit [AF-KITCH1]

- Standard bar connector is 30mm x 18mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray

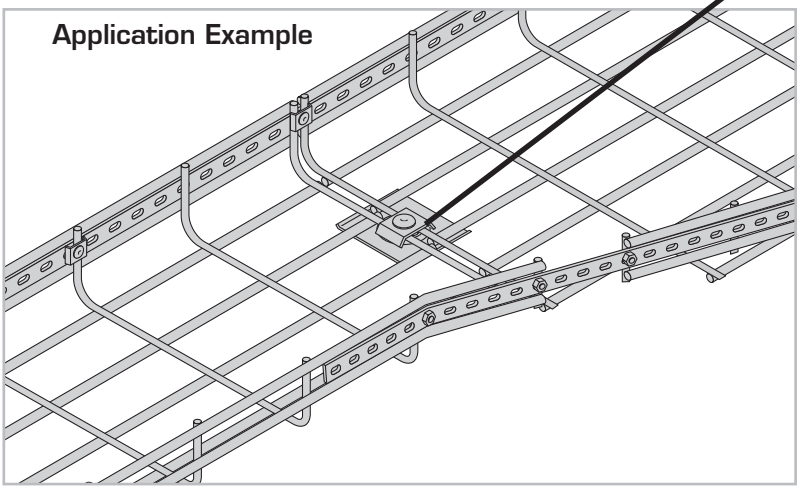


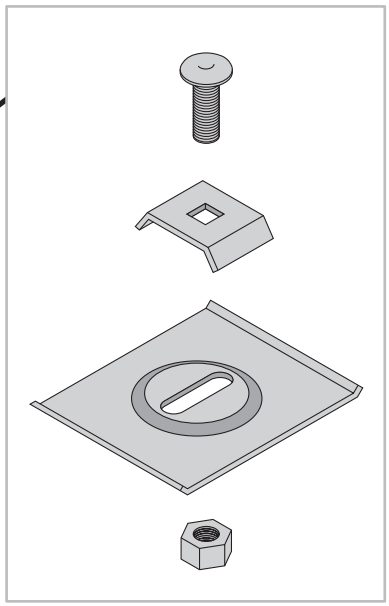


Connector Kit [AF-KITCH2]

- Bottom connector is 50mm x 60mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray

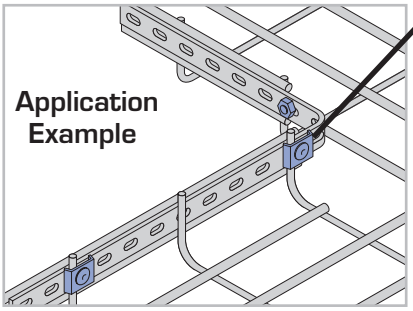


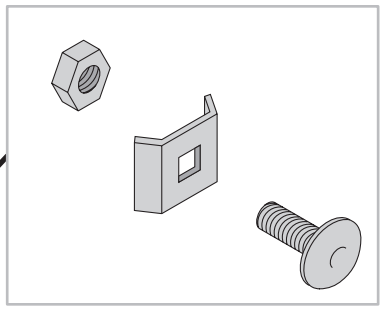


Connector Kit [AF-KITCH3]

- Universal connector is 18mm x 24mm
- Standard finish is zinc plated
- Sold in packs of 10
  (AF-EG-CBN connector hardware included)

NOTE: Always place nut on outside of tray

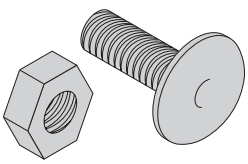




Connector Hardware [AF-EG-CBN]

- M6 x 20 Carriage bolt
- M6 Hex nut
- Standard finish is zinc plated
- Sold in packs of 10 each

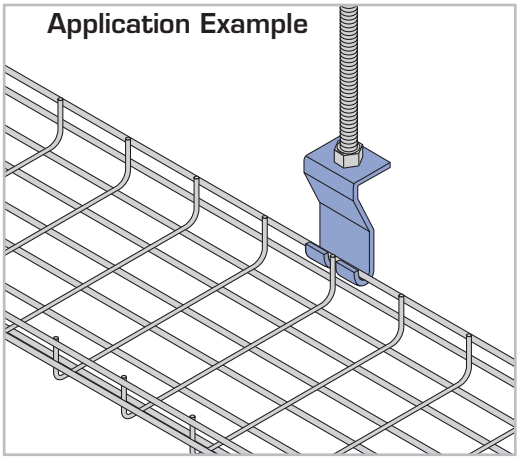
NOTE: Always place nut on outside of tray

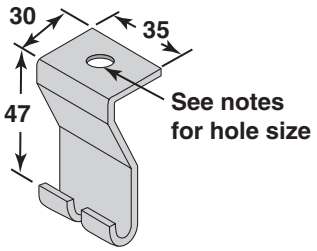


Drop Rod Clip [AF-SIDECLIP]

Weight: 0.06 kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all widths of tray
- Use AF-SIDECLIPM8 for 8mm Rod
  Use AF-SIDECLIPM10 for 10mm Rod

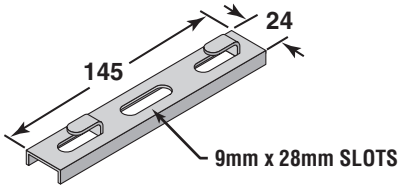


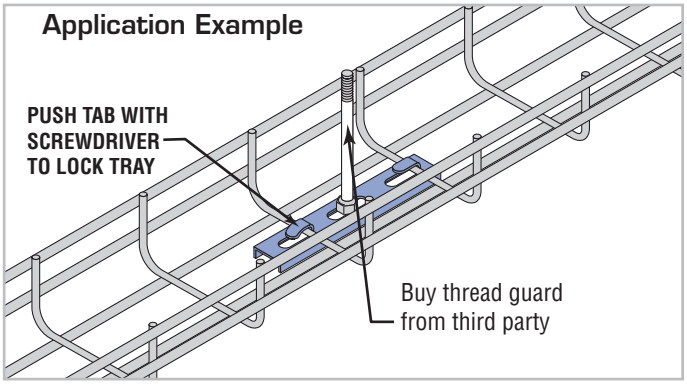


Drop Rod Clip [AF-RODCLIP1]

Weight: 0.05 kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all 100mm wide & 150mm wide tray

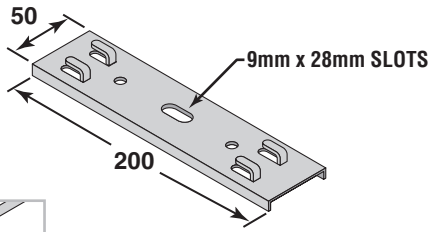


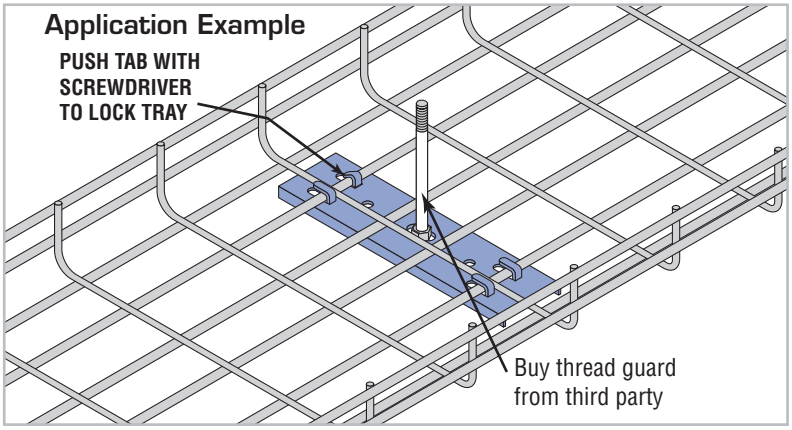


Drop Rod Clip [AF-RODCLIP2]

Weight: 0.18 kg/each

- Standard finish zinc plated
- 2mm Bracket thickness
- For all 200mm wide & 300mm wide tray



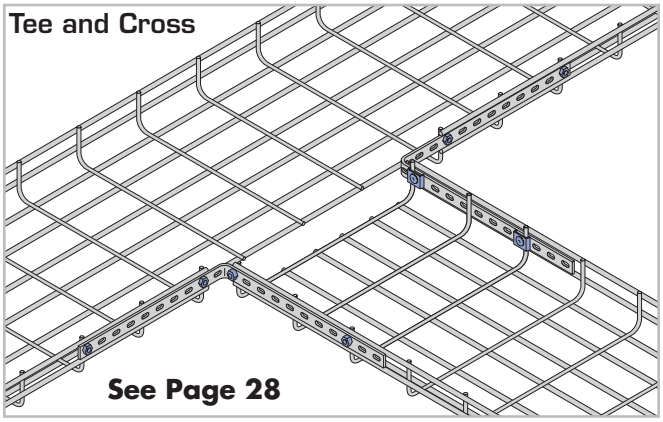


Fittings Overview

Fittings are typically fabricated on the job.

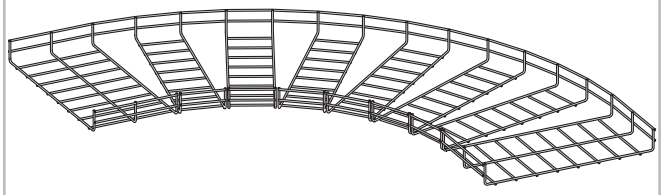
To determine the fitting hardware required to create a set of fittings.

Tee and Cross



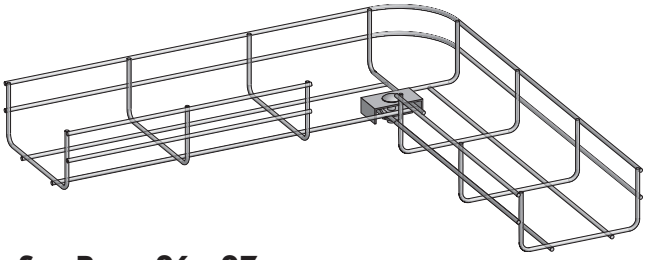
See Page 28

90° Long Radius Bend



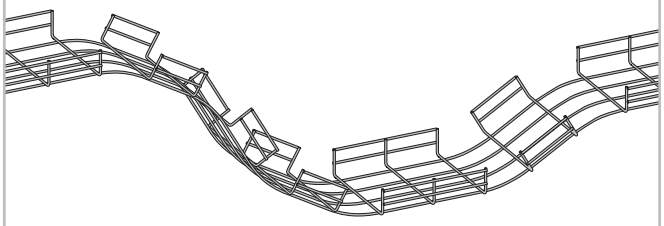
See Page 25

90° Short Radius Bend



See Page 26 - 27

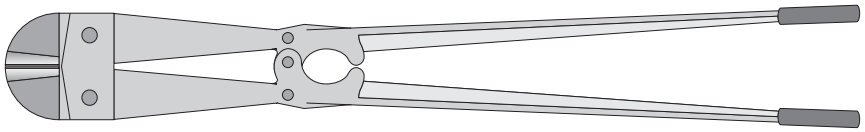
Risers

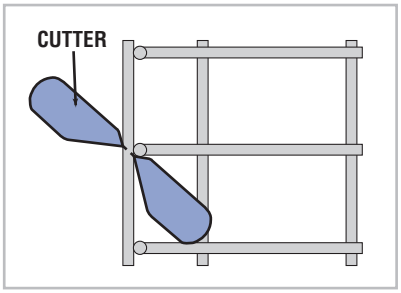


See Page 29

Cutting Tool [AF-CUTTOOL]

Fittings can be formed easily on-site by cutting the bottom and side wires. Cut the tray bars on an angle as shown in the illustration.





NOTE: When cutting, keep the remaining sharp edge away from the inside of the tray.

90° Bends - Long Radius

1 CUT THE BOTTOM AND SIDE WIRES

To form 90° bends in the tray, cut out the number of sections shown below based on the width of the tray used

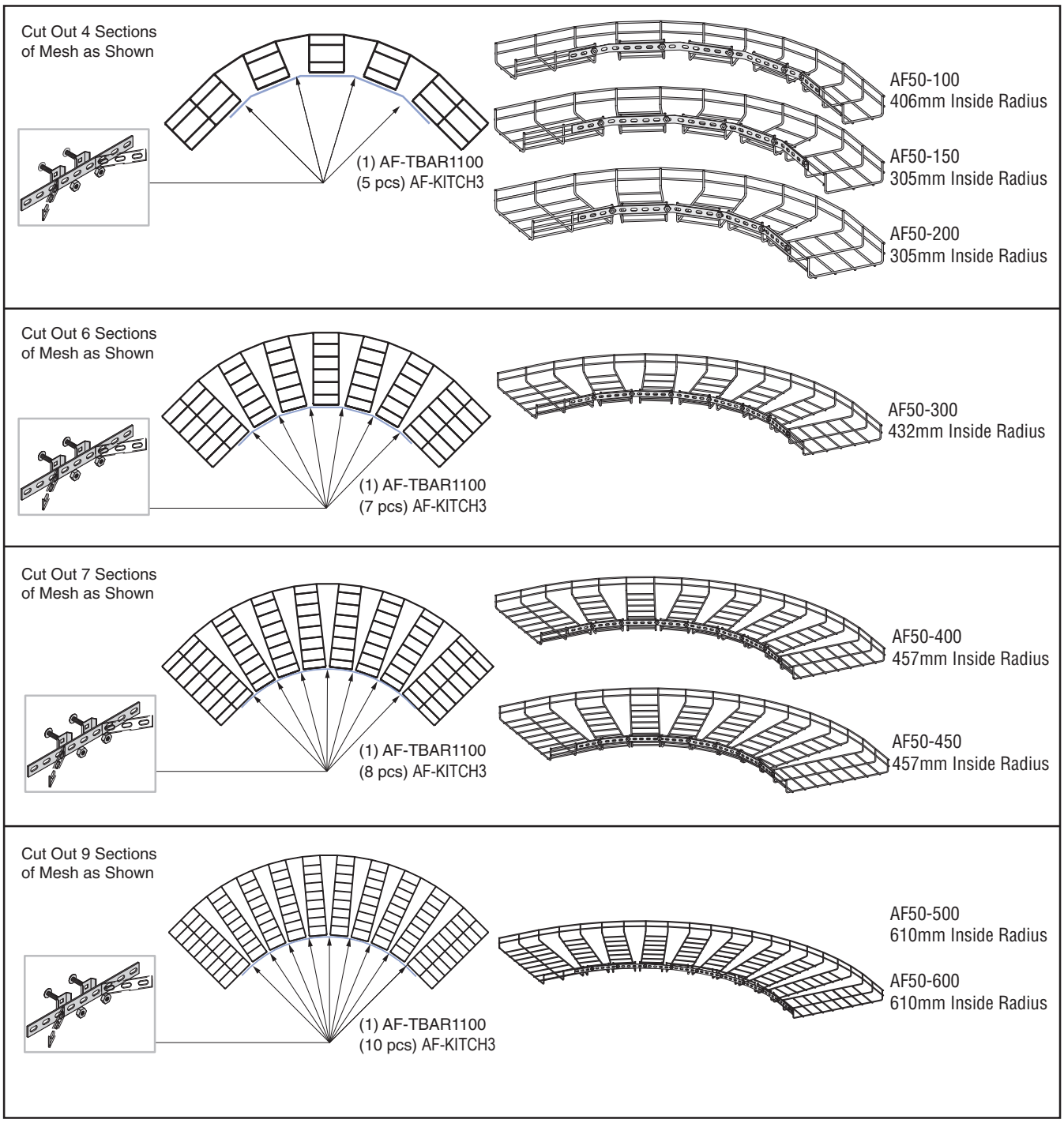
2 ASSEMBLE USING APPROPRIATE HARDWARE

Standard hardware is shown with each bend size.

Advantages:

- Use as bonding jumper
- Vertical support of standing sections
- Adjustable radius allowances

NOTE: Always place nut on outside of tray



90° SHORT RADIUS BENDS

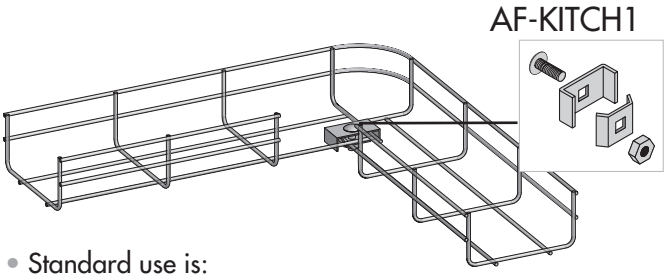
90° Bends - Forming Instructions

To form 90° bends in the tray, cut the wires shown in the color shaded area of the drawing which corresponds to the width of the tray used.

1 CUT THE BOTTOM AND SIDE WIRES

Bends can be formed easily on-site by cutting the bottom and side wires. The shaded areas indicated should be cut and removed. Then, simply bend ACROFIL cable tray to form a 90° angle and you are ready to install. Make sure you use the appropriate hardware.

2 ASSEMBLE USING APPROPRIATE HARDWARE

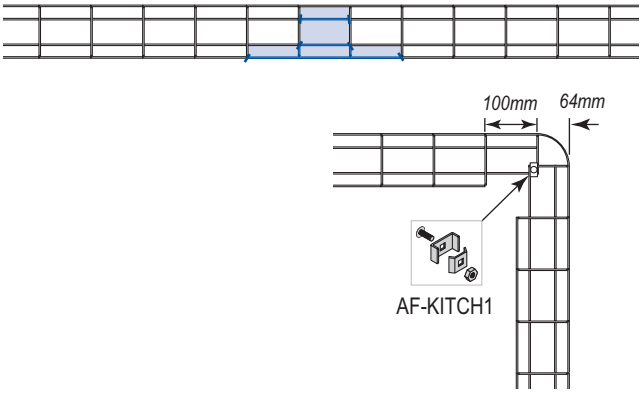


- Standard use is:
  Sizes 100mm - 300mm (1 pc) AF-KITCH1
  Sizes 400mm - 600mm (2 pc) AF-KITCH1

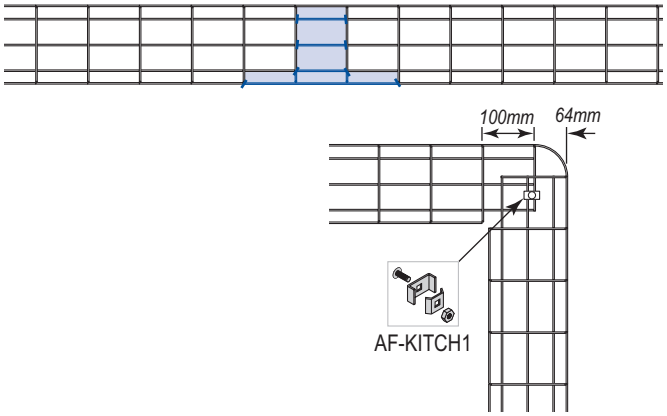
NOTE: Always place nut on outside of tray)

90° Bends - Cutting Diagrams

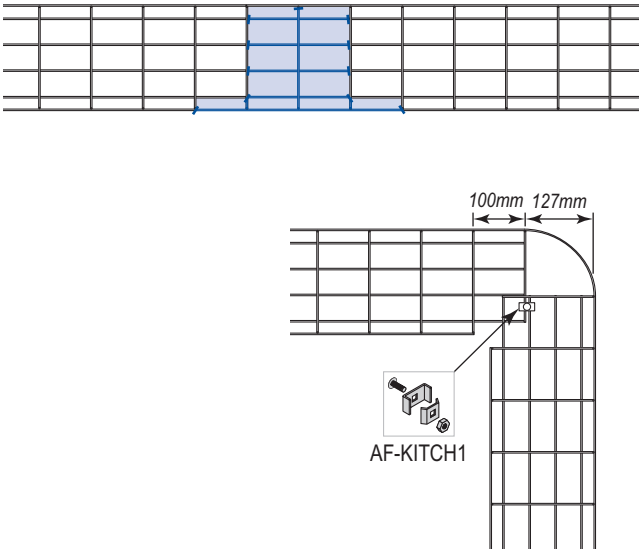
100mm



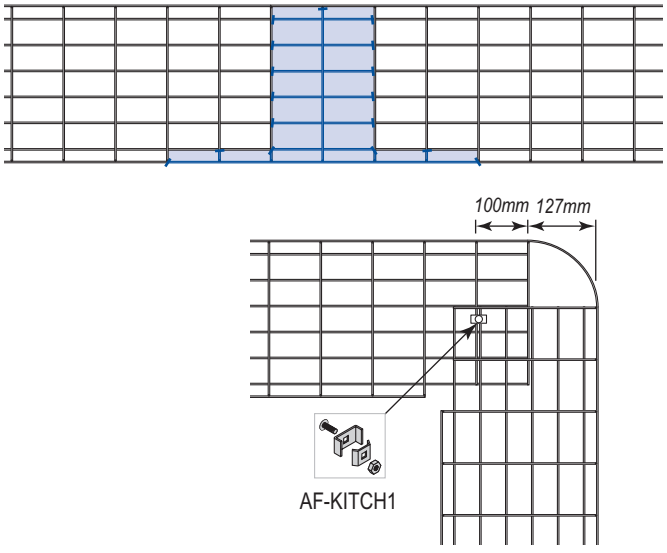
150mm



200mm

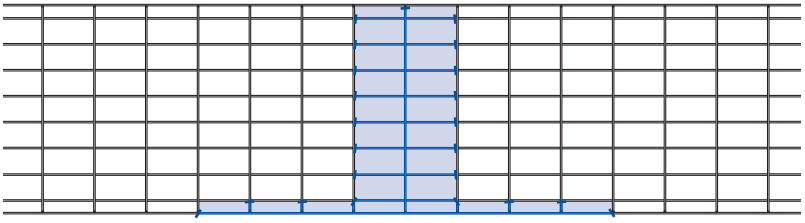


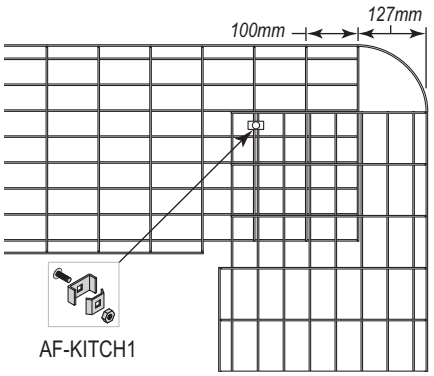
300mm



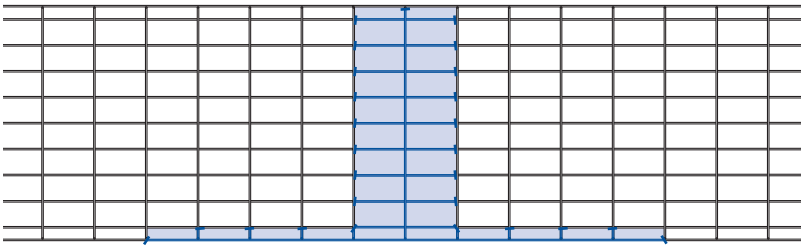
90° Bends - Cutting Diagrams

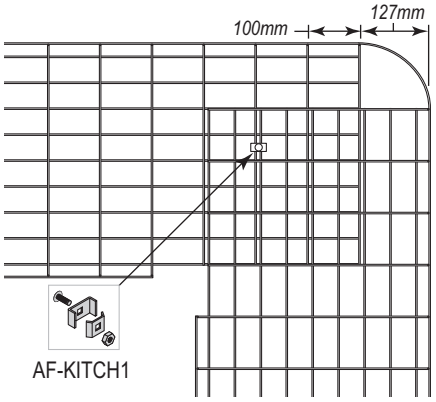
400mm



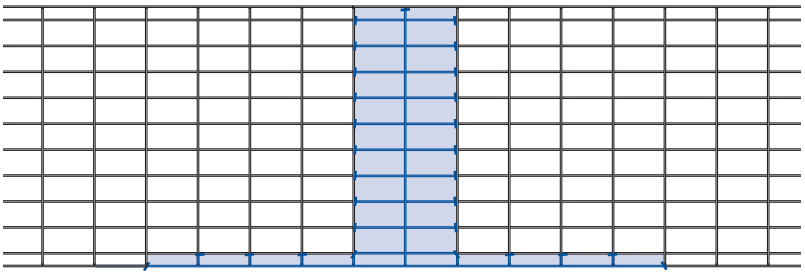


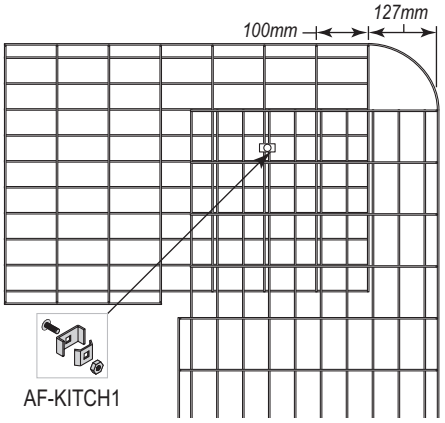
450mm



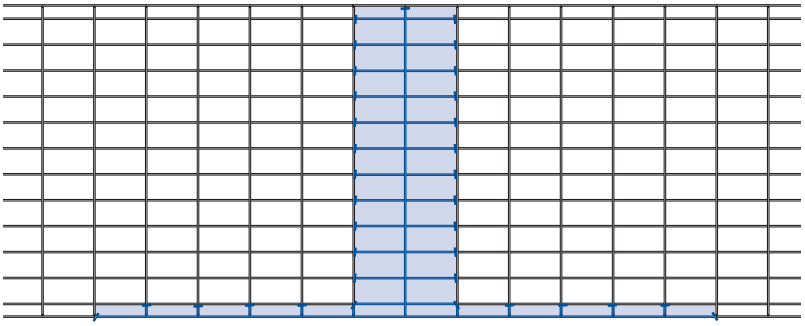


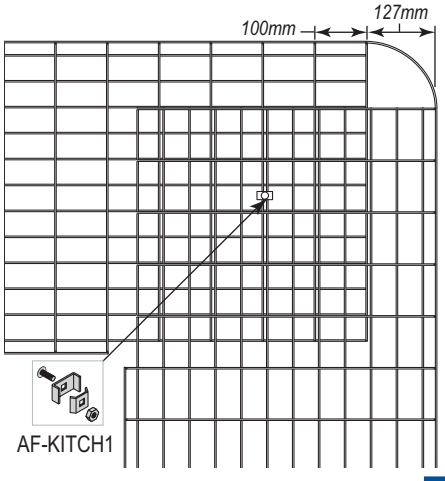
500mm





600mm





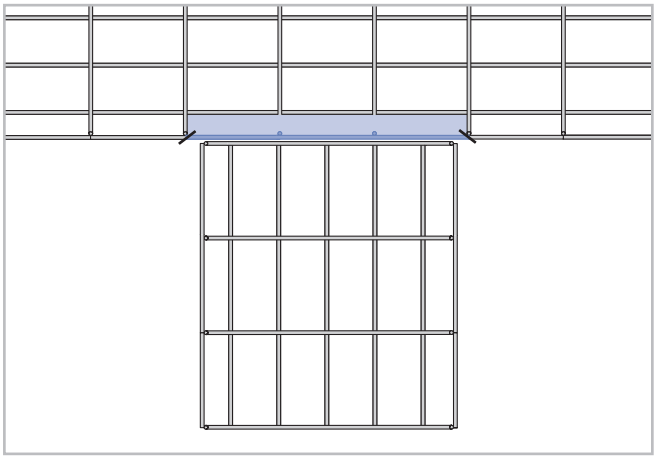
CROSS & TEE FITTINGS

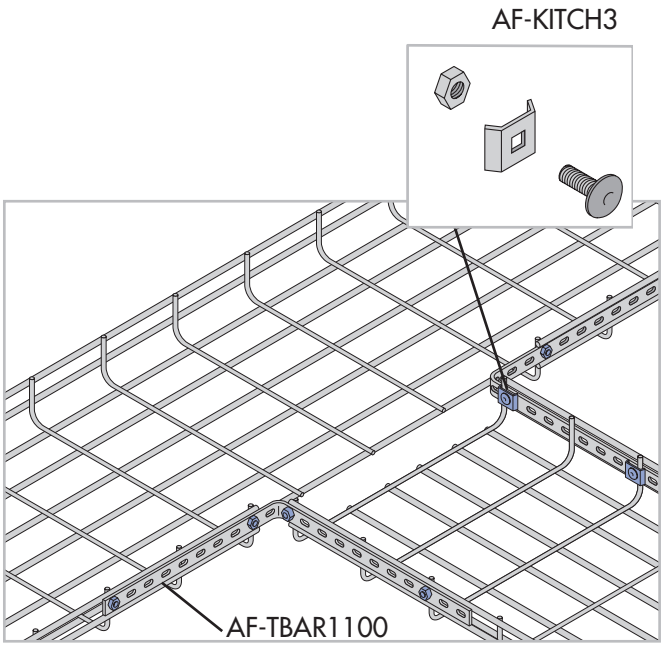
Standard Tee

- Standard use per tee is:
  (2 pc) AF-TBAR550 or (1 pc) AF-TBAR1100 cut in half
  (8 pc) AF-KITCH3

NOTE: Always place nut on outside of tray

To form a tee, cut the wires marked in blue.



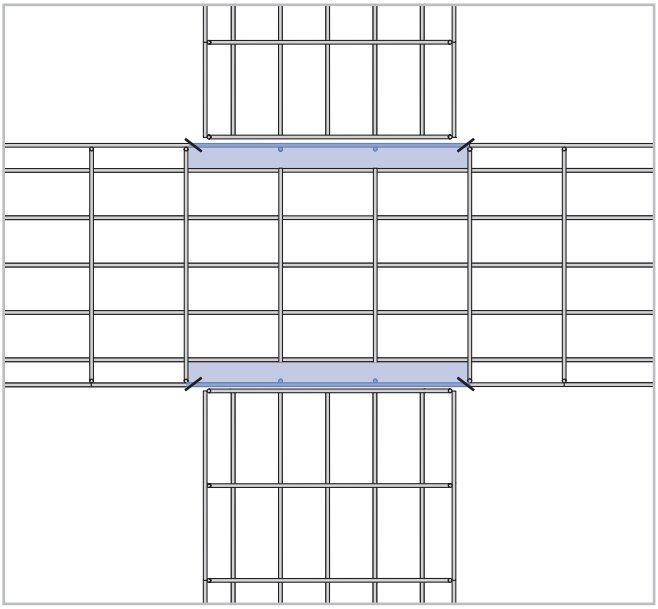


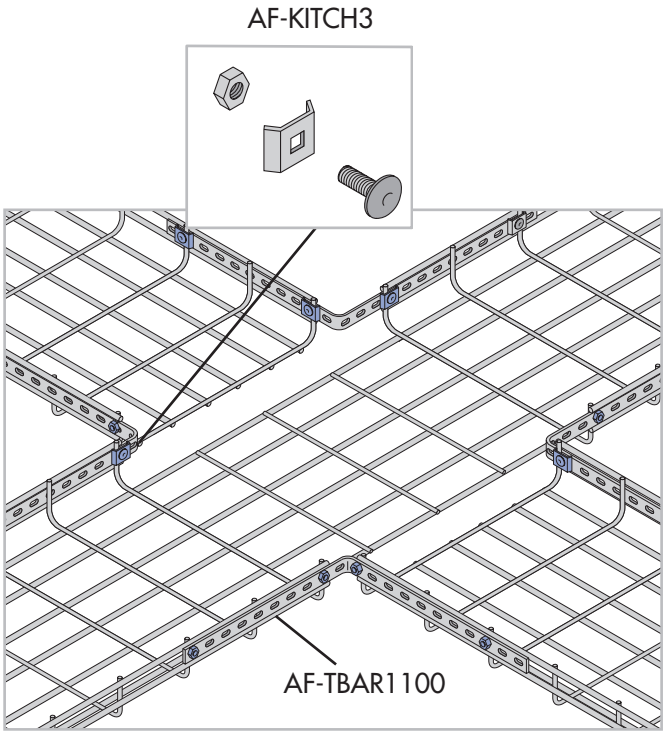
Cross

- Standard use per cross is:
  (4 pc) AF-TBAR550 or (2 pc) AF-TBAR1100 cut in half
  (16 pc) AF-KITCH3

NOTE: Always place nut on outside of tray

To form a cross, cut the wires marked in blue.

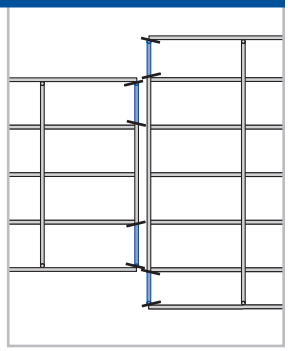




Reducer

- Standard use per reducer is:
  (2 pc) AF-TBAR1100
  (8 pc) AF-KITCH3
  (1 pc) AF-KITCH2

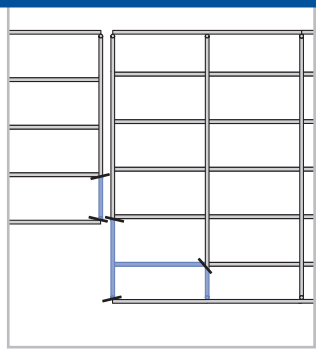
NOTE: Always place nut on outside of tray

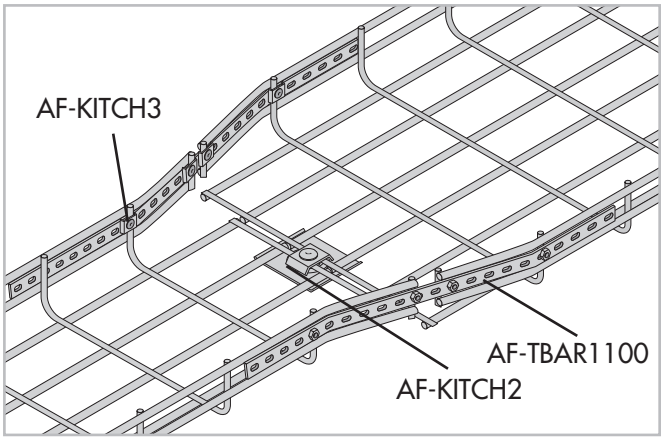


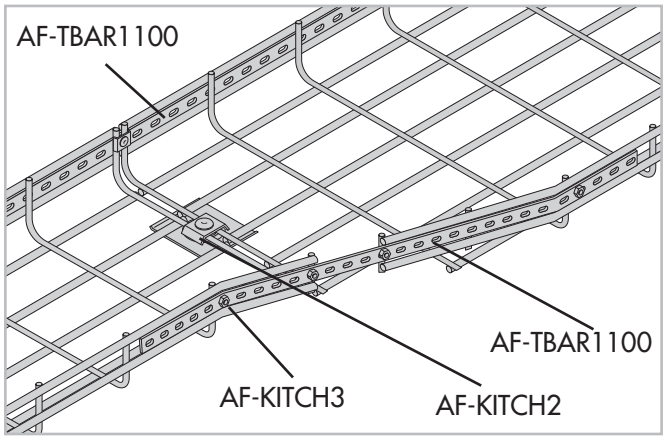
Offset

- Standard use per offset is:
  (2 pc) AF-TBAR1100
  (8 pc) AF-KITCH3
  (1 pc) AF-KITCH2

NOTE: Always place nut on outside of tray

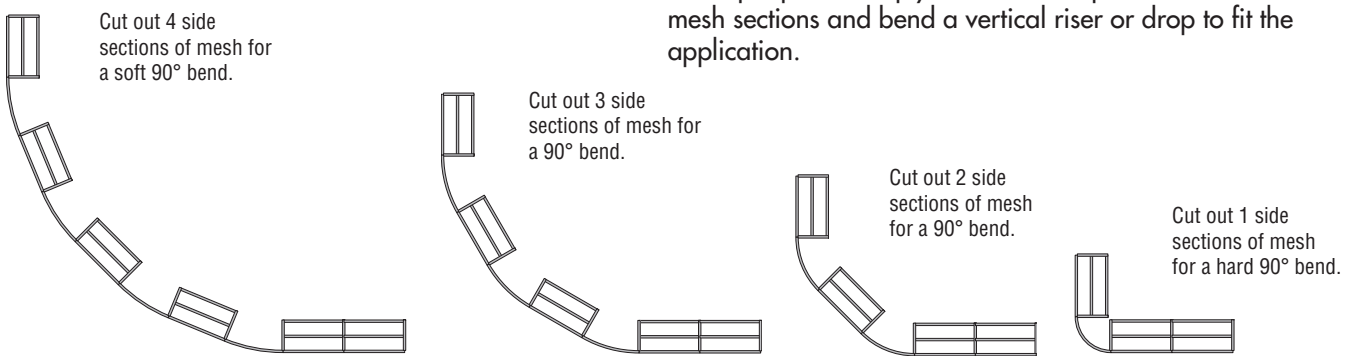


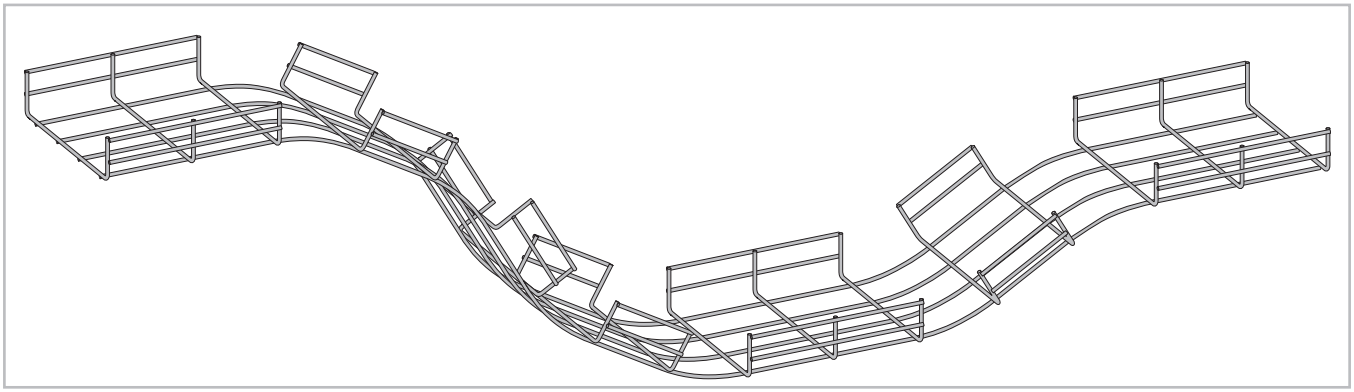




Riser

Risers and drops can be created to avoid different obstacles in the job path. Simply cut out the required number of side mesh sections and bend a vertical riser or drop to fit the application.





GROUNDING

Grounding

Unistrut recommends use of a separate ground wire for equipment grounding.

Any non-conductive coating to ACROFIL must be removed by the contractor/end-user to maintain electrical continuity.

Straight Sections - The grounding of two straight sections requires the use of
(2) AF-GCLIP's and
(2) AF-EG-CBN's.

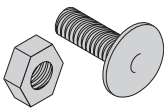
These items consist of grounding clips and the appropriate hardware, for connecting to the trays. One clip should be placed on both sides of the tray, attached at the self-splicing bar.

Fittings - Grounding of fittings requires special attention. Typically fittings are fabricated in the field by cutting straight sections, thus altering the cross sectional area of the tray. A bonding jumper, and or a AF-TBAR1100 Splice, along with the appropriate hardware must be used on either side of the fitting to ensure electrical continuity.

Straights

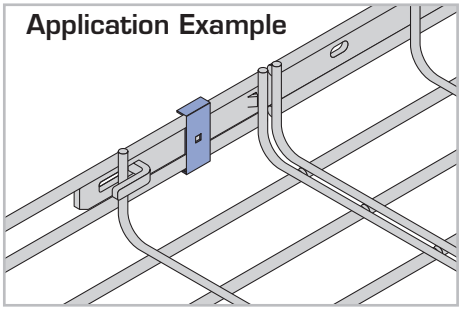
2 pcs of AF-GCLIP
2 pcs of AF-EG-CBN

AF-EG-CBN



See pg. 10

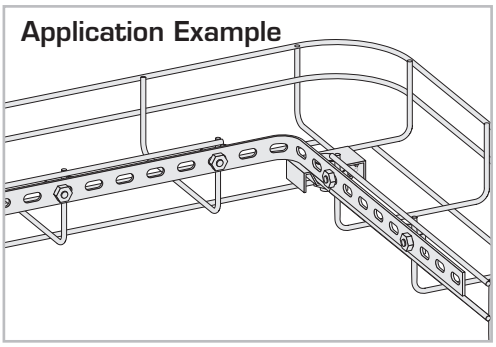
Application Example



Fittings

AF-TBAR1100 and
AF-KITCH3s

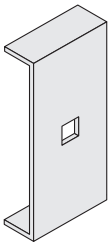
Application Example



Grounding Clip [AF-GCLIP]

- Standard finish is Galvabond Z275
- Sold in packs of 10
- Connection to splice bars requires a nut and bolt assembly (AF-EG-CBN) purchased separately
- Use on both sides of tray

NOTE: Always place nut on outside of tray

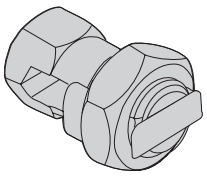


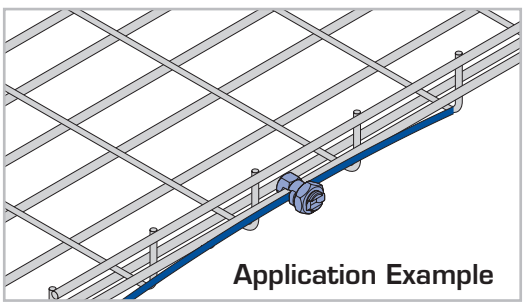
AF-GCLIP's must be utilized if the tray is to be utilized as an equipment ground conductor.

Grounding Clamp/Split Bolt

- Split bolts are utilised for the attachment of a separate ground wire.

NOTE: Always place nut on outside of tray

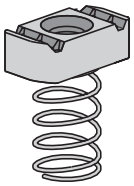




Application Example

Strut Nuts

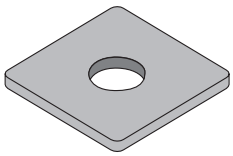
- Standard finish is Zinc Plated



Part No.	Size	Weight/100 (kg)
P1006	M6	3.18
P1007	M8	3.18
P1008	M10	4.54

Square Strut Washers

- Standard finish is Zinc Plated

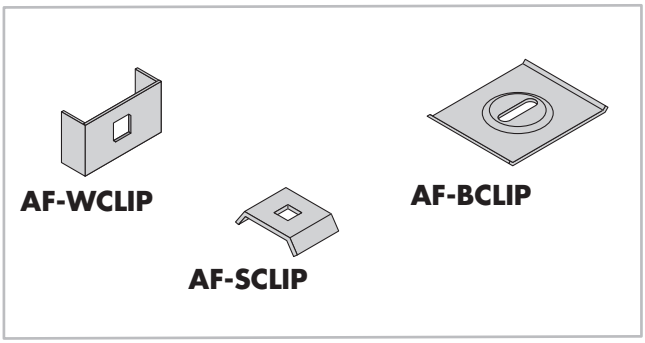


Part No.	Hole Size (mm)	Weight/100 (kg)
P1062	9	7.0
P1063	12	6.8
P1064	14	6.6

Tray Clips (See Page 11 for Connector Kits)

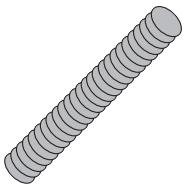
- Standard finish is Zinc Plated

Single Part	Weight (kg)	NO./ PKG
AF-SCLIP	0.09	10
AF-WCLIP	0.14	10
AF-BCLIP	0.42	10



Unirod Steel Threaded Rod

- Standard finish is Zinc Plated
- Standard Length is 3M



Unirod Load Data: Maximum recommended tensile load is based on a factor of safety of 2.5 using the appropriate stress area of thread and ultimate tensile strength of 430 MPa.

Part No.	Description	Max. Recommended Tensile Load (kN)	Mass (kg/m)
UR06	M6	3.47	0.20
UR08	M8	6.32	0.35
UR10*	M10	10.02	0.50

* Also available in Hot Dipped Galvanised.

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