

KITE

HANDRAIL, WALKWAY, BARRIER & ACCESS



GALVANISED CLAMPS



GRP CLAMPS



DDA CLAMPS



PRODUCT GUIDE

INTRODUCTION

KITE fittings are a simple and cost effective way of creating an endless variety of tubular structures without the need for welding. Our extensive range of fittings, when combined with standard tubing, enables the user to create any structure imaginable, for use in all manner of industries.

SUCH USES INCLUDE BUT ARE NOT LIMITED TO:

- Safety railings
- Handrails
- Racking
- Play areas
- Shopping trolley bays
- Exhibition stands
- Market stalls
- Lighting grid systems
- Awnings
- Car ports
- Hanging rails
- Support frameworks
- Bicycle racks
- Benches

Whatever your purpose, the information provided within this Product Guide should enable you to easily determine which KITE fittings suit your needs. The information and guidelines provided here are given only as guidance. The ultimate responsibility for selecting the correct fitting and size for any application is that of the user. The user must also ensure that any structure is of significant strength to support the weight of the KITE fittings and tube in addition to any applied load.

If you need any further technical support or assistance regarding the use and interpretation of this Product Guide then please contact your supplier.

KITE fittings are a blackheart malleable iron casting manufactured to BS EN 1562:2012 with a hot dipped galvanised finish to BS EN 1461:2009.

All KITE fittings are supplied with stainless steel grub screws. The grub screws can be tightened with an Allen key, however, if fully tightened using a ratchet key to a torque of 4.1kg/m (29ft/lb) the grub screw is capable of withstanding an applied slip load of 900kg.

KITE fittings are available in five standard sizes designated by the suffix 1 to 5 on the KITE reference number. The standard tube sizes are given in the following table.

Size Reference	Tube Diameter (O/D)	Nominal bore
1	26.9mm	3/4"
2	33.7mm	1"
3	42.4mm	1 1/4"
4	48.3mm	1 1/2"
5	60.3mm	2"

All KITE and DDA fittings are tested and approved by TÜV, Europe's leading independent testing house, in sizes 1 to 5.



The technical details in this Product Guide have not been subjected to the TÜV testing process. A copy of the TÜV certificate is available by request.

Whilst every effort has been taken to ensure that the information in this Product Guide is correct, KITE reserves the right to alter and revise this information as and when required and accepts no liability for errors or omissions. No part of this Product Guide may be reproduced without prior written consent from KITE.

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KITE

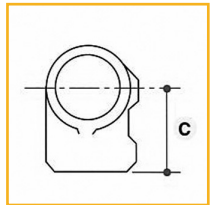
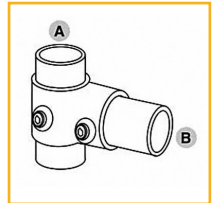
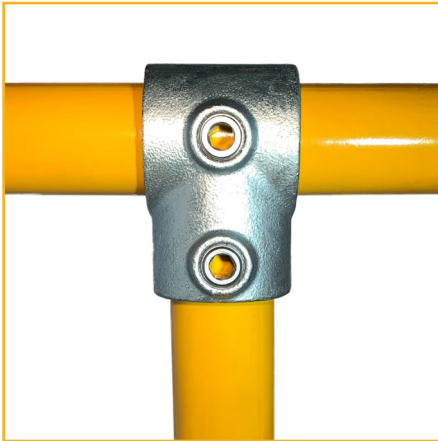
**GALVANISED
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101: SHORT TEE CLAMP

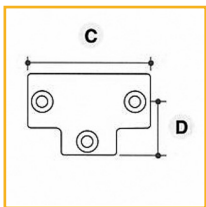
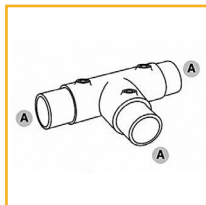
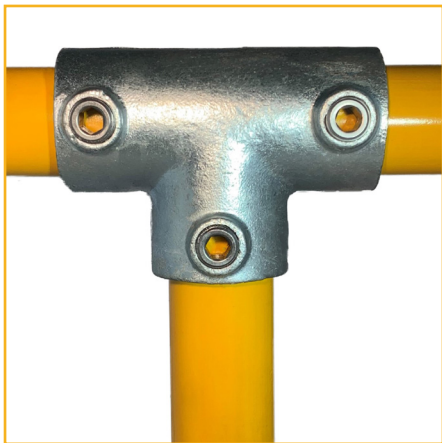
A 90° tee connection between two tubes. Typical use is on straight and level guardrail to connect the vertical to the top rail. This KITE fitting cannot be used to join tubes in the top of the short tee. For this the KITE fitting 104 Long Tee Clamp should be used.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
101-A 27	1	1	41						0.19
101-B 34	2	2	46						0.30
101-C 42	3	3	60						0.46
101-D 48	4	4	68						0.53
101-E 60	5	5	84						0.85

104: LONG TEE CLAMP

A 90° tee connection between two tubes. Typical use is on straight and level guardrail to connect the vertical to the top rail. This KITE fitting can be used to join tubes in the top of the twin grubscrew long tee.

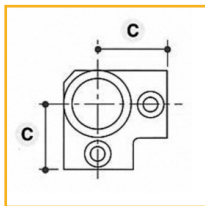
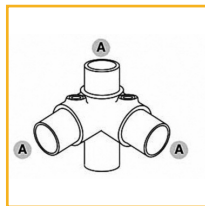


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
104-A 27	1		82	41					0.32
104-B 34	2		92	46					0.49
104-C 42	3		120	60					0.79
104-D 48	4		136	68					0.93
101-E 60	5		168	84					1.50

116: 3 WAY THROUGH CLAMP



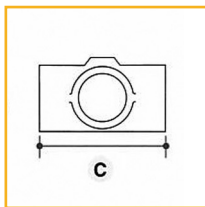
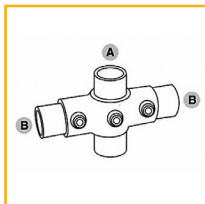
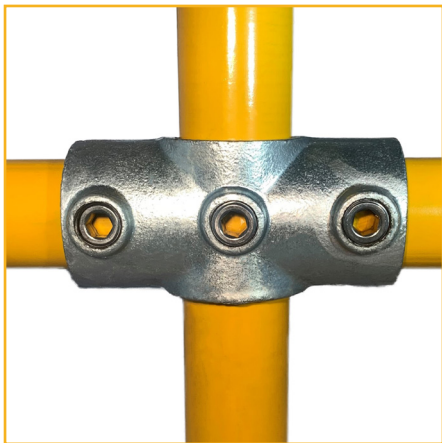
A 90° corner joint with the vertical passing through the KITE clamp fitting. Typical use is on straight and level guardrails for connecting the mid/lower rail to the vertical at a 90° corner. Can also be used in a similar way on other rectangular structures.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
116-A 27	1		40						0.27
116-B 34	2		48						0.40
116-C 42	3		60						0.61
116-D 48	4		68						0.72
116-E 60	5		86						1.15

119: 2 SOCKET CROSS

A 90° joint between a vertical and two horizontals. Typical use on straight and level guardrail to connect the mid/lower rails to the upright. The vertical must remain continuous with cross rails cut. Normally used in conjunction with the KITE fitting 104 Long Tee.

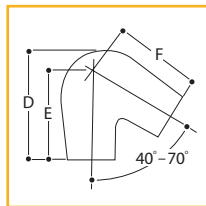
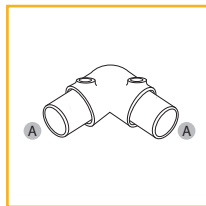


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
119-A 27	1	1	80						0.27
119-B 34	2	2	96						0.37
119-C 42	3	3	120						0.62
119-D 48	4	4	135						0.71
119-E 60	5	5	168						1.15

123: ACUTE ANGLE ELBOW



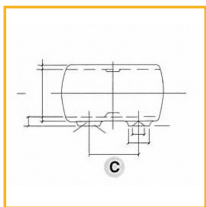
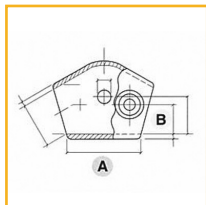
Alternative to bending to form a connection between a sloping tube and an end post.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
123-B 34				90	65	65			0.54
123-C 42				100	85	85			0.84
123-D 48				134	120	120			1.16

124: VARIABLE ELBOW

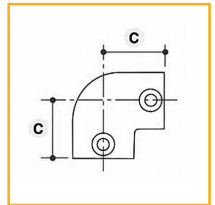
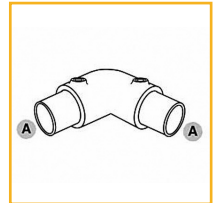
A variable angle in line connector (15° - 60°). Ideally suited for use between the vertical end post and sloping top rail on stair guard railing.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
124-B 34			40.0						0.38
124-C 42			47.5						0.62
124-D 48			54						0.63

125: 2 WAY 90° ELBOW

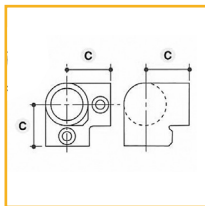
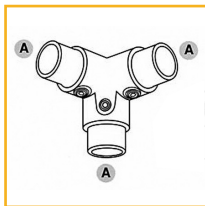
A 90° elbow. Typical use is to connect the end vertical to the top rail in straight and level guardrail. Can also be used to create a 90 tube bend.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
125-A 27	1		41						0.24
125-B 34	2		46						0.36
125-C 42	3		60						0.59
125-D 48	4		68						0.69
125-E 60	5		84						1.12

128: 3 WAY 90° ELBOW

A 3 way enclosed 90° corner joint. Typical use is on straight and level guardrail at a 90 corner where an upright is in position. This KITE fitting can also be used to create enclosed corner joints in other square structures such as benches etc.

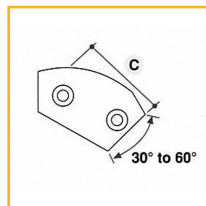
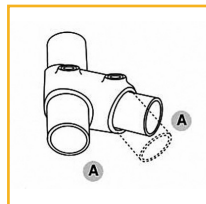
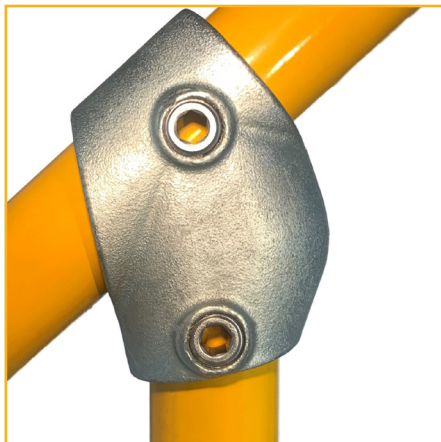


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
128-A 27	1		40						0.35
128-B 34	2		48						0.50
128-C 42	3		60						0.80
128-D 48	4		68						0.98
128-E 60	5		85						1.67

129: VARIABLE ANGLE TEE

KITE

Freely adjustable tee between 30° and 60°. Typical use is a tee connection on angled top rails on steeper slopes or stairs with the upright remaining vertical. This fitting can also be used for bracing on structures. This fitting has no ability to join tubes. An alternative for this situation is the KITE fitting 127.

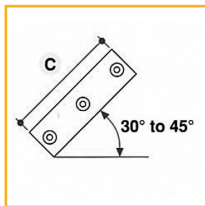
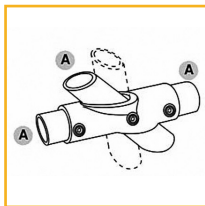
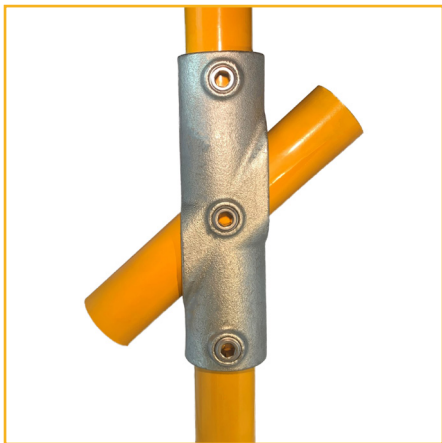


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
129-B 34	2		70						0.40
129-C 42	3		85						0.65
129-D 48	4		90						0.75

130: ADJUSTABLE CROSS

Freely adjustable cross between 30° and 45°. Typical use is as a cross connection on angled mid/lower rails on steeper sloped or stairs with the upright remaining vertical. The upright must remain continuous with the cross rails being cut.

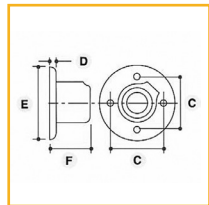
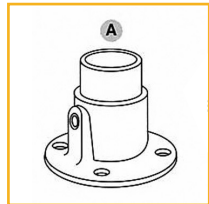
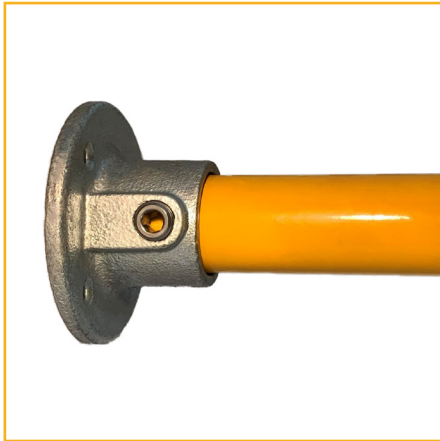
Not recommended for use on the top of the vertical.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
130-B 34	2		147						0.63
130-C 42	3		199						1.03
130-D 48	4		217						1.15

131: WALL PLATE

With four countersunk holes, this fitting is ideal as a flange to terminate handrail to a wall or other similar application. This fitting may be used on structures where it is only required as a positional fixing.

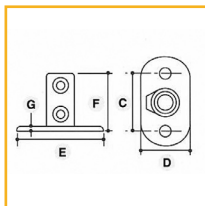
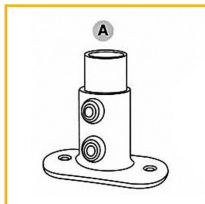


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
131-A 27	1		57	6	83	42		8	0.29
131-B 34	2		65	7	89	48		8	0.44
131-C 42	3		76	7	102	50		8	0.61
131-D 48	4		88.5	7	114	59		8	0.84
131-E 60	5		95	7	127	64		8	0.98

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION. THIS FITTING IS NOT RECOMMENDED FOR USE AS A BASE PLATE FOR GUARDRAILING

132: BASE PLATE CLAMP

A structural base plate for all aspects of vertical post support. This fitting when used as a base plate for guardrailing should always be positioned with the holes across the line of the guardrail to give maximum strength. The holes in the base plate are large enough to enable the use of mechanical or chemical anchor fixings.

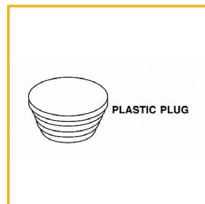


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
132-A 27	1		76	52	105	60	7	11	0.40
132-B 34	2		89	62	127	71	7	14	0.64
132-C 42	3		101	72	139	84	7	14	0.85
132-D 48	4		114	80	150	89	10	14	1.15
132-E 60	5		127	104	165	104	10	17	1.50

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION.

133: PLASTIC ROUND END CAP

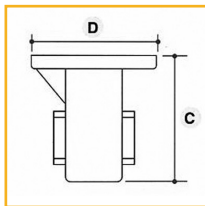
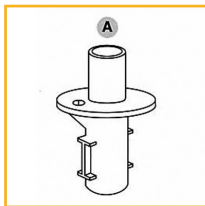
A plastic stop end for use in the end of tubes. This stop end can be used in either medium or heavy gauge tube. This is only a friction fit and for a more permanent fix an adhesive is recommended.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
133-B 34	2								0.01
133-C 42	3								0.01
133-D 48	4								0.015
133-E 60	5								0.02

134: GROUND SOCKET

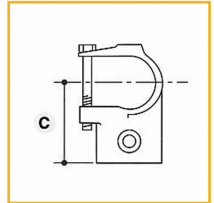
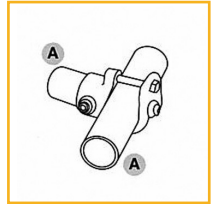
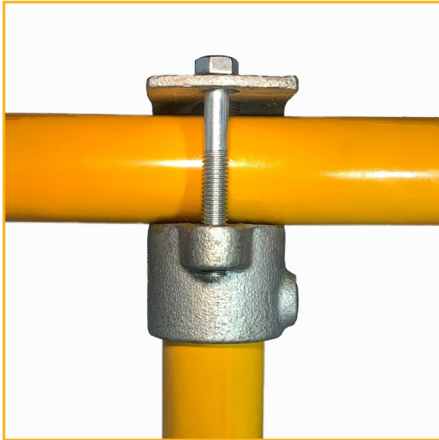
A ground socket cast into concrete which is flush to the finished ground level. The upright is held in place using the grubscrew but can easily be removed without leaving any obstructions.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
134-B 34	2		123	127					1.85
134-C 42	3		136	140					2.46
134-D 48	4		136	140					2.47

135: CLAMP ON TEE

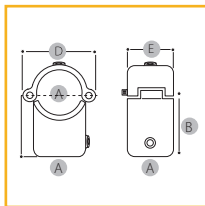
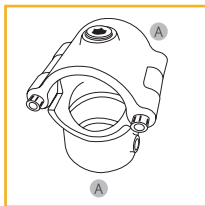
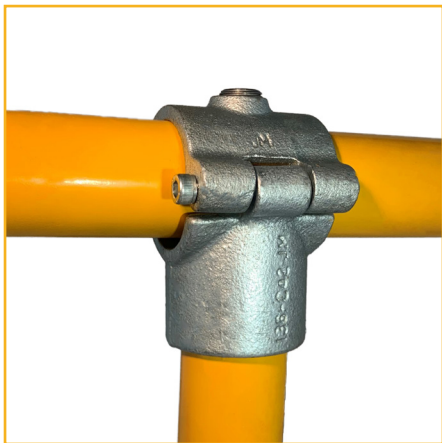
Inline Add on Tee. Used for making additions to upgrading or modifying an existing structure without having the need to dismantle part or all of that structure.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
135-A 27	1		50						0.27
135-B 34	2		53						0.32
135-C 42	3		67						0.50
135-D 48	4		77						0.55

136: RETRO FIT CLAMP ON TEE

The add on tee enables a structure to be extended, avoiding the need for dismantling.

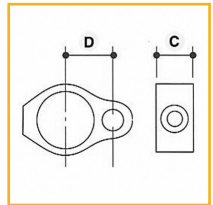
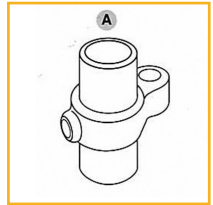


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
136-C 42	3	60	88	76	56				0.605
136-D 48	4	70	100	83	62				0.778

WARNING: THIS CLAMP SHOULD NOT BE USED TO JOIN LENGTHS OF TUBE.

138: GATE EYE

Female section of a two part gate hinge.
Used in conjunction with KITE fitting reference 140.

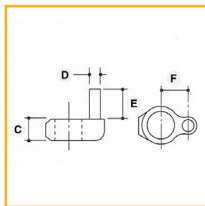
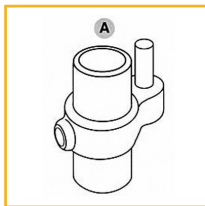
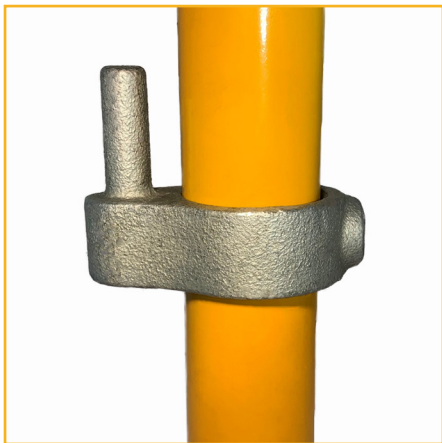


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
138-A 27	1		25	30				14	0.16
138-B 34	2		25	33				14	0.18
138-C 42	3		25	38				14	0.21
138-D 48	4		25	41				14	0.22

140: GATE HINGE

Male section of a two part gate hinge.

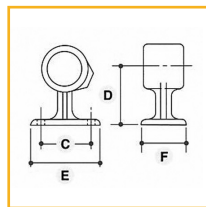
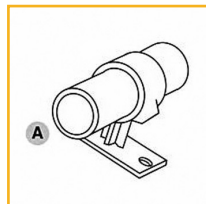
Used in conjunction with KITE fitting reference 138.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
140-A 27	1		25	13	38	30			0.24
140-B 34	2		25	13	38	33			0.26
140-C 42	3		25	12	38	38			0.29
140-D 48	4		25	12	38	41			0.30

143: WALL PLATE FIXING

With four countersunk holes, this fitting is ideal as a flange to terminate handrail to a wall or other similar application. This fitting may be used on structures where it is only required as a positional fixing.

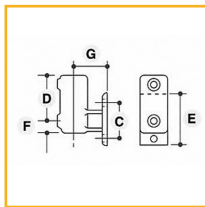
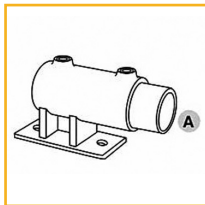
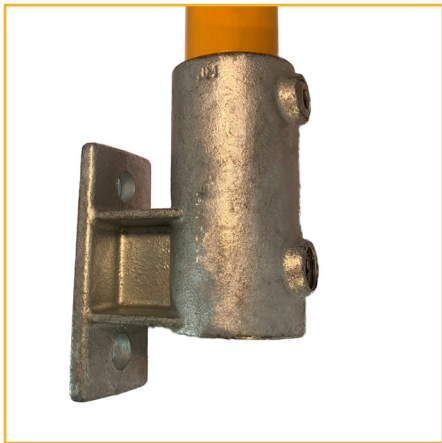


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
143-A 27	1		57	55	80	44		8	0.29
143-B 34	2		62	57	85	44		8	0.35
143-C 42	3		76	63	100	44		8	0.45
143-D 48	4		82.5	67	110	50		8	0.56

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION. THIS FITTING IS NOT RECOMMENDED FOR USE AS A BASE PLATE FOR GUARDRAILING

144: STRUCTURAL OFFSET SIDE PALM

Structural offset side palm base fixing guardrailing to walls, steps, ramps, etc. The tube is unable to pass through this fitting as supplied. Should this be required then the base must be reamed out. Access to the top fixing is restricted. It is recommended that a threaded stud is fixed first with a maximum projection of 25mm.



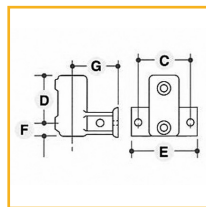
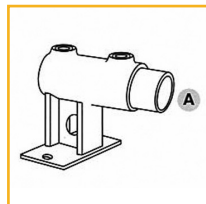
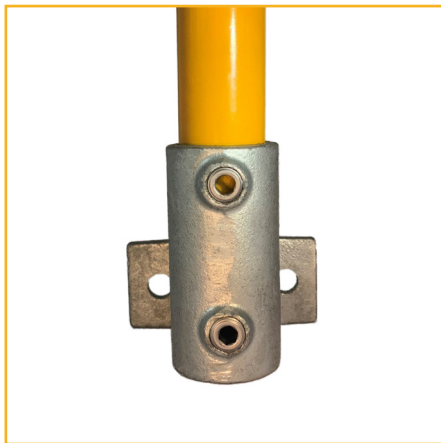
REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
144-B 34	2			104	96		65	14	0.83
144-C 42	3			112	110		64.5	14	1.16
144-D 48	4			120	123		65	14	1.31

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION.

145: NON-STRUCTURAL OFFSET SIDE PALM



This fitting is designed for palm fixing guardrailing and balustrading to walls, parapets, steps and ramps.

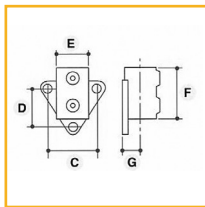
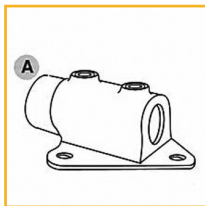
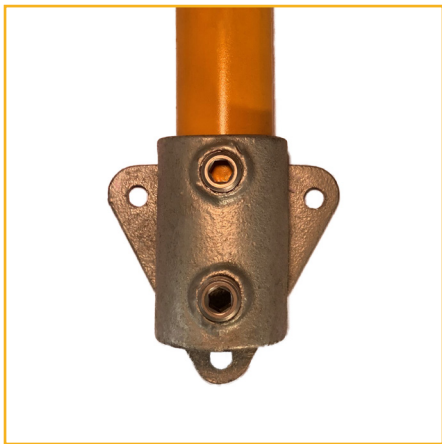


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
145-B 34	2		67		102	30	57	14	0.85
145-C 42	3		73		111	53	64	14.5	1.12
145-D 48	4		89		119	68	73	14.5	1.44

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION.

146: STRUCTURAL FLUSH SIDE PALM FIXING

Structural flush side palm base fixing guardrailing to wall, steps or ramps etc. The flush design enables posts to be tight to the structure. The tube is unable to pass through the fitting. Should this be required then the base must be reamed out. If the base is reamed out the bottom fixing will become redundant.

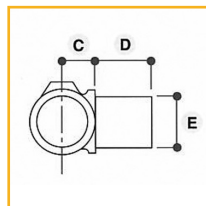
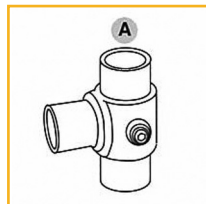
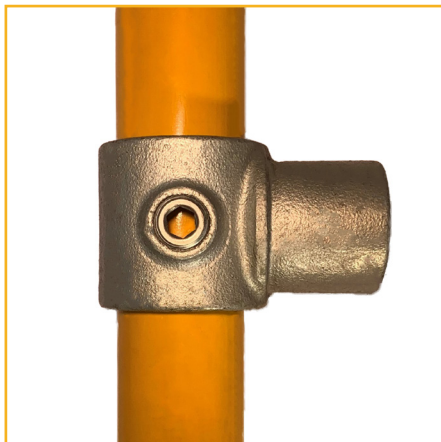


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
146-B 34	2		71	63	45	76	24	12	0.55
146-C 42	3		82	72	56	83	28	12	0.76
146-D 48	4		86	78	61	89	31	12	0.83

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION.

147: OFFSET SWIVEL TEE

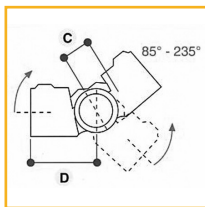
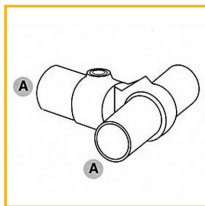
An internal swivel tee used in conjunction with other KITE fittings in the range to create a 360° swivel joint. Ideal use on handrail or offset guardrailing down variable angled slopes. Eliminates the requirement for specialised angle fittings.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
147-B 34	2		23						0.31
147-C 42	3		26						0.43
147-D 48	4		30						0.53

148: SHORT SWIVEL INLINE TEE

Shown priced and sold as a single fitting but normally used in pairs to create angles between 85° and 235°. A central tube is required to join the fittings together to create the angle. When working out the correct tube length dimension 'C' should be subtracted. Typically used in pairs and sold individually.



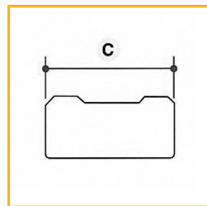
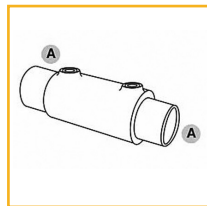
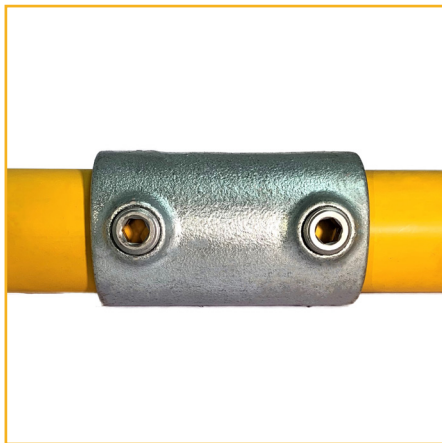
REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
148-A 27	1		-31	53					0.18
148-B 34	2		-33	59					0.27
148-C 42	3		-40	73					0.42
148-D 48	4		-46	93					0.60

NOTE: When using KITE fitting 148 for the top rail of a guardrail, the top of the upright must NOT be reduced in length but left at full height. The top of the tube will need to be capped using a KITE fitting 133.

149: EXTERNAL TUBE CONNECTOR



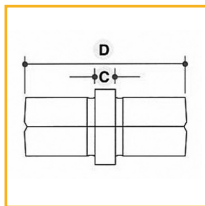
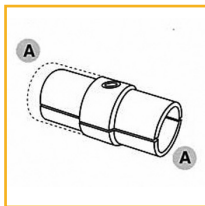
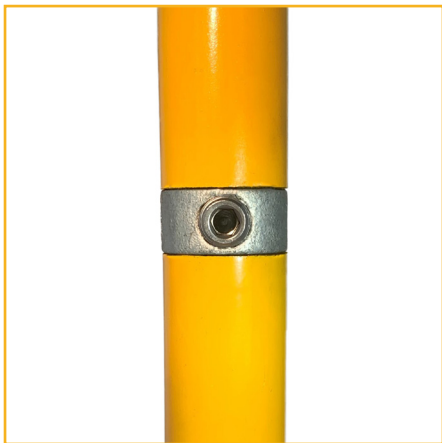
An inline external tube connector for joining two tubes of the same diameter. This fitting is not recommended to be used in high load applications. For a smooth inline joint the KITE fitting 150 can be used.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
149-A 27	1		76						0.27
149-B 34	2		89						0.39
149-C 42	3		102						0.55
149-D 48	4		102						0.56
149-E 60	5		120						0.88

150: INTERNAL TUBE CONNECTOR

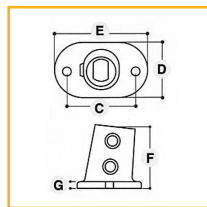
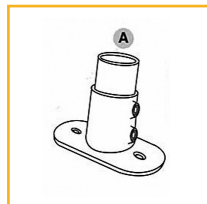
An inline internal tube connector for joining two tubes of the same diameter. This fitting can only be used with 3.2mm wall thick tube. This fitting is not recommended for high or tensile load applications.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
150-B 34	2		20	78					0.24
150-C 42	3		20	78					0.34
150-D 48	4		20	78					0.41

152: SLOPE BASE 0-11°

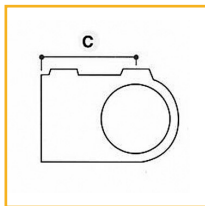
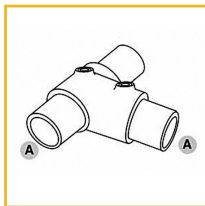
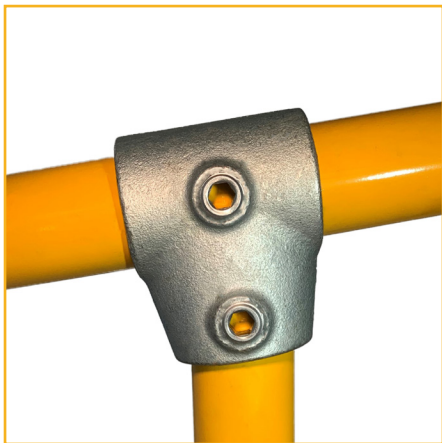
An adjustable structural base fitting for the vertical. The design of this fitting will only allow it to be installed in the correct plane.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
152-B 34	2		89	80	127	90	7	14.5	0.83
152-C 42	3		101	90	140	98	7	14.5	1.06
152-D 48	4		113	96	153	99	7	14.5	1.3

153: SLOPE SHORT TEE

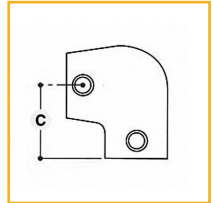
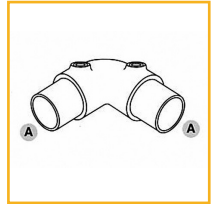
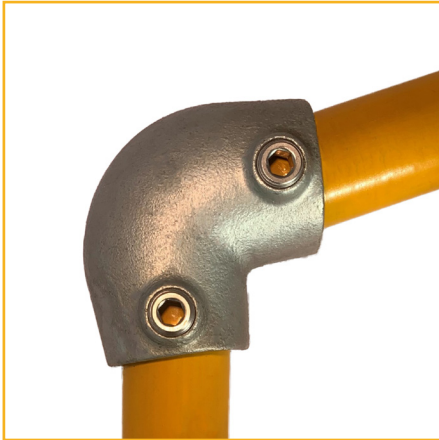
An adjustable tee connection between two tubes. Used on ramps and shallow gradient guardrail between verticals and top rails or the mid/lower rails to an end vertical. This fitting cannot be used to join tubes in the short tee. For this the KITE fitting 155 Slope Long Tee should be used.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
153-B 34	1		46						0.36
153-C 42	2		60						0.54
153-D 48	3		68						0.65

154: SLOPE ELBOW

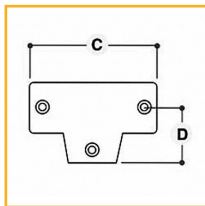
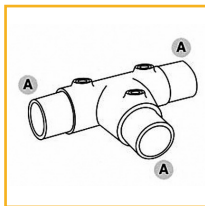
An adjustable elbow. Used for the connection of the first vertical post at the start of the incline to the top rail. Only one barrel has the ability to take the adjustability, the other is fixed.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
154-B 34	2		46						0.40
154-C 42	3		60						0.63
154-D 48	4		68						0.80

155: SLOPE LONG TEE

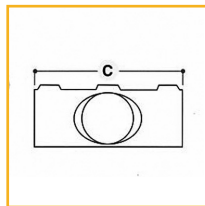
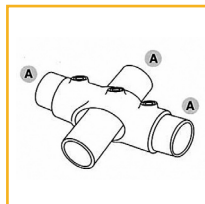
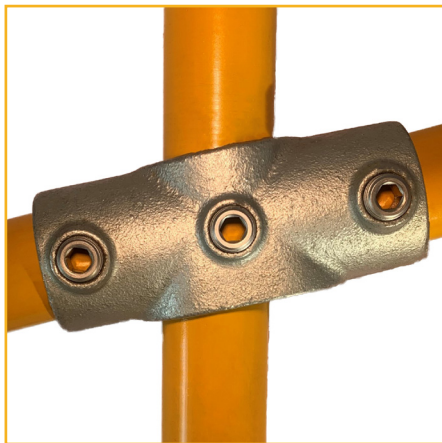
An adjustable tee connection between two tubes. Used on ramps and shallow gradient guardrail between verticals and top rails. This fitting can be used to joint tubes in the long tee.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
155-B 34	2		104	46					0.52
155-C 42	3		145	60					0.89
155-D 48	4		168	68					1.11

156: SLOPE CROSS

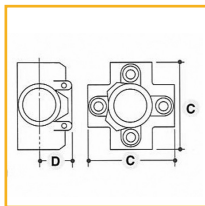
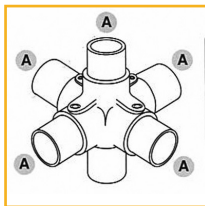
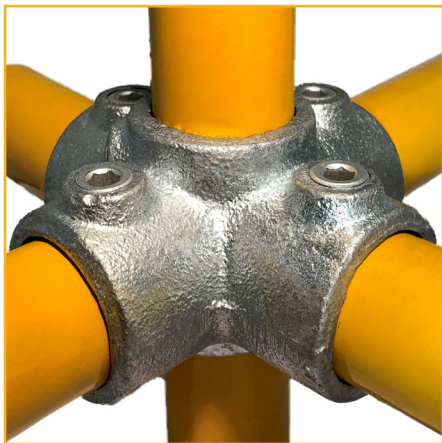
An adjustable cross for connecting tubes between mid/lower rails and the vertical on ramps or shallow gradients. The vertical must remain continuous with the cross rails being cut.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
156-B 34	2		110						0.45
156-C 42	3		140						0.70
156-D 48	4		158						0.83

158: 4 WAY CROSS

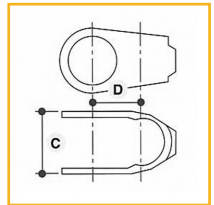
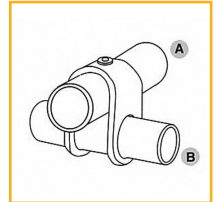
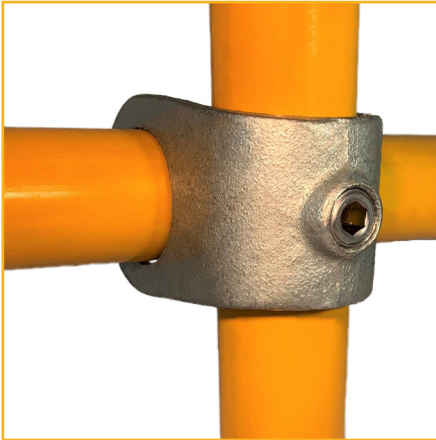
A 4 way cross that enables the vertical to pass through the centre of the fitting with the four horizontal tubes joining at 90° to each other. Ideal for structures with multiple verticals. The vertical must remain either continuous with the cross rails being cut.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
158-A 27	1			41					0.43
158-B 34	2			46					0.59
158-C 42	3			60					0.98
158-D 48	4			68					1.17

160: ADD ON TEE

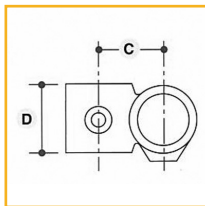
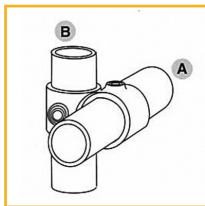
Offset add on tee. Used for making additions to, upgrading or modifying an existing structure without having the need to dismantle part or all of that structure.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
160-B 34	2	2	35	34					0.25
160-C 42	3	3	45.4	43					0.38
160-D 48	4	4	51.6	49					0.50
160-E 60	5	5	63	61					0.65

161: OFFSET 90° CROSSOVER

A 90° offset crossover fitting. The tube is unable to be jointed within this fitting. Ideal applications are for racking systems or offset guardrail. Where dimension 'D' indicates two figures, the first figure refers to tube 'A', the second refers to tube 'B'.

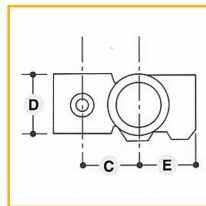
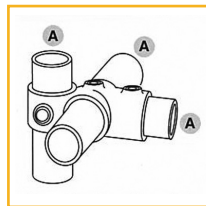


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
161-A 27	1	1	38	31.5					0.20
161-B 34	2	2	41	38.5					0.29
161-C 42	3	3	50	45					0.46
161-D 48	4	4	50	55					0.54
161-E 60	5	5	64	61					0.84

165: COMBINATION SOCKET



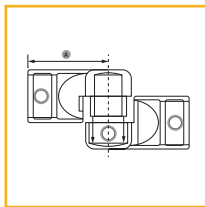
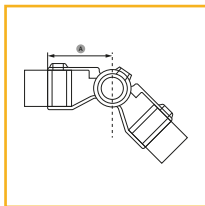
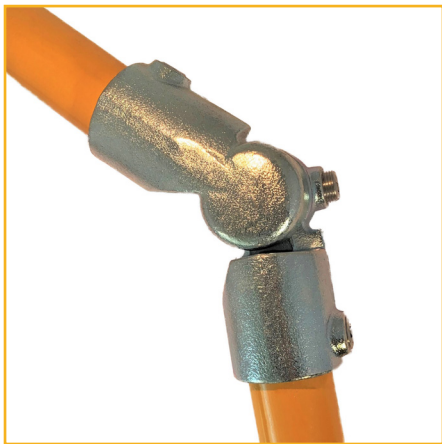
A combination fitting designed for use in the construction of racking systems. The fitting enables the connection of a vertical upright at 90° to two horizontal rails. One being the tie rail, the other being the load rail. On pallet racking the upright normally has the load rail on the inside, whilst for shelved racking the upright normally has the load rail on the outside.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
165-A 27	1		35		40				0.28
165-B 34	2		40		48				0.45
165-C 42	3		50		60				0.66
165-D 48	4		56		67				0.79

166: MULTI SWIVEL ELBOW

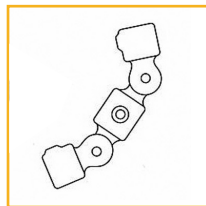
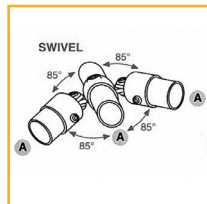
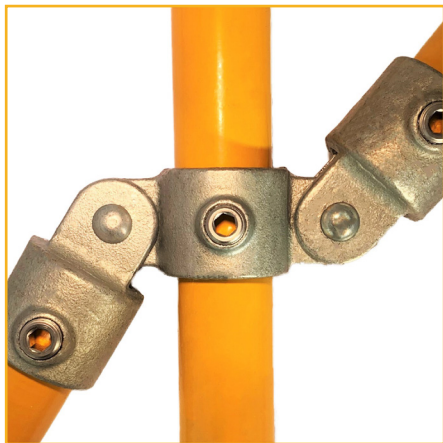
A versatile fitting, often used where a horizontal rail is joined to a sloping section. Once the desired angle is obtained, the knuckle is secured with a standard setscrew.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
166-A27	-							0.28
166-B34	78							0.87
166-C42	88							1.28
166-D48	93							1.45
166-E60	110							2.34

167: DOUBLE SWIVEL

Complete double swivel with the swivel connectors at 180° to each other. Each swivel has a travel of approximately 85° from the horizontal in both vertical directions.

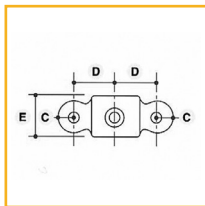
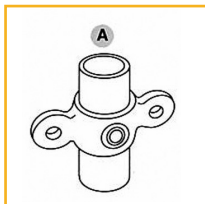
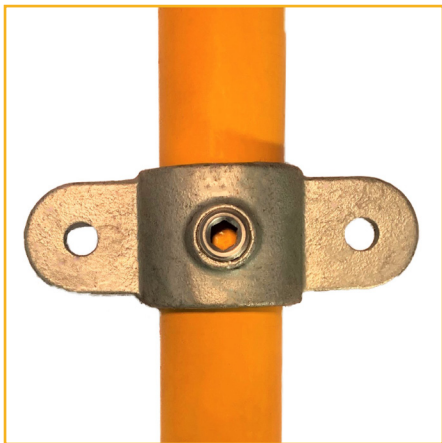


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
167-A 27	1								0.67
167-B 34	2								1.04
167-C 42	3								1.30
167-D 48	4								1.49

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

167M: DOUBLE MALE SWIVEL

A double male fitting with the lugs at 180° to each other.

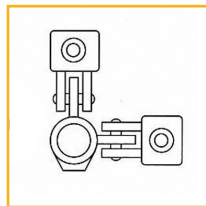
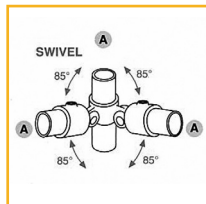
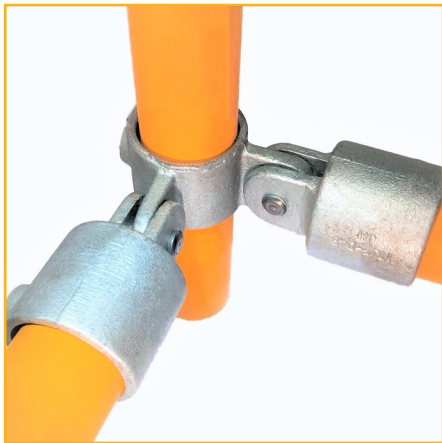


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
167M-A 27	1			75	32			10	0.38
167M-B 34	2			86	40			10	0.34
167M-C 42	3			95	45			10	0.40
167M-D 48	4			105	48			10	0.44
167M-E 60	5			124	38			10	0.56

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

168: 90° CORNER SWIVEL

Complete double swivel with the swivel connectors at 90° to each other. Each swivel has a travel of approximately 85° from the horizontal on both vertical directions.

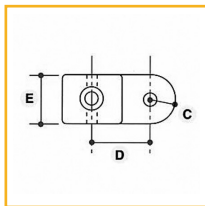
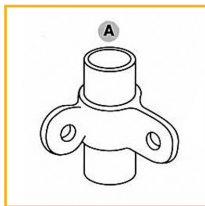
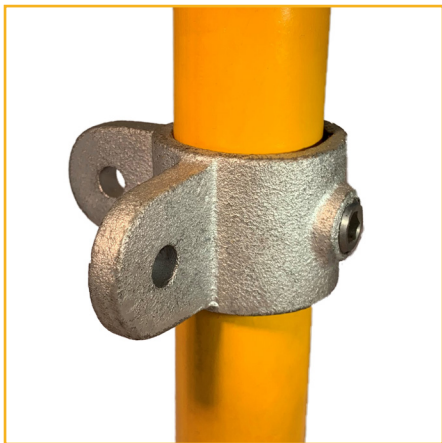


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
168-A 27	1								0.66
168-B 34	2								1.02
168-C 42	3								1.18
168-D 48	4								1.49

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

168M: 90° MALE CORNER SWIVEL

Double male fitting with the two lugs at 90° to each other.



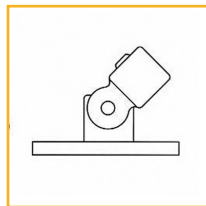
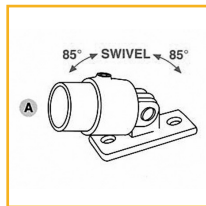
REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
168M-A 27	1			40				10	0.40
168M-B 34	2			43.5				10	0.32
168M-C 42	3			48				10	0.28
168M-D 48	4			53				10	0.45
168M-E 60	5			65				10	0.47

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

169: SWIVEL LOCATING FLANGE



Complete locating swivel. Swivel has a travel of approximately 85° from the vertical in each direction.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
169-A 27	1								0.58
169-B 34	2								0.71
169-C 42	3								0.81
169-D 48	4								0.88
169-E 60	5								0.95

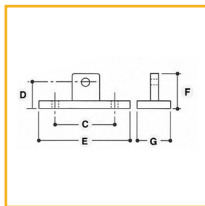
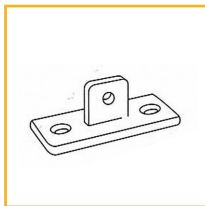
WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

THIS FITTING IS NOT RECOMMENDED FOR USE AS A BASE PLATE FOR GUARDRAILING

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169M: MALE SWIVEL LOCATING FLANGE

Complete locating swivel. Swivel has a travel of approximately 85° from the vertical in each direction.

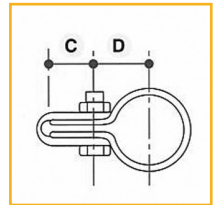
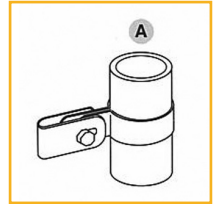
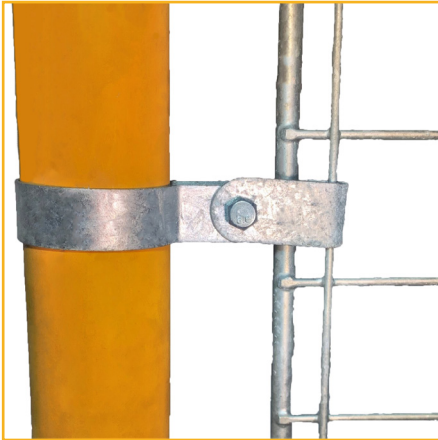


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
169M			85	32	112		52	10	0.36

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

170: SINGLE MESH CLIP

Double location weldmesh panel clip. The slotted design of the panel clip enables adjustment in the location of the mesh panels. Supplied with M6 x 30mm long nut and bolt. This fitting can also be used to locate other materials up to 10mm thick provided the safety saddle is removed.

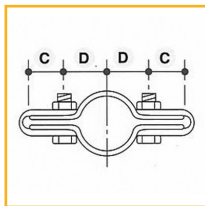
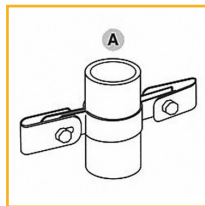
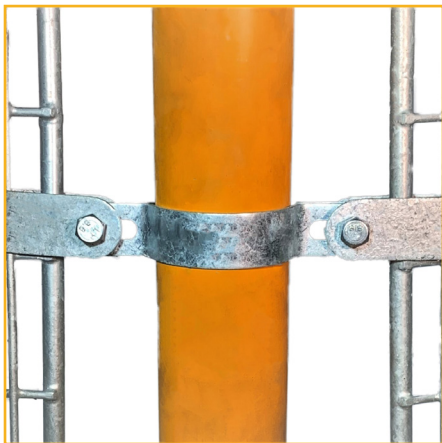


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
170-A 27	1		22	25					0.07
170-B 34	2		25	28					0.08
170-C 42	3		25	33					0.08
170-D 48	4		25	35					0.09
170-E 60	5		25	40					0.09

Dimension 'C' can be increased by up to 7mm because of the slotted hole.

171: DOUBLE MESH CLIP

Double location weldmesh panel clip. The slotted design of the panel clip enables adjustment in the location of the mesh panels. Supplied with M6 x 30mm long nut and bolt. This fitting can also be used to locate other materials up to 10mm thick provided the safety saddle is removed.

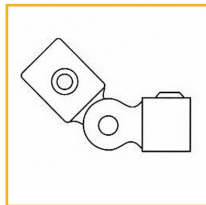
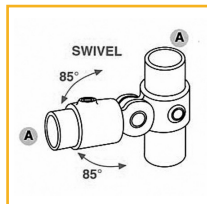
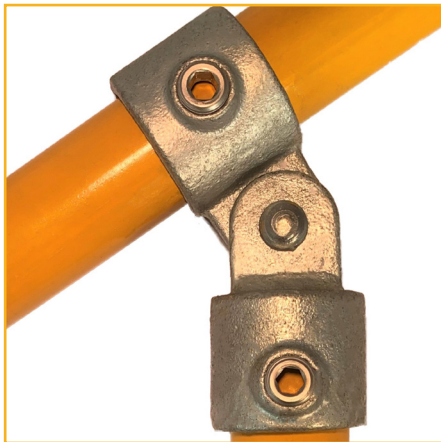


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
171-A 27	1		22	25					0.10
171-B 34	2		25	28					0.11
171-C 42	3		25	33					0.12
171-D 48	4		25	35					0.12
171-E 60	5		25	40					0.13

Dimension 'C' can be increased by up to 7mm because of the slotted hole.

173: SINGLE SWIVEL

Complete single swivel. The swivel has a travel of approximately 85° from the horizontal in both vertical directions.

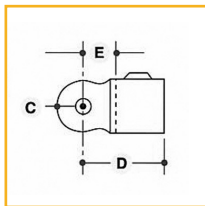
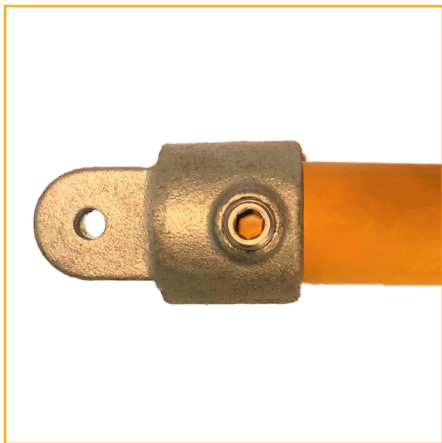


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
173-A 27	1								0.38
173-B 34	2								0.60
173-C 42	3								0.77
173-D 48	4								0.86
173-E 60	5								1.20

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

173F: SINGLE FEMALE SWIVEL

This fitting is designed to be used in conjunction with the 'M' fittings and is not generally used on its own. This can be connected to the 'M' fitting by either rivet or nut and bolt.



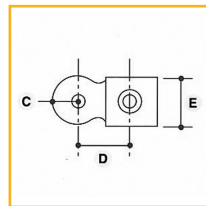
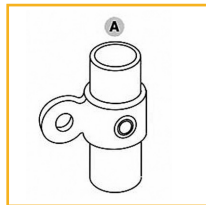
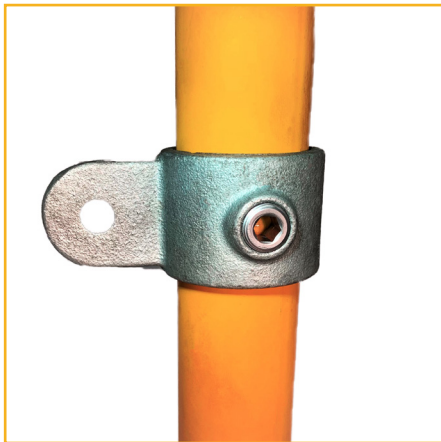
REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
173F-A 27	1			61				10	0.22
173F-B 34	2			61				10	0.32
173F-C 42	3			69				10	0.42
173F-D 48	4			77				10	0.49
173F-E 60	5			90.5				10	0.72

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

173M: SINGLE MALE SWIVEL



Single male fitting with only one lug.

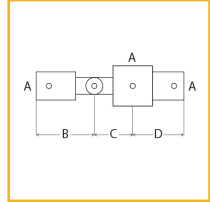
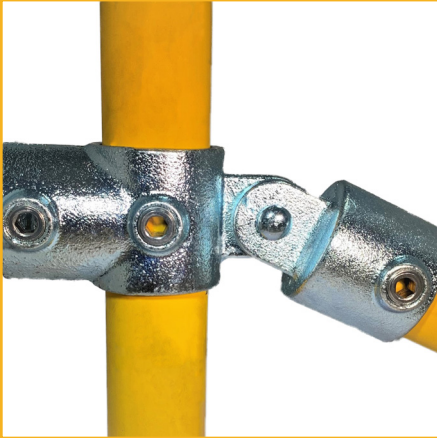


REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
173M-A 27	1							0.38
173M-B 34	2							0.60
173M-C 42	3							0.77
173M-D 48	4							0.86
173M-E 60	5							1.20

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

174: SWIVEL TEE EXTENDER

A versatile swivel fitting, often used for braces and where staircase middle rails join level sections. The through tube (vertical in photo) cannot be joined with the fitting. The assembly is riveted together.



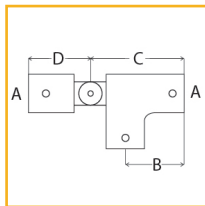
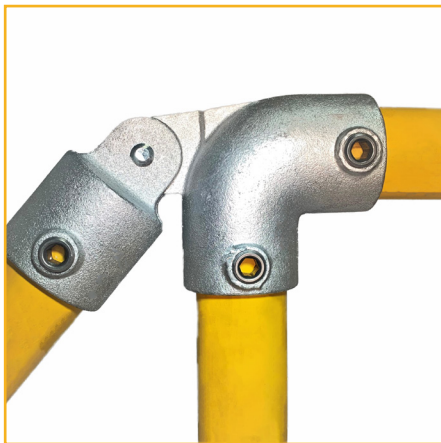
REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
174-D 48	4	77	53	68					1.22

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

175: SWIVEL ELBOW EXTENDER



A versatile swivel fitting, often used for braces and where staircase top rails join level sections. The assembly is riveted together.

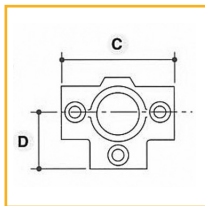
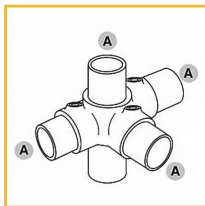
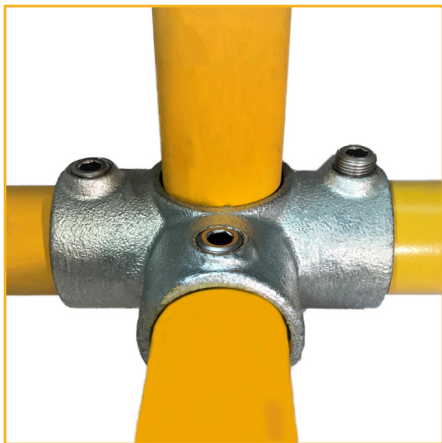


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
175-D 48	4	68	117	75					1.45

WARNING: AN ENTIRE STRUCTURE SHOULD NOT BE CONSTRUCTED FROM SWIVEL FITTINGS ALONE, AS THESE WOULD NOT PROVIDE SUFFICIENT STABILITY OR RIGIDITY IN THE STRUCTURE DUE TO THE FREE ROTATION OF THE FITTING.

176: 3 WAY OUTLET TEE

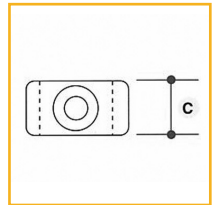
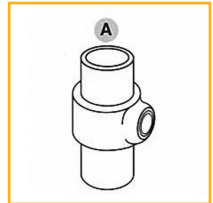
Three way tee used to join 3 tubes at 90° to each other with the vertical passing through the fitting. Typical use would be on structures such as market stall or play frames.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
176-A 27	1			40					0.34
176-B 34	2			46					0.48
176-C 42	3			60					0.73
176-D 48	4			68					0.90
176-E 60	5			84.5					1.44

179: LOCKING COLLAR

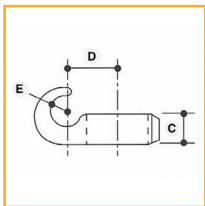
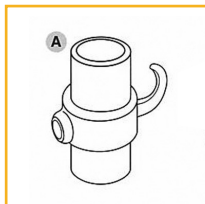
A locking collar used as extra support for a KITE fitting on structures where the slip load on the grubscrew may be exceeded i.e. racking. Can also be used to support a KITE fitting that is required to be left undone, i.e. a gate hinge.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
179-A 27	1		22						0.08
179-B 34	2		25						0.11
179-C 42	3		25						0.14
179-D 48	4		32						0.15

182: HOOK CLAMP

Chain hook. Used to locate chains across openings. Not ideal for permanent chain location. Recommended that one end of the chain is fixed using a KITE fitting reference 173M and held in place with a nut and bolt.

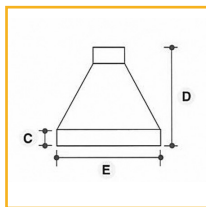
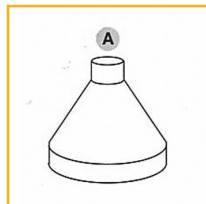


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
182-A 27	1		22	32					0.16
182-B 34	2		25	34					0.18
182-C 42	3		25	39					0.20
182-D 48	4		25	41					0.21

192: BASE WEATHER FLANGE



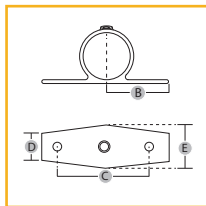
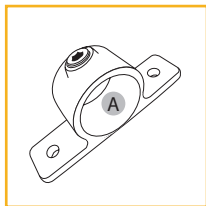
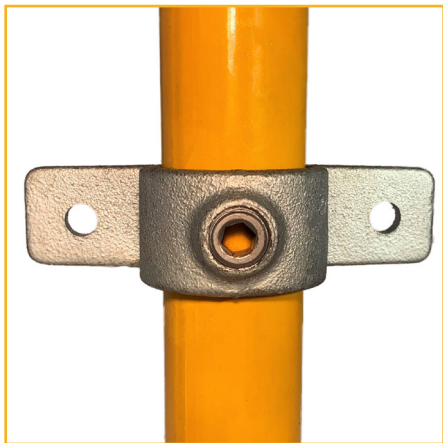
The weather flange is designed to cover the railing base and provides a weather proof seal when used with a suitable flexible sealant.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
192-A 27	1		25	125	140				0.28
192-B 34	2		25	150	150				0.33
192-C 42	3		25	150	166				0.38

198: TOE BOARD FIXING

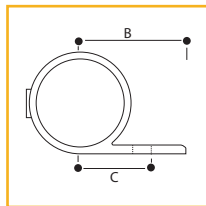
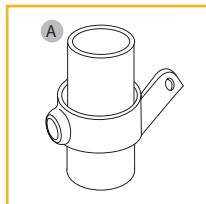
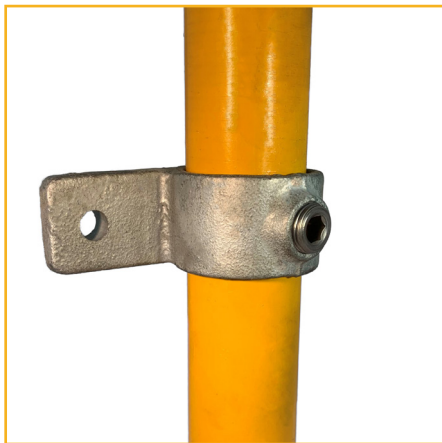
Allows for fixing to wooden planking or various panels for flush fitting.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
198-A 27	1	65	95	30	35			10	0.20
198-B 34	2	60	88	25	30			10	0.29
198-C 42	3	65	95	30	33			10	0.37
198-D 48	4	70	104	32	35			10	0.43

199: GATE STOP

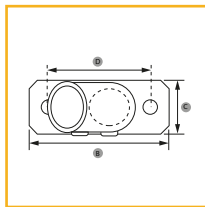
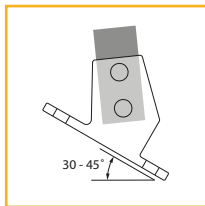
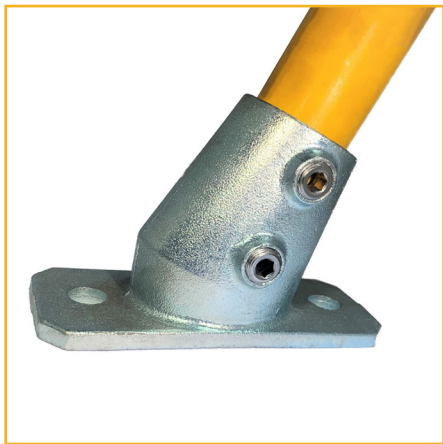
Often used for mounting boards practically flush with tubes. Fixing holes suit a wide range of common mechanical and chemical masonry anchors. The tube cannot be joined within the fitting.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
199-A 27	1		45						0.22
199-B 34	2		43						0.22
199-C 42	3		47.5						0.29
199-D 48	4		52						0.32

251: 30-60° ANGLED BASE

Base flange for sloping sites, adjustable from 30° to 45°. As the fixing hole in the base cannot be fixed inline with the applied load, it is intended for light loads or structures which are sufficiently supported by virtue of their design. Where greater load is required, KITE fixing 132 is normally used, with the upright tube bent to the required angle.

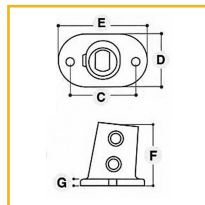
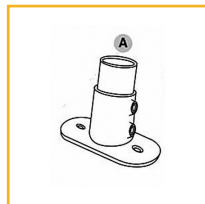


REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
251-A 27	1	172	65	126					1.05
251-B 34	2	172	65	126					1.23
251-C 42	3	172	65	126					1.30

I252: SLOPE IN-LINE BASE 11° -29°



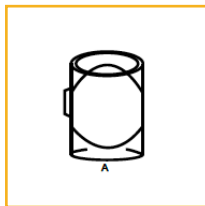
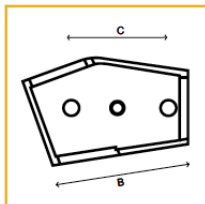
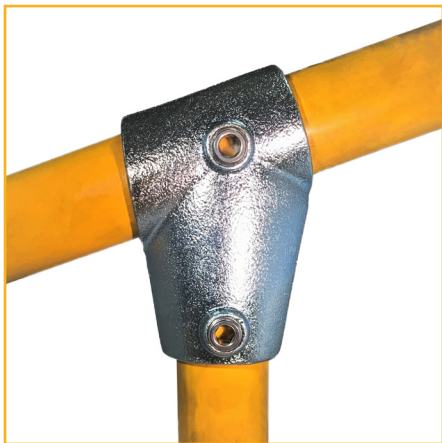
Adjustable slope base between 11° - 29°.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
I252-D 48	4	127	165	92	88			1.60

I253: SLOPE IN-LINE SHORT TEE 11° -29°

Adjustable short tee between 11° - 29°.

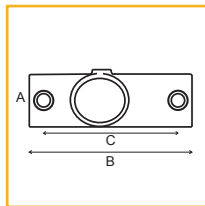
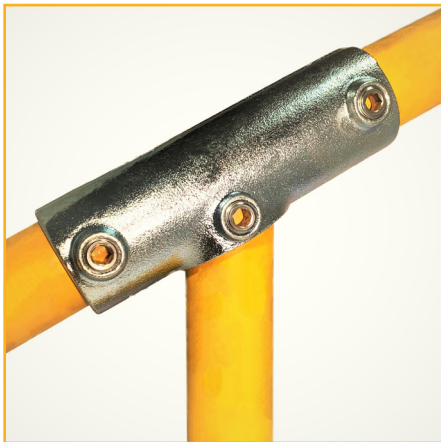


REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
I253-D 48	4	115	86					1.60

I255: SLOPE IN-LINE LONG TEE 11° -29°



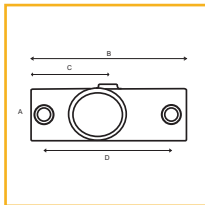
Adjustable long tee between 11° - 29°.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
I255-D 48	4	187	154					1.08

I256: SLOPE IN-LINE CROSS 11° -29°

Adjustable mid rail cross fitting between 11° - 29°.

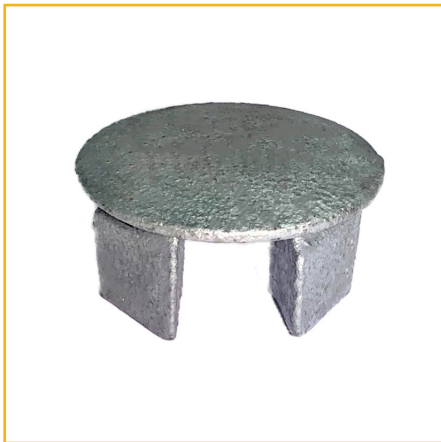


REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
I256-D 48	4	187	93.5	154				1.06

333: GALVANISED END CAP



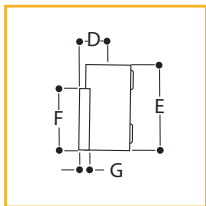
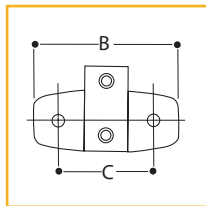
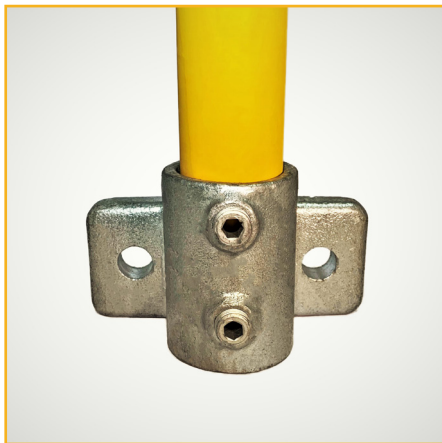
A galvanised stop end for use in the end of tubes. This stop end can be used in either medium or heavy gauge tube. This is only a friction fit and for a more permanent fix an adhesive is recommended.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
333-B 34	2								0.057
333-C 42	3								0.101
333-D 48	4								0.144

C14: RAILING SIDE SUPPORT

Designed for palm fixing of guardrail and balustrades to walls, parapets, steps and ramps. The upright cannot drop through the socket.



REF NO.	A	B	C	D	E	F	G	DIA (MM)	WEIGHT (KG)
C14-B 34	2	148	100.5		90	64		14	0.96
C14-C 42	3	148	100.5		90	64		14	1.23
C14-D 48	4	145	102		90	75		14	1.07

WARNING: DUE TO THE NATURE OF THESE GALVANISED CASTINGS THE MEASUREMENTS GIVEN HERE CANNOT BE PRECISE. WE THEREFORE **DO NOT RECOMMEND** THAT ANY BOLT HOLES ARE PRE-DRILLED PRIOR TO INSTALLATION.

MFRG-JC: CRADLE CLAMP



90° bolt-on joint, often used to make alterations to existing Roof edge or retro-fit cradle/saddle fitting.

Neither the horizontal or vertical tube may be joined within the fitting.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
MFRG-JC- D 48								0.87



KITE

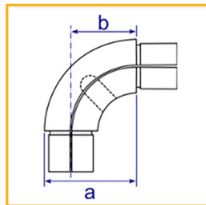
**DDA
CLAMPS**



DDA-725: EXPANDING ELBOW



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



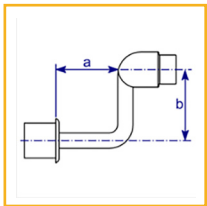
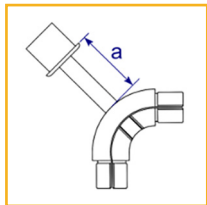
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-725	72	51						0.83

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-728: EXPANDING INT CORNER BRACKET

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-728	79	80						1.35

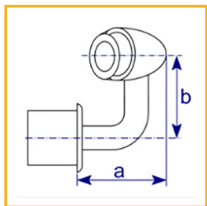
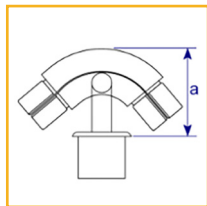
All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-729: EXPANDING EXT CORNER BRACKET



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



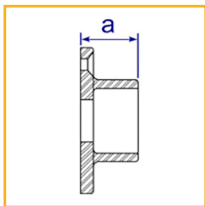
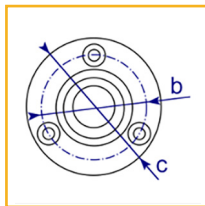
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-729	79.7	80						1.28

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-731: WALL FLANGE

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-731	32	63	82					0.33

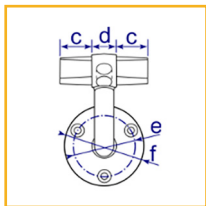
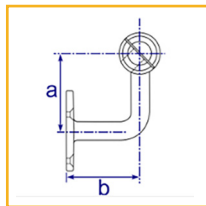
All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-745: EXPANDING WALL BRACKET



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



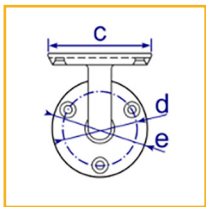
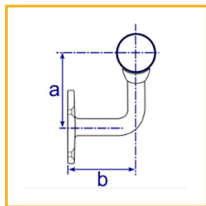
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-745	80	76.5	32		63			0.98

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-746: SADDLE WALL BRACKET

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-746	80	76.5	90	63	81.5			0.58

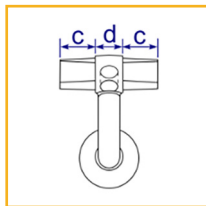
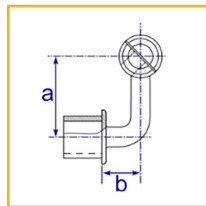
All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-747: EXPANDING INTERNAL SWIVEL



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



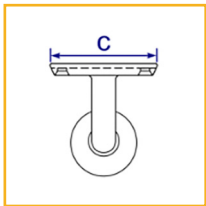
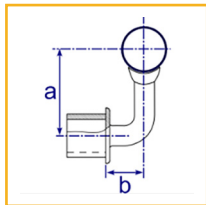
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-747	80	38.5	32	25.4				0.85

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-748: SADDLE INTERNAL SWIVEL BRACKET

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-748	80	38.5	90					0.50

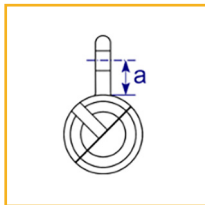
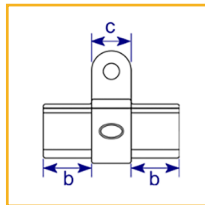
All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-750: EXPANDING FITTING WITH MALE LUG



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



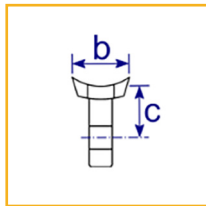
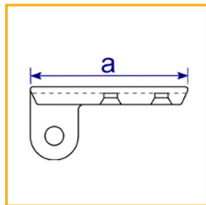
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-750	25	32	25.4					0.97

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-751: SADDLE FITTING WITH MALE LUG

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-751	87	26	31					0.59

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-764: INLINE ADJUSTABLE KNUCKLE



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-764								0.59

All DDA clamps range are suitable for size C tube only (42.4mm OD)

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-797: RUBBER O-RING

All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-797								0.001

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.

DDA-798: SELF DRILLING SCREW



All of Kite's DDA clamp Fittings can be sold individually or by box quantities. Box quantities may be subject to change without prior notice. Figures given as guidance only, dimensions and weights are subject to manufacturing tolerances and may be altered without prior notice.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
DDA-798								0.37

WARNING: DO NOT PERFORM ANY PRE-DRILLING, TUBE CUTTING, CASTING UPRIGHTS OR ANY OTHER DIMENSIONALLY CRITICAL PROCESSES PRIOR TO RECEIVING FITTINGS.



KITE

GRP
CLAMPS

88



GRP-101/Y: 3 WAY TEE CONNECTOR



Our Lightweight GRP 3 Way Tee Connector clamp fitting is used to make a 90 degree connection (Tee) of the handrail tube to the stanchion post. It can also be used to join the stanchion post at the end of a run to the knee rail tube. Please note that two bolts are required for this fitting.



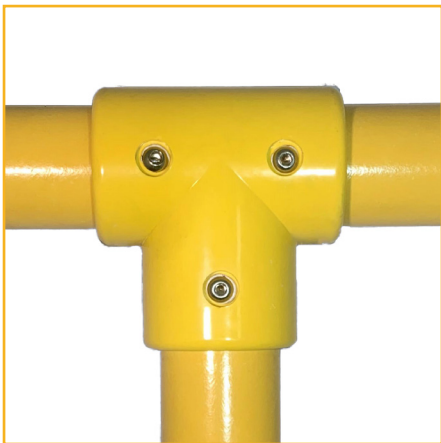
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-101/Y								0.22

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP104/Y: LONG 3 WAY TEE CONNECTOR

Our GRP Long 3 Way Tee Connector clamp fitting is used to make a 90 degree connection (tee) of the handrail tube to the stanchion post. It can also be used to join the stanchion post at the end of a run to the knee rail tube. This fitting can as well be used to join lengths of handrail tube instead of using a tubular spigot joint.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-104/Y								0.30

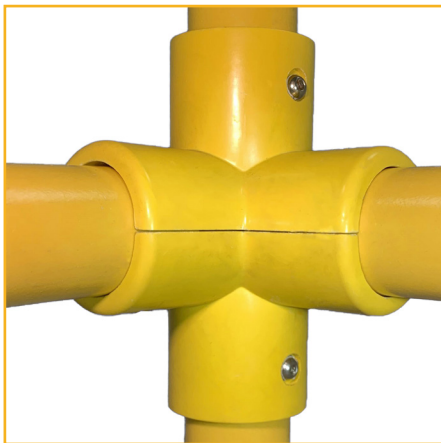
This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP116/Y: 4 WAY CORNER



Used to make a 4 way 90deg joint between handrail and stanchion post. often used on middle rail on level sites.



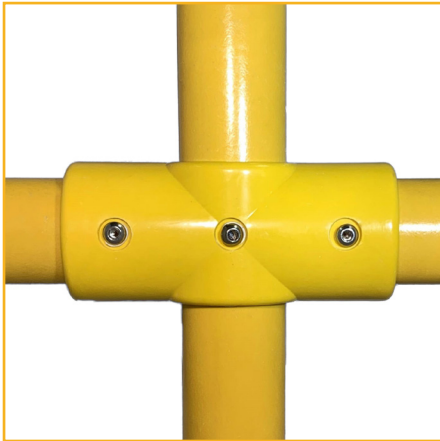
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-116/Y								0.66

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP119/Y: 4 WAY CROSS CONNECTOR

Light weight GRP clamp used to make a 90deg connection (Cross) of the knee rail tube to the stanchion post. The stanchion post must be a continuous length from base to handrail. Knee rail tubes cut to length to fit between successive stanchion posts.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-119/Y								0.29

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP124/Y: 120° ELBOW

GRP 120 Degree Elbow tube clamp is used to make an end to a stairs handrail joining the handrail to the stanchion post at 30 degree – standard angle (slope) for stairs.



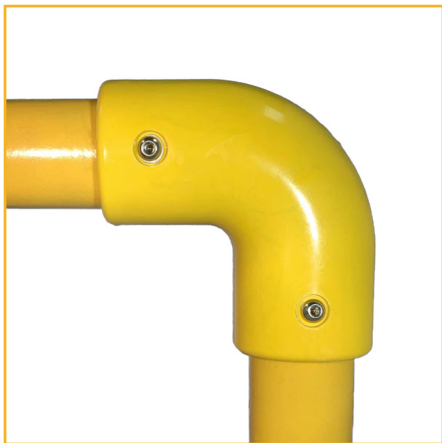
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-124/Y								0.32

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP125/Y: 90° ELBOW

Light weighted GRP clamp used to make a 90deg end to a handrail run joining the handrail to the stanchion post. Also used to make a 90deg turn to a run of handrail. Please note that two bolts are required for this fitting.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-125/Y								0.36

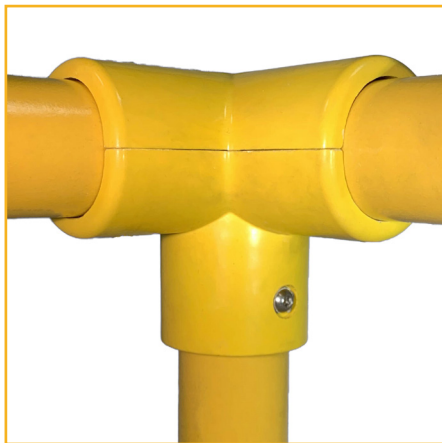
This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP128/Y: 3 WAY CORNER



Used to make a 3 way 90deg joint between handrail and stanchion post.
Often used where top rail meets corner upright on level sites.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-128/Y								0.55

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP129/Y: 3 WAY 60° STAIR TEE

Our GRP 60 Degree 3 Way is used to make a connection (Tee) of the handrail tube to the stanchion post at 30 degree – standard angle (slope) for stairs. It can also be used to join the stanchion post at the end of stairs to the knee rail tube. Please note that two bolts are required for this fitting.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-129/Y								0.24

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP130/Y: 4 WAY 60 STAIR CROSS CONNECTOR



Used to make a Cross connection of the knee rail tube to the stanchion post at 30 degrees – standard angle (slope) for stairs. The stanchion post must be a continuous length from base to handrail. Knee rail tubes cut to length to fit between successive stanchion posts. Please note that three bolts are required for this fitting.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-130/Y								0.32

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP132/Y: GRP BASE FOOT

Light weighted GRP clamp used as the structural base foot for stanchion posts.

Maximum recommended stanchion post spacing is 1.25m.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-132/Y								0.51

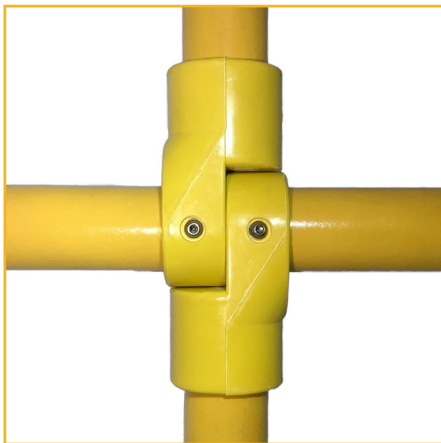
This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP148/Y: P JOINTS



The P Joint can be used from straight to 90 degrees in both directions (left or right), or at any position between the two. It can't turn back on itself.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-148/Y								0.62

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP166/Y: UNIVERSAL JOINT CLAMP

Light weighted GRP clamp used to allow a change in angle of handrail and knee rail in any plain and any angle. often used where a horizontal rail is joined to a sloping section.

The GRP universal joint fits over the tube. The tube can be adhesive bonded in place or bolted. Please note that a bolt is required for the swivel connection.



REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-166/Y								0.49

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP167/Y: UNIVERSAL 4 WAY CONNECTOR



A very versatile fitting that is used as a variable angle connection between knee rail and stanchion post for ramps and stairs at the full range of slopes. It can also be use with the handrail where a change in angle is required e.g., stair to landing. The fitting is 4 parts. A pair of universal connectors plus the universal joint pair. Please note that a bolt is required to join universal joint



connector to the tube. The universal connector can either be adhesive bonded to the tubes or bolted.

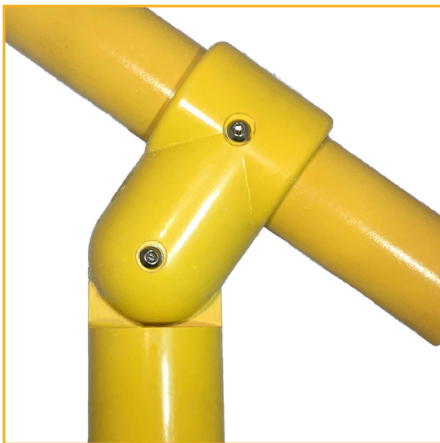
REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-167/Y								0.98

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRP173/Y: UNIVERSAL 3 WAY CONNECTOR

A very versatile fitting that is used as a variable angle connection between handrail and stanchion post for ramps and stairs at the full range of slopes. It is an alternative to the 3 way Tee when an angle other than 90deg is needed. It can also provide a variable angle for the handrail and knee rail to a termination post to a run of handrail.



The fitting is 3 parts. A universal sleeve connector and matching universal connector that fits over the tube – this is half of a universal joint. Please note that two bolts are required to join the sleeve and universal joint connector. The universal connector can either be adhesive bonded to the tube or bolted.

REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-173/Y								0.56

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.

GRPC14/Y: SIDE FIT BASE



Used as structural base for the stanchion post when fitted to side of stairs, ramp or walkway. The base of the fitting is closed so the tube does not pass through. The side fit base is a pinch fit to the tube so that when clamped tight to the side it holds the tube in place.



Care is needed not to over tighten the bolts which could cause the fitting to crack. Spacer washers should be used to prevent the deformation of the fitting.

The holes in the side fit base are 10mm dia. The type of bolt to be used depends on the substrate to which is to be fixed.

REF NO.	A	B	C	D	E	F	DIA (MM)	WEIGHT (KG)
GRP-C14/Y								0.5

This GRP tube clamp is suitable for 50mm Diameter GRP Handrail Tube.

Our GRP key clamps are light but come with very high strength. They provide great anti-corrosion performance along with excellent comprehensive economic benefits so they are very cost effective. They can be installed in stair guardrails, walkway guardrails, fencing and pool railings.



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