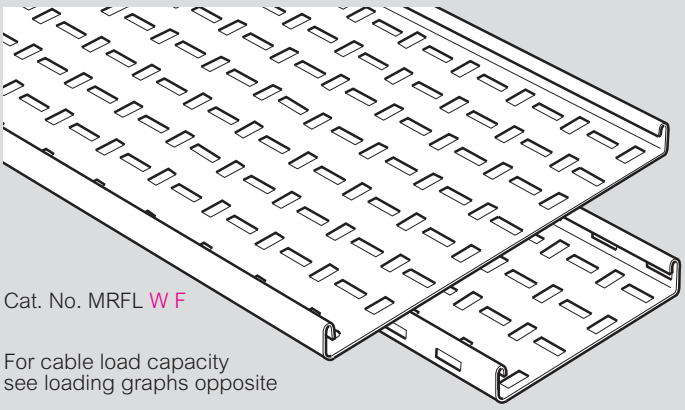
Swifts® MRF medium duty return flange

straight lengths

Dimensions and weights

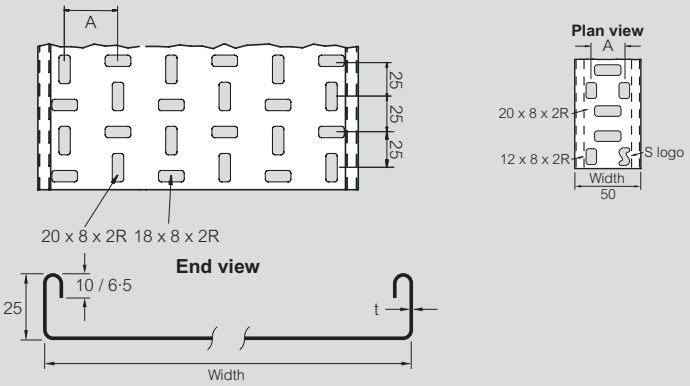


Cat. No. MRFL W F

For cable load capacity see loading graphs opposite

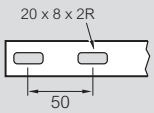
Dimensions

Standard length 3 m



Width (mm)	A (mm)
50	25·00
75	37·50
100	31·75
150 to 900	37·50

Side flange detail
50 - 225 (typical)



R = radius

Gauges and weights

The gauge 't' for each cable tray width and finish can vary by product and range

Non-standard gauges and finishes are available to special order, contact us on +44 (0) 370 608 9020

Cat. Nos.	Width (mm)	Weight (kg)	Gauge t (mm) G	PG
MRFL 50 F	50	2·0	0·7	0·7
MRFL 75 F	75	2·6	0·7	0·7
MRFL 100 F	100	3·0	0·8	0·7
MRFL 150 F	150	3·9	0·8	0·8
MRFL 225 F	225	6·8	1·0	0·8
MRFL 300 F	300	9·2	1·2	1·0
MRFL 450 F	450	16·5	1·2	1·2
MRFL 600 F	600	21·6	1·2	1·2
MRFL 750 F	750	33·7	1·5	1·4
MRFL 900 F	900	39·7	1·5	1·4

All weights given are in kilograms (kg) and are for a 3 m straight length in hot dip galvanised G finish

To obtain the appropriate component weight in other finishes, multiply the given weight by the following factors :

Deep galvanised	(D)	x 1·06
Stainless steel	(S)	x 0·94
Pre-galvanised	(PG & ZM)	x 0·96
Powder coated	(E)	x 0·97

All dimensions (mm) are nominal

Sheared steel (particularly stainless steel) does have relatively sharp edges and protective gloves must be worn during handling

Loading graphs

Load tests carried out to BS EN 61537 and shown in kg/m

Cable fill figure is the maximum physical load of cables that can be fitted into tray and is based on 1700 kg/m³ as detailed in the BEAMA "Best Practice guide to cable ladder and cable tray systems"

The loads shown on all graphs are the safe recommended maximum loads that can be applied and must include wind, snow and any other external forces in addition to the cable load

The graphs show the maximum load for tray installed at a support spacing within its recommended range

50-300 mm width trays

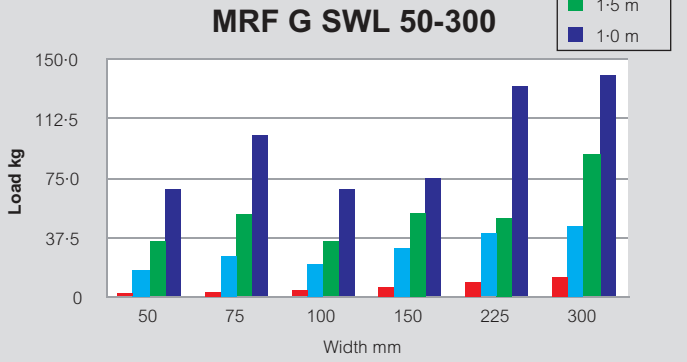


Table shown with results up to 300 mm wide obtained using the Swiftclip

450-900 mm width trays

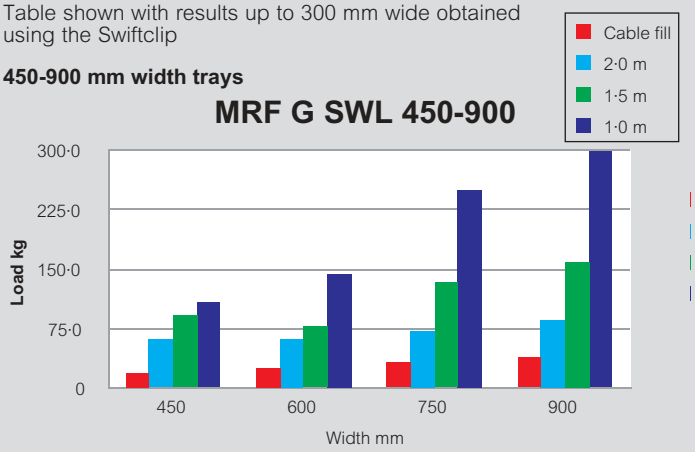


Table shown with results of 450 mm wide and above using Swiftgrips and UF fishplates

For lengths 450 mm wide and greater, the addition of fishplate Cat. No. WF F across the underside of the length-to-length joint provides added strength and increases the safe working load, p. 105

Finishes and standards

Standard stocked finish :

G Hot dip galvanised after manufacture to BS EN ISO 1461

PG Pre-galvanised steel to BS EN 10346 : 2009 grade DX51D

Additional finishes :

D Deep galvanised high silicon steel made from BS EN 10025-5 : 2004 Grade S355JOWP

S Stainless steel to BS EN 10088 – 2 grade 1·4404 (equivalent to 316L31)

E Powder coated (black RAL 9005)

ZM Pre-galvanised zinc magnesium coated steel to BS EN 10346 ZM310

Note : 50 mm wide not available in deep galvanised (D) finish

Key : Replace the letter shown in red with your choice from the following options :

F = Finish : G (hot dip galvanised after manufacture), D (deep galvanised), PG (pre-galvanised steel), ZM (pre-galvanised zinc magnesium), S (stainless steel), E (powder coated black RAL 9005)

→ Coupler sets and fixing options : see p. 47-50

→ Fishplates : see p. 105

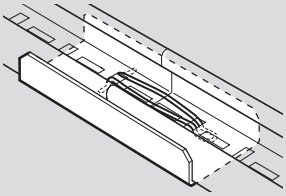
Swifts® MRF straight length to straight length coupling

standard couplers and Swiftclip / Swiftgrip

Standard couplers and Swiftclip / Swiftgrip

Couplers are required for joining together MRF straight lengths
MRFC standard couplers are supplied in pairs. MRFC 50 standard coupler is supplied singly
2 x Swiftclips are required for each coupling and are used with tray widths up to and including 300 mm. For 450 mm to 900 mm tray, use Swiftgrip (2 per coupling)
1 x Swiftclip is required for 50 mm tray and MRFC 50 couplers
Swiftclip and Swiftgrip are supplied in packs of 10
As an alternative coupling method, use standard couplers and quick bolt fasteners (Cat. No. QBF) and a tool, see **p. 48**, or standard couplers and fasteners, see **p. 48-49**

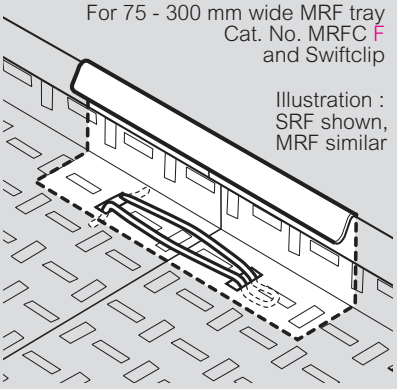
Installation using Swiftclip - 50 mm to 300 mm wide tray



For 50 mm wide MRF tray
Cat. No. MRFC 50 F and Swiftclip

For 75 - 300 mm wide MRF tray
Cat. No. MRFC F and Swiftclip

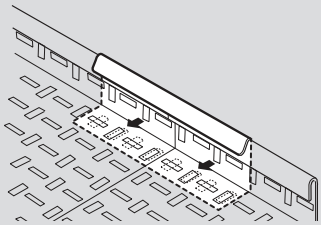
Illustration : SRF shown, MRF similar



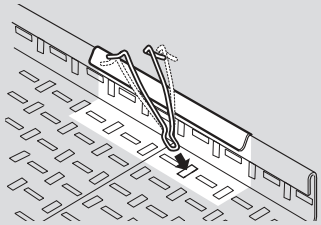
Standard couplers		Swiftclip	
Cat. Nos.	Tray range	Cat. Nos.	Finish
MRFC 50 F[1]	MRF	**SCLPG**	PG
MRFC F[2]	MRF	**SCLG**	G

1 : MRFC 50 for 50 mm wide tray only
2 : MRFC for 75-900 mm wide tray only

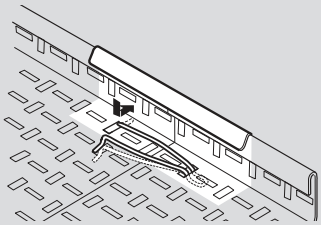
Assembly using Swiftclip



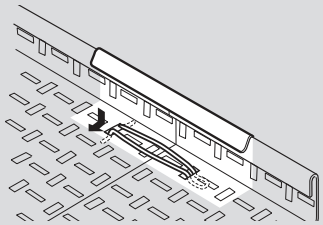
1. Locate coupler across underside of tray joint



2. Insert joggled head of clip where tray and coupler align



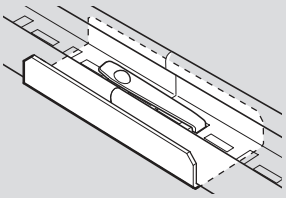
3. Clip leg nearest tray wall into slot on other tray bed



4. The second leg is pushed towards the wall of the tray and pushed home into the same slot

Repeat process on the other side of the tray, fitting the clip in the opposite direction
Ensure:
1. Head and feet of clip are clamping through tray and coupler
2. Clip should span across the joint

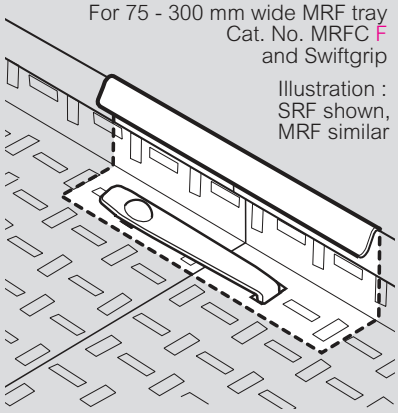
Installation using Swiftgrip



For 50 mm wide MRF tray
Cat. No. MRFC 50 F and Swiftgrip

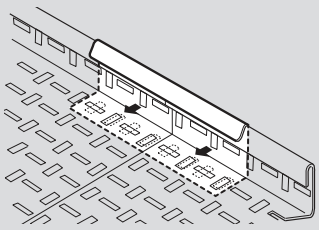
For 75 - 300 mm wide MRF tray
Cat. No. MRFC F and Swiftgrip

Illustration : SRF shown, MRF similar

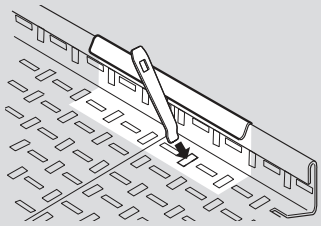


Swiftgrip Cat. No.	For tray finishes
SGR	**PG and G**

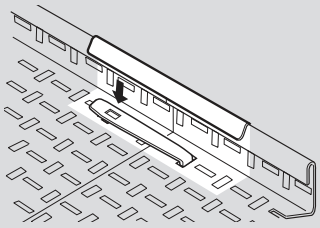
Assembly using Swiftgrip



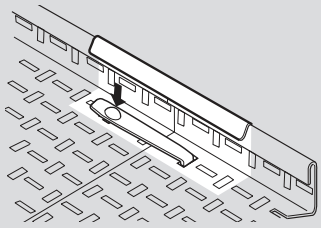
1. Locate coupler across underside of tray joint



2. Insert joggled head of grip where tray and coupler align



3. Lie length of grip flat against tray bed



4. Insert QBF into top of Swiftgrip and secure bolt underneath

Repeat process on the other side of the tray, fitting the grip in the opposite direction
Ensure:
1. Head and bolt of grip are clamping through tray and coupler
2. Grip should span across the joint

All dimensions (mm) are nominal

Key : Replace the letter shown in red with your choice from the following options :

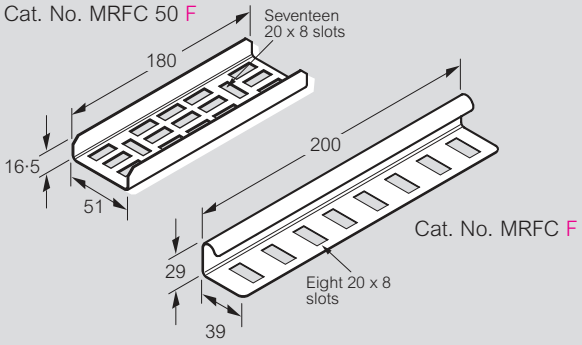
F = Finish : G (hot dip galvanised after manufacture), D (deep galvanised), PG (pre-galvanised steel), ZM (pre-galvanised zinc magnesium), S (stainless steel), E (powder coated black RAL 9005)

Swifts® MRF straight length to straight length coupling

standard couplers and Swiftclip / Swiftgrip (continued)
standard couplers and quick bolt fasteners

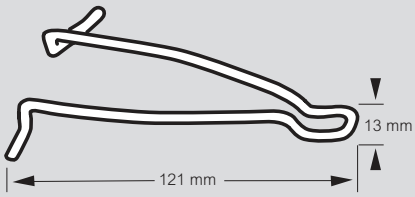
Dimensions and weights

Couplers - MRFC 50 (for 50 mm wide tray) / MRFC (for 75 mm to 900 mm wide tray)



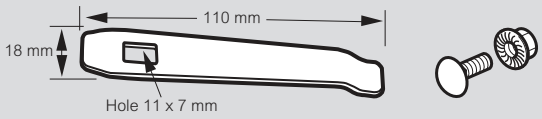
Cat. Nos.	Weight (kg)
MRFC 50 F	0·2 single
MRFC F	0·4 pair

Swiftclip (for 50 mm to 300 mm wide tray)



Cat. Nos.	Pack
SCLPG	10
SCLG	10

Swiftgrip



Cat. No.	Pack
SGR	10

Weights

All weights given are in kilograms (kg) and are for a 3 m straight length in hot dip galvanised G finish

To obtain the appropriate component weight in other finishes, multiply the given weight by the following factors :

Deep galvanised	(D)	x 1·06
Stainless steel	(S)	x 0·94
Pre-galvanised	(PG & ZM)	x 0·96
Powder coated	(E)	x 0·97

Key : Replace the letter shown in red with your choice from the following options :

F = Finish : G (hot dip galvanised after manufacture), D (deep galvanised), PG (pre-galvanised steel), ZM (pre-galvanised zinc magnesium), S (stainless steel), E (powder coated black RAL 9005)

All dimensions (mm) are nominal

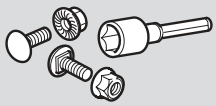
→ Straight lengths : see p. 46

Standard couplers and quick bolt fasteners

Compared with conventional nuts and bolts, quick bolt fasteners are a stronger, faster, easier and safer method of joining together tray

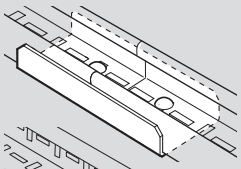
Square-shafted quick bolts lock firmly into position before fixing. The nuts, which have integral washers and a serrated edge to reduce slip and improve earthing, can then be easily tightened using a power tool

Supplied in packs containing 100 quick bolt fasteners and a FREE power tool attachment

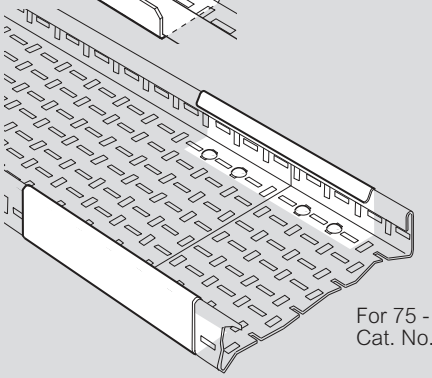


Installation

Typical installation as per standard couplers, replacing nuts, bolts and washers with quick bolt fasteners



For 50 mm wide MRF tray
Cat. No. MRFC 50 F

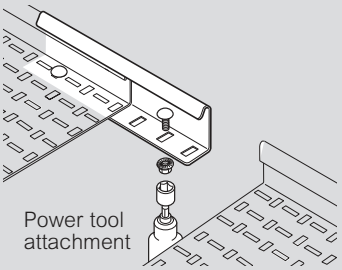


For 75 - 900 mm wide MRF tray
Cat. No. MRFC F

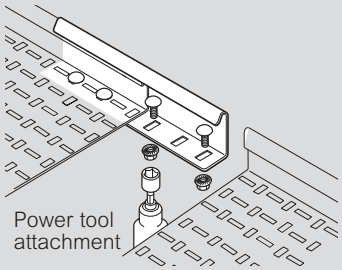
Assembly

Bring together two lengths and fit a coupler on the outside of adjacent flanges at both sides of the tray joint

Locate the coupler and insert bolts through aligning slots in each tray bed and coupler as shown and secure with nuts



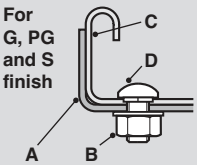
Tray widths up to 225 mm
Two quick bolt fasteners per coupler



Tray widths 300 mm and above
Four quick bolt fasteners per coupler

Quick bolt fasteners

Cat. Nos.	Pack	Size (mm)	Finish
QBF	100	M6 x 12	Dacromet
QBFS	100	M6 x 12	Stainless steel



A Coupler
B M6 flange nut
C Straight length
D M6 coach bolt

For coupler dimensions see above left

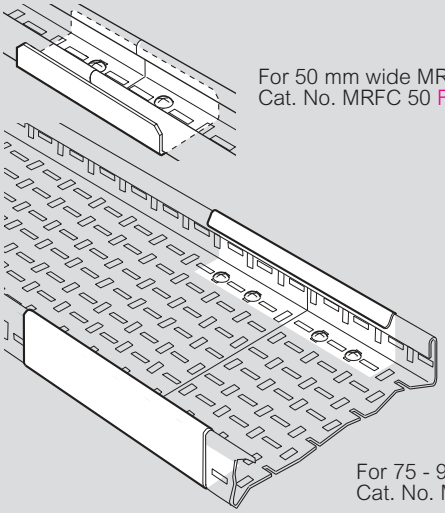
Swifts® MRF straight length to straight length coupling

standard couplers and standard fasteners

Standard couplers and standard fasteners

Couplers are required for joining together MRF straight lengths or cut lengths of tray
MRFC standard couplers are supplied in pairs
MRFC 50 standard coupler is supplied singly
Supplied without fasteners – use M6 nuts, bolts and washers (see opposite)

Installation (typical)



For 50 mm wide MRF tray
Cat. No. MRFC 50 F

For 75 - 900 mm wide MRF tray
Cat. No. MRFC F

Illustration : SRF shown, MRF similar

Standard couplers	
Cat. Nos.	**Tray range**
MRFC 50 F(1)	MRF
MRFC F (2)	MRF

(1) MRFC 50 for 50 mm wide tray only
(2) MRFC for 75-900 mm wide tray only

Assembly

For 50 mm wide MRF tray

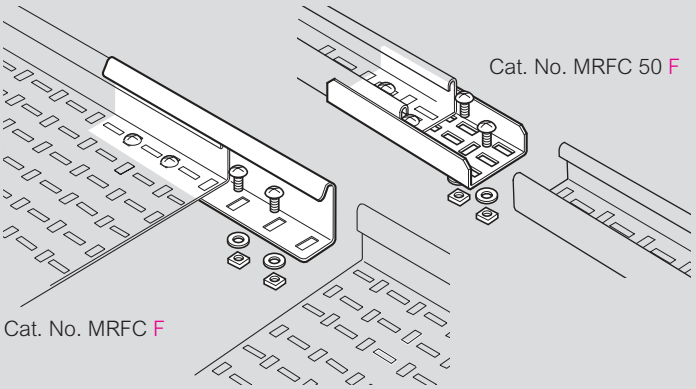
Bring together two lengths and locate the coupler across the underside of the tray joint as shown

Insert two roofing bolts through aligning slots in each tray bed and into the coupler (four bolts per coupler) and secure with roofing washers and nuts

For 75 - 900 mm wide MRF tray

Bring together two lengths and fit a coupler on the outside of adjacent flanges at both sides of the tray joint

Locate the coupler as shown and insert two roofing bolts through aligning slots in each tray bed and coupler (four bolts per coupler), and secure with roofing washers and nuts



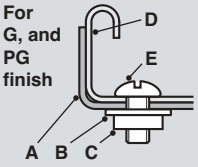
Cat. No. MRFC 50 F

Cat. No. MRFC F

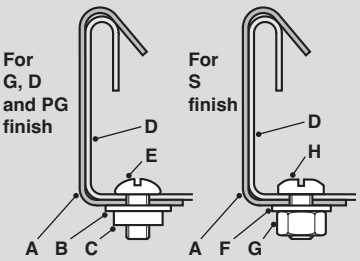
Assembly (continued)

Fasteners

Cat. No. MRFC 50 F



Cat. No. MRFC F



A	Coupler
B	Roofing washer
C	M6 square nut
D	Straight length
E	M6 x 12 roofing bolt
F	M6 form A washer
G	M6 hexagon nut
H	M6 x 12 pan head screw

Fastener finishes

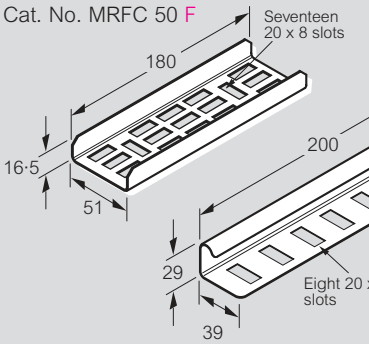
For lengths and fittings with G, D, PG and ZM finishes fasteners are galvanised or zinc plated. For trays and fittings with S finish, fasteners are corrosion resistant stainless Grade A470
For lengths and fittings with E finish the choice of material for fasteners will depend on the installation environment – contact us on +44 (0) 370 608 9020

Note

For quick bolt fasteners, see **p. 48**

Dimensions and weights

Cat. No. MRFC 50 F



Cat. No. MRFC F

Cat. Nos.	Weight (kg)
MRFC 50 F	0·2 single
MRFC F	0·4 pair

Weights

All weights given are in kilograms (kg) and are for hot dip galvanised G finish
To obtain the appropriate component weight in other finishes, multiply the given weight by the following factors :
Pre-galvanised (PG & ZM) x 0·96

All dimensions (mm) are nominal

Straight lengths : see p. 46

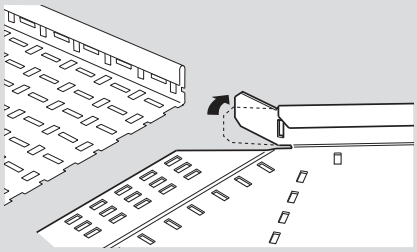
Swifts® MRF straight length to fitting coupling

using Swiftclip or fasteners

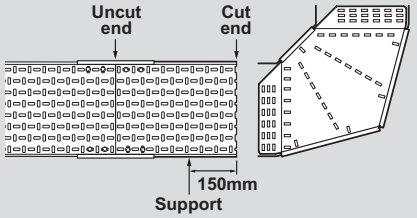
Straight length to fitting coupling using Swiftclip – 50 mm to 300 mm wide tray

Cable tray fittings must be properly supported. The ideal location for supports is shown in step 2, i.e. 150 mm from the fitting to length joint. For further details see Design Notes, Recommended Support Locations, **p. 132**

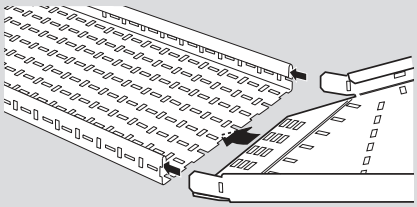
1
Where necessary re-align the fitting flange tabs from their transit position to their installation position



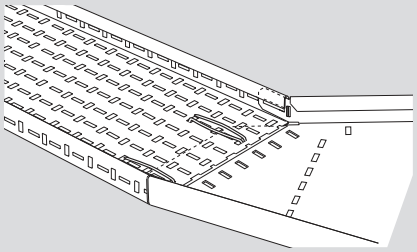
2
When a straight length of cable tray has to be cut back to accept a fitting, always fit the uncut end to the adjacent straight length; the cut end should be connected to the fitting



3
Offer the fitting at an angle to the straight length and locate, ensuring that the joggled fishplate fits under the tray bed and the flange tabs slide inside the length flanges



4
Insert joggled head of clip through slots in the tray bed into aligning slots in the fitting fishplate, then clip legs into slot on tray bed



5
Ensure head of clip is clamping through tray and fitting

Key : Replace the letter shown in red with your choice from the following options :

F = Finish : G (hot dip galvanised after manufacture), D (deep galvanised), PG (pre-galvanised steel), ZM (pre-galvanised zinc magnesium), S (stainless steel), E (powder coated black RAL 9005)

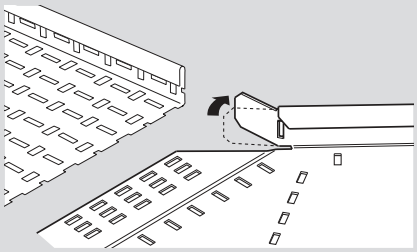
All dimensions (mm) are nominal

→ Straight lengths : see p. 46

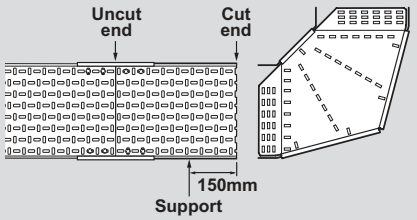
Straight length to fitting coupling using fasteners

Cable tray fittings must be properly supported. The ideal location for supports is shown in step 2, i.e. 150 mm from the fitting to length joint. For further details see Design Notes, Recommended Support Locations, **p. 132**

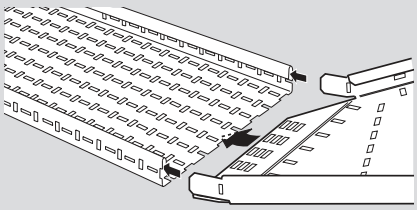
1
Where necessary re-align the fitting flange tabs from their transit position to their installation position



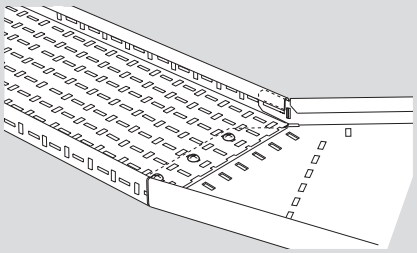
2
When a straight length of cable tray has to be cut back to accept a fitting, always fit the uncut end to the adjacent straight length; the cut end should be connected to the fitting



3
Offer the fitting at an angle to the straight length and locate, ensuring that the joggled fishplate fits under the tray bed and the flange tabs slide inside the length flanges



4
Insert roofing bolts or QBF through slots in the tray bed in to aligning slots in the fitting fishplate and secure with roofing washers and nuts



Note

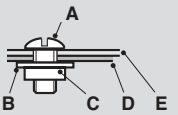
Fasteners stated are for D, G, PG and ZM finishes
For lengths and fittings with S finish use fasteners listed below

Fasteners

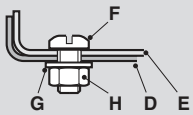
Minimum number of fasteners per joint (not included) :
Widths up to 225 = 2
Widths 300 to 600 = 3
Widths 750 and 900 = 4

Roofing bolts

For G and PG finish



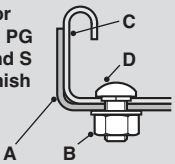
For S finish



A	M6 x 12 roofing bolt
B	Roofing washer
C	M6 square nut
D	Fitting
E	Straight length
F	M6 x 12 pan head screw
G	M6 form A washer
H	M6 hexagon nut

Quick bolt fasteners

For G, PG and S finish



A	Coupler
B	M6 flange nut
C	Straight length
D	M6 coach bolt

Fastener finish

For lengths and fittings with G, D, PG and ZM finishes, fasteners are galvanised or zinc plated. For trays and fittings with S finish, fasteners are corrosion resistant stainless Grade A470
For lengths and fittings with E finish, the choice of material for fasteners will depend on the installation environment - contact us on +44 (0) 370 608 9020