



# Lindapter Fixing

## Product Guide



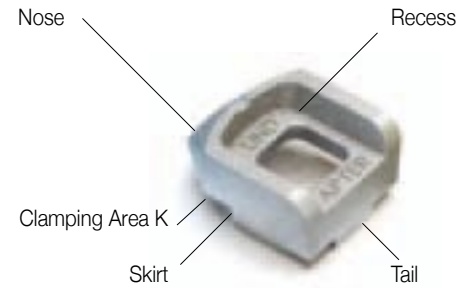
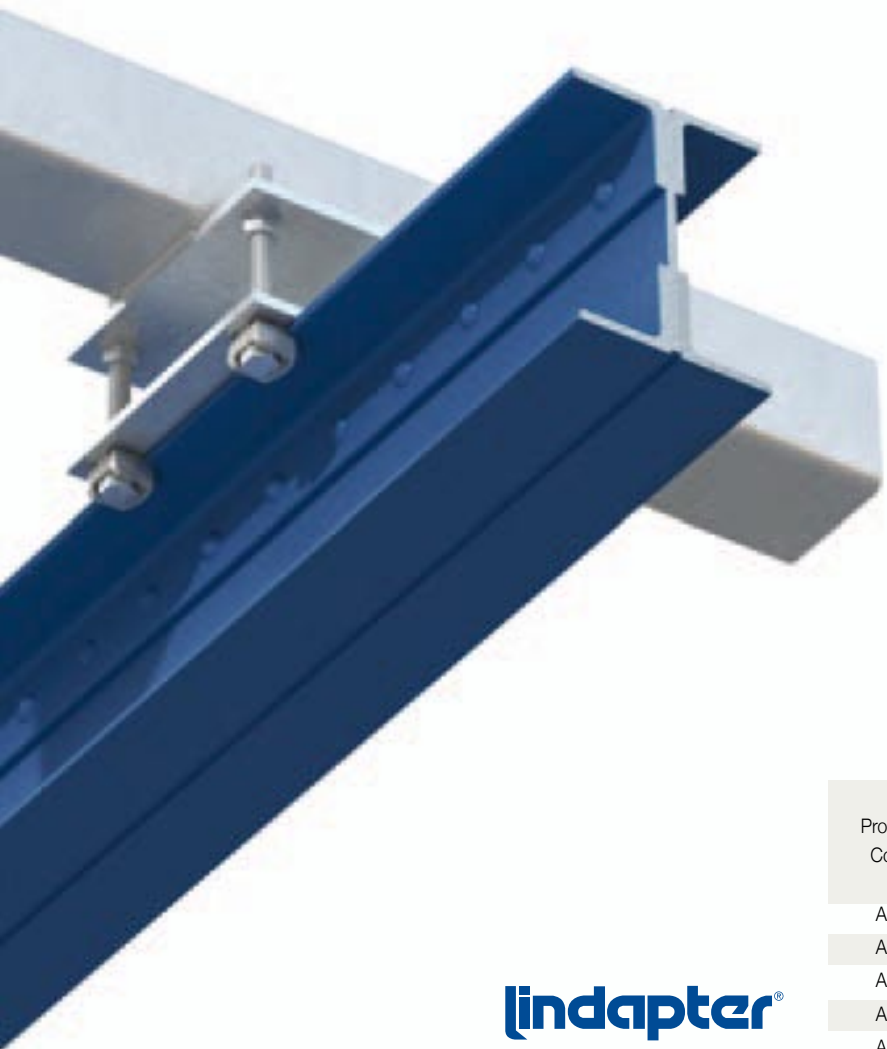
# BAPP

Group of Companies

# Steelwork Fixings Type A

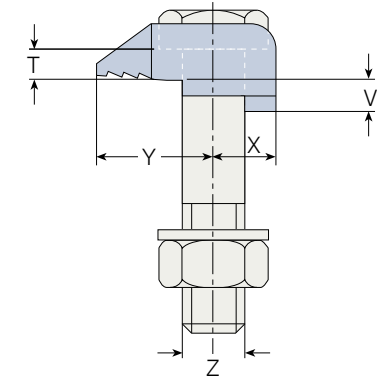
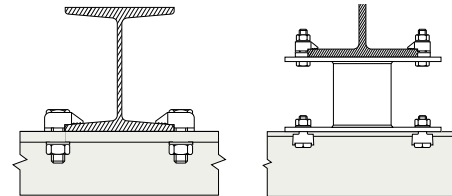
## Type A

Malleable iron, bright zinc plated / hot dip galvanised



Steelwork clamp with recessed top to hold the bolt head captive whilst the nut is tightened. The skirt prevents the clamp rotating during installation. Suitable for flanges up to 8°. The clamp is installed correctly when the area 'K' grips the flange. The tail must be chosen to suit the thickness of the flange being gripped.

For full specification data and typical application examples, please refer to the Lindapter Design Guide available free of charge from BAPP. For Higher loads the Type AF should be used on page 4.



Product Code	Bolt 8.8 Z	Safe Working Loads (5:1 Factor of Safety)				Dimensions					
		Tensile / 1 Bolt kN	Frictional / 2 Bolts kN	Torque Nm	Y mm	X mm	Tail Length V			T mm	Width mm
A08	M8	1.0	-	6	16	8	-	4	-	4	20
A10	M10	1.5	-	20	20	11	4	5	7	5	26
A12	M12	5.8	0.7	69	26	13	4.5	6	9.5	6	29
A16	M16	7.3	1.5	147	30	16	5.5	8	11	8	36
A20	M20	14.7	3	285	36	19	7	10	12.5	10	46
A24	M24	19.7	4.5	491	48	25	9	12	16	12	55

**lindapter**<sup>®</sup>

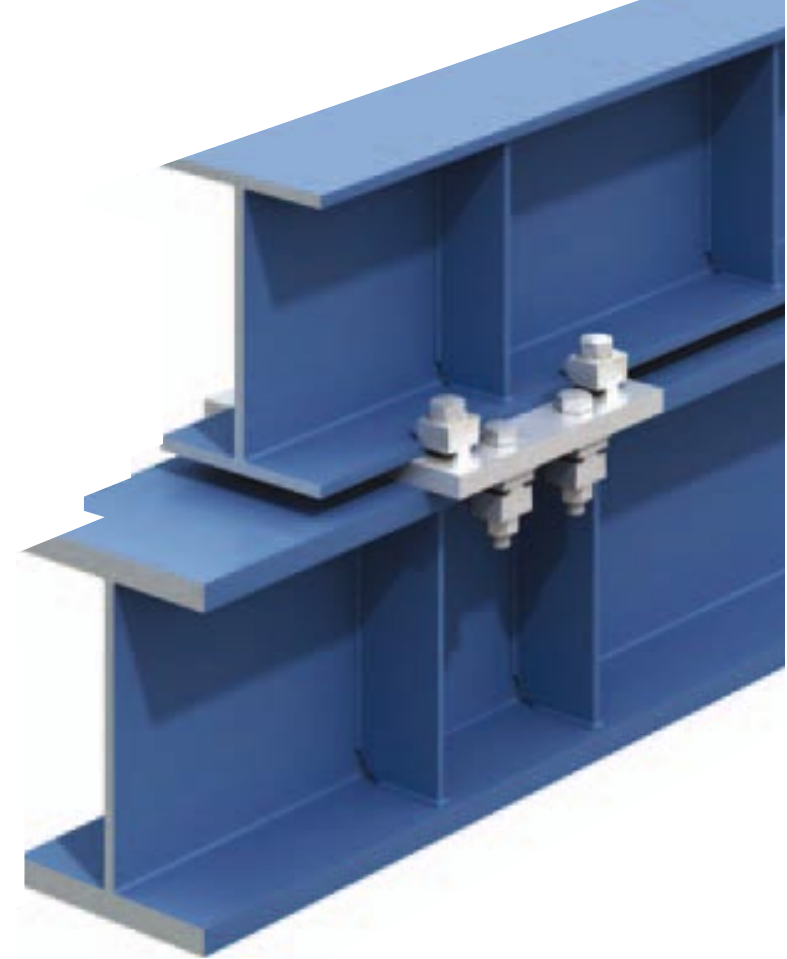
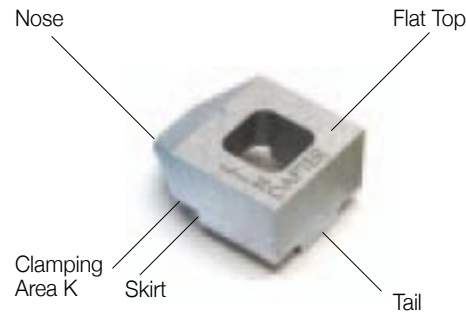
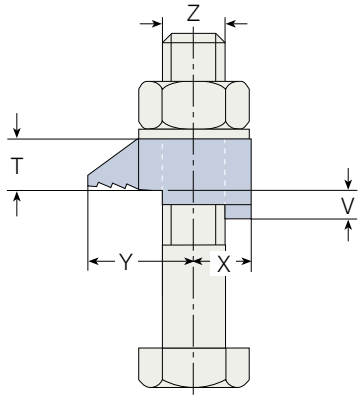
■ Order example: A16 medium HDG

# Steelwork Fixings Type B



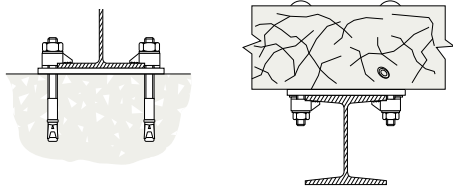
## Type B

Malleable iron, bright zinc plated / hot dip galvanised



Steelwork clamp with flat top which allows the bolt head or nut to be rotated. Suitable for use with all bolts, studs, tie rods and J-bolts, and flanges up to 8°.

The clamp is installed correctly when the area 'K' grips the flange. The tail must be chosen to suit the thickness of the flange being gripped. For Higher loads the Type AF should be used on page 4.



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Order example: B16 medium HDG

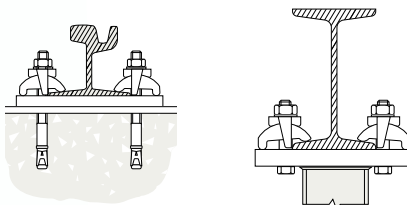
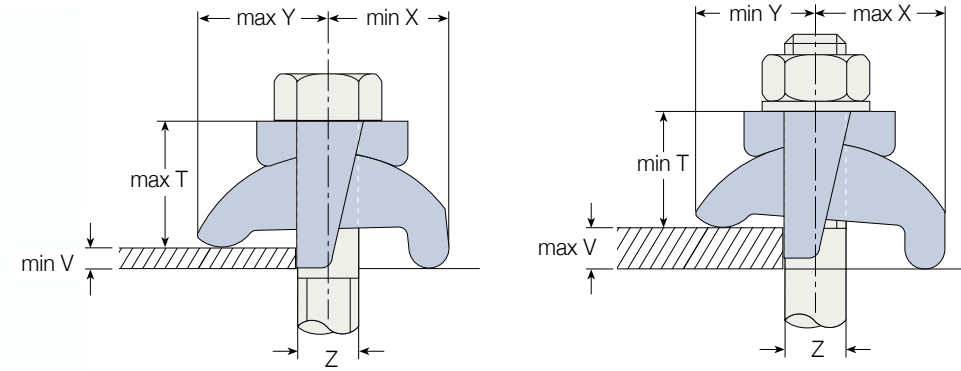
Product Code	Bolt 8.8 Z	Safe Working Loads (5:1 Factor of Safety)		Torque Nm	Y mm	X mm	Dimensions Tail Length V			T mm	Width mm
		Tensile / 1 Bolt kN	Frictional / 2 Bolts kN				short mm	medium mm	long mm		
B08	M8	1.0	-	6	16	8	-	4	-	8	20
B10	M10	1.5	-	20	20	11	4	5	7	10	26
B12	M12	5.8	0.7	69	26	13	4.5	6	9.5	12	29
B16	M16	7.3	1.5	147	30	16	5.5	8	11	16	36
B20	M20	14.7	3	285	36	19	7	10	12.5	20	46
B24	M24	19.7	4.5	491	48	25	9	12	16	24	55

# Steelwork Fixings Type LR



## Type LR

Malleable iron, bright zinc plated / hot dip galvanised



Self adjusting clamp for various flange thicknesses and slopes up to 15°. The leg of the saddle prevents the clamp rotating during installation. The LR tail spans slotted holes. For thicker flanges packings P1 long and P2 long are available.



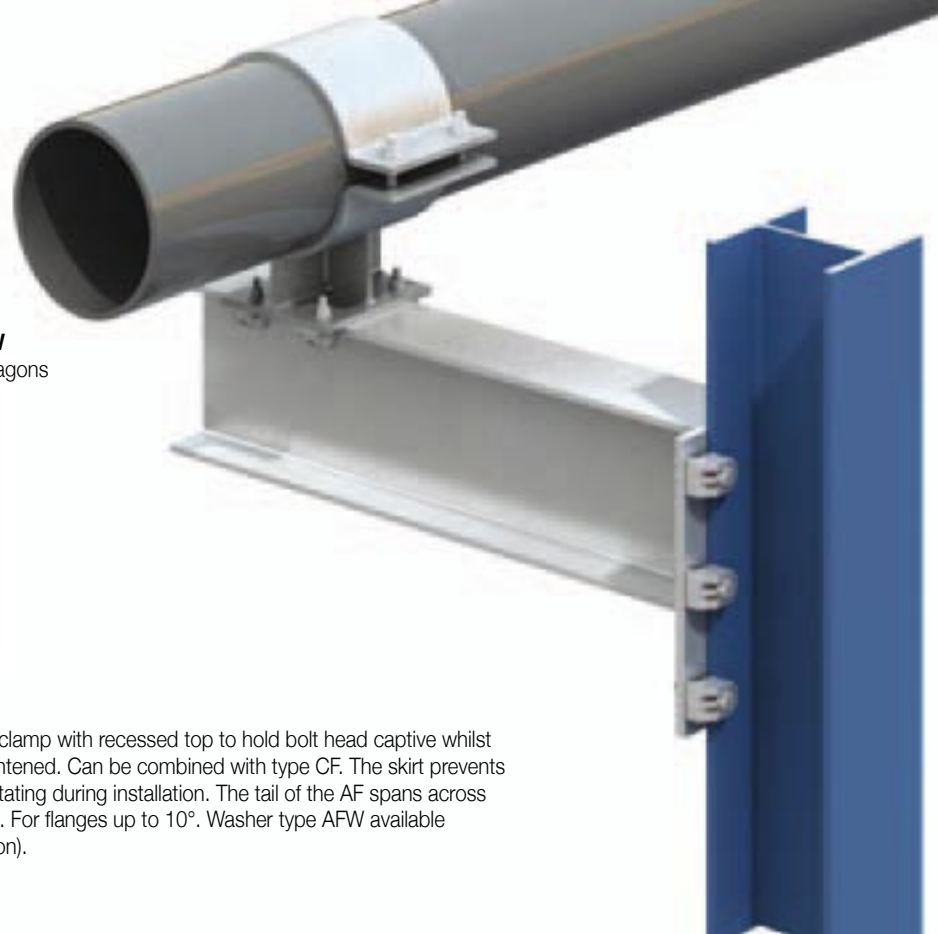
Order example: LR10 BZP

Product Code	Bolt 8.8 Z	Safe Working Loads (5:1 Factor of Safety)			Clamping Range		Dimensions		
		Tensile / 1 Bolt kN	Frictional / 2 Bolts kN	Torque Nm	V mm	Y mm	X mm	T mm	Width with Saddle mm
LR10	M10	1.5	-	20	3 - 10	21 - 24	24 - 26	21 - 24	33
LR12	M12	5.8	0.7	69	3 - 12	26 - 29	25 - 31	25 - 29	39
LR16	M16	7.3	1.5	147	3 - 16	30 - 35	34 - 37	30 - 36	46
LR20	M20	14.7	3	285	3 - 20	42 - 49	46 - 51	41 - 48	57
LR24	M24	19.7	4.5	491	3 - 24	47 - 57	52 - 58	44 - 54	76

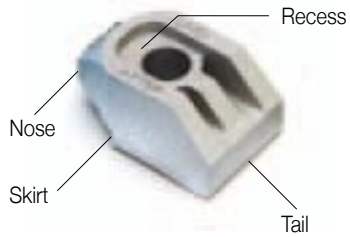
# Steelwork Fixings Type AF

## Type AF

SG iron, hot dip galvanised



**Without washer: For bolt grade 8.8**



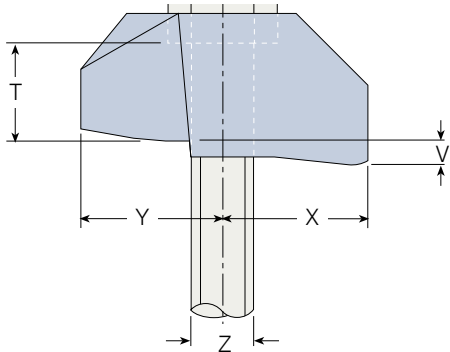
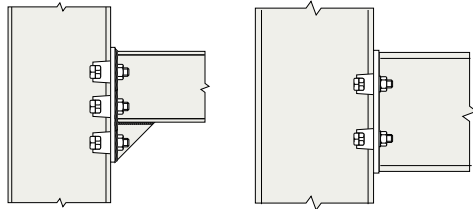
**With washer Type AFW**



**With washer inverted Type AFW**  
for bolt grade 10.9 with larger hexagons  
(M12 - M20)



**Typical Applications**



High friction clamp with recessed top to hold bolt head captive whilst the nut is tightened. Can be combined with type CF. The skirt prevents the clamp rotating during installation. The tail of the AF spans across slotted holes. For flanges up to 10°. Washer type AFW available (see illustration).

- 1) Frictional Load figures are based on Type AF and Location plates in hot dip galvanised finish
- 2) Shot blast and painted steelwork
- 3) 3.2:1 factor of safety
- 4) For HR or HV bolts (hot dip galvanised and lubricated) please refer to manufacturers' recommendation for torque figures.

Order example: AF12 short

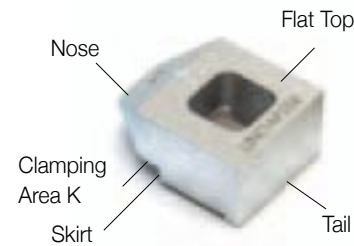
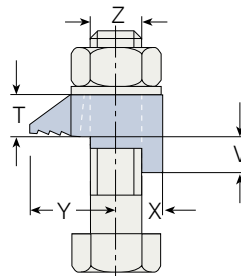
Product Code	Bolt Z	Bolt Grade	Safe Working Loads				Torque Nm	Dimensions					
			Tensile / 1 Bolt kN	Factor of Safety (2:1)		Tail Length V		T		Width mm			
				Painted Steelwork <sup>2)</sup> kN	Galv. Steelwork kN	short mm		medium mm	Type AF mm		Type AF with AFW mm		
AF12	M12	8.8	8.5	3.4	3.9	90	29	27	5	12.5	17	22	39
AF16	M16	8.8	16.0	8.0	10.0	240	35	37	8	15	22	27	49
AF20	M20	8.8	26.3	13.0	16.0	470	40	39	10	18	25	31	56
AF24	M24	8.8	40.0	24.0	30.0	800	48	60	15	30	32	42	82
AF12	M12	10.9 <sup>4)</sup>	10.0	4.0	5.2	130	29	27	5	12.5	17	22	39
AF16	M16	10.9 <sup>4)</sup>	19.5	11.0	12.0	300	35	37	8	15	22	27	49
AF20	M20	10.9 <sup>4)</sup>	30.0	20.0	25.0	647	40	39	10	18	25	31	56
AF24	M24	10.9 <sup>4)</sup>	62.5 <sup>3)</sup>	28.0	35.0	1000	48	60	15	30	32	42	82



# Steelwork Fixings Type BR

## Type BR

Malleable iron, bright zinc plated / hot dip galvanised



Versatile clamp for steel beams or rails. The skirt prevents the clamp rotating during installation. The BR tail spans slotted holes. Suitable for flanges up to 8°.



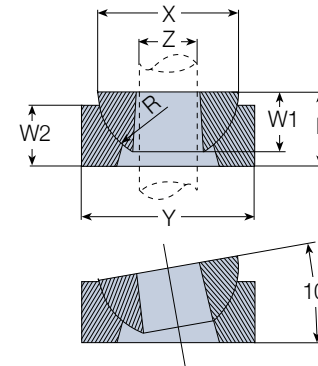
Order example: BR12 short HDG

Product Code	Bolt 8.8 Z	Safe Working Loads (5:1 Factor of Safety)			Torque Nm	Y mm	X mm	Dimensions Tail Length V			Width mm
		Tensile / 1 Bolt kN	Frictional / 2 Bolts kN	short mm				medium mm	T mm		
BR12	12	5.8	0.7	69	26	13	4	6	13	29	
BR16	16	7.3	1.5	147	30	16	6	8	16	35	
BR20	20	14.7	3	285	36	19	7	10	19	42	
BR24	24	19.7	4.5	491	48	25	9	12	25	54	

# Steelwork Fixings Type HW/HC

## Type HW/HC

Malleable iron, bright zinc plated /  
hot dip galvanised



For vertical suspension on angled surface of up to 10° swing either side of the vertical. The hemispherical washer (HW) can be used without the cup. Loads are subject to applications.

**lindapter**<sup>®</sup>

■ Order example: HC10 BZP

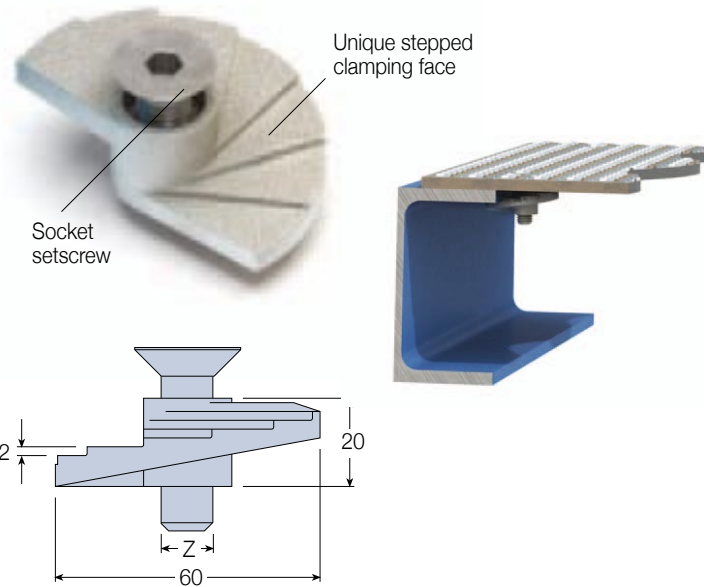
Product Code		Dimensions					
Hemispherical Washer	Hemispherical Cup mm	X mm	Hemispherical Washer W <sub>1</sub> mm	Hemispherical Cup Y mm	Hemispherical Cup W <sub>2</sub> mm	Hemispherical Washer & Cup	
						R mm	L
HW06	-	19	9	-	-	-	-
HW08	-	22	10	-	-	-	-
HW10	HC10	25	12	32	12	13	14
HW12	HC12	29	12	35	12	14	16
HW16	HC16	34	16	41	16	17	19
HW20	HC20	44	19	54	19	22	24
HW24	HC24	57	25	67	25	29	32

# Floor Fixings Type FF

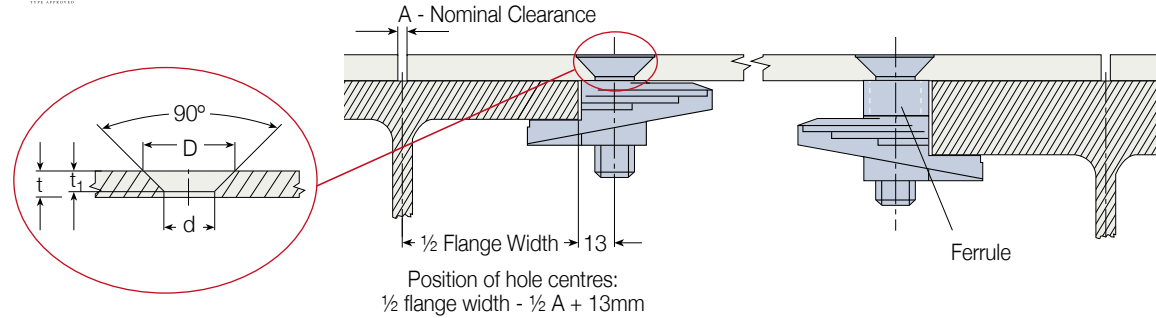


## Type FF - Floorfast®

Malleable iron, Stainless Steel Grade 316, bright zinc plated / hot dip galvanised



The product consists of a malleable iron body casting with a countersunk socket screw; the eccentric stepped web of the casting allows it to lock under the steelwork providing full face contact when torque is applied. For thicker flanges packing pieces will be supplied. Lloyds' Register Type Approval covers clamping force and vibration.

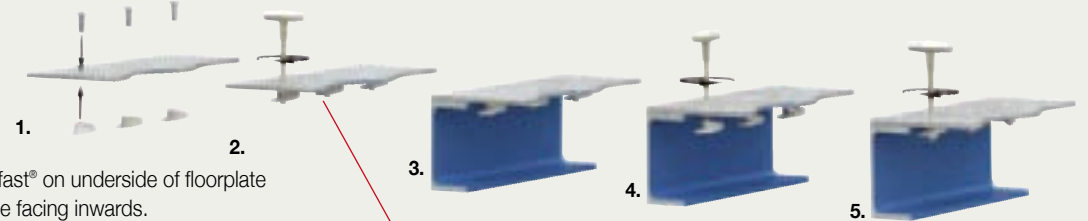


Product Code	Bolt <sup>1)</sup> Z	Floorplate Thickness t mm	Flange Thickness mm	Hole Ø d mm	Countersunk				Torque Nm	Hexagon Key mm
					Countersunk Ø for Bolt		Countersunk Depth for Bolt			
					BZP D mm	HDG	BZP t <sub>1</sub> mm	HDG		
FF08	M8	4.5 - 12	3 - 15	9	17	-	4	-	11	5
FF10	M10	5 - 12	3 - 15	11	21	19	5	4	22	6
FF12	M12	6 - 12	3 - 15	13.5	25	23	5.8	4.8	22	8

<sup>1)</sup> In hot dip galvanised (M10 and M12) a slotted countersunk screw is supplied.

■ Order example: FF12 HDG

### Installation



1. Pre-assemble Floorfast® on underside of floorplate with stepped surface facing inwards.
2. Align castings with straight edge parallel to the edge of the plate and hand tighten.
3. Lay floorplate into position
4. Using a hexagon key release the countersunk screw one full turn.
5. Tighten down the countersunk socket screw.

### Removal

Using a hexagon key, give the Type FF one full anticlockwise turn to release connection from the flange.

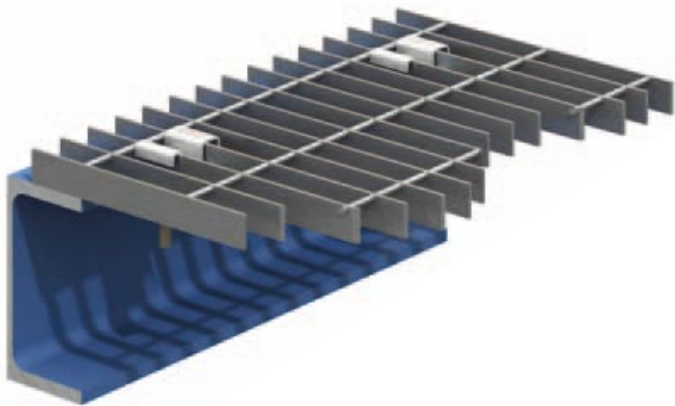
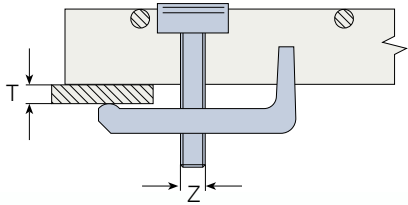


# Floor Fixings Type GF



## Type GF - Grate-Fast®

Body: Malleable iron, mechanical galvanised  
Top Hat: Mild Steel, mechanical galvanised



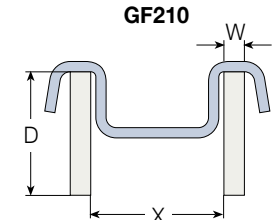
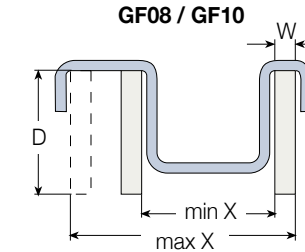
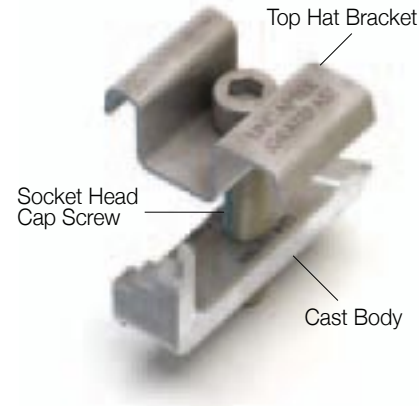
Grating fixing for rectangular open bar grating with cast main body giving superior clamping force.

GF10 with wider top-hat bracket for different grating sizes.

GF210 for use with 30mm width floor grating bars only.

GF08 with stainless steel top-hat bracket for GRP grating.

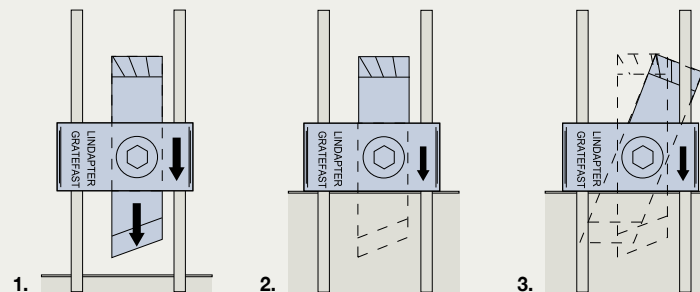
Lloyd's Register Type Approval covers clamping force and vibration.



Product Code	Bolt Z	Flange T mm	Grating Bar Depth D mm	Grating Bar Width W mm	Bar Distance X mm	Body Width mm	Torque Nm	Hexagon Key mm
GF08	M8	3 - 19	22 - 38	5 - 10	19 - 48	16	5	6
GF10	M10	3 - 19	20 - 30	3 - 7	25 - 45	20	11	8
GF210	M10	3 - 19	19 - 32	3 - 6.5	30	20	11	8

Order example: GF08

### Installation



1. Position pre-assembled Grate-Fast® with body between grating bars and nose pointing towards the steelwork. The arrows on the top hat bracket should also be pointing towards supporting steelwork and bracket itself resting on the bearing bars.
2. Slide Grate-Fast® towards steelwork until nose fits under the beam flange. Where necessary adjust body/screw to approximate flange thickness/grating depth.
3. Tighten cap screw; the Grate-Fast® body will automatically rotate until it locks under the bearing bar, with the nose under the flange. Continue tightening to the recommended torque.

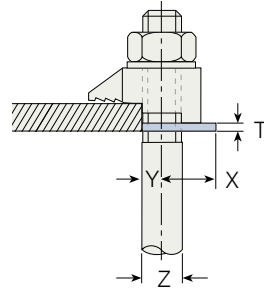


# Accessories for Type A & B



## Type CW - Clipped Washer

Mild Steel, bright zinc plated /  
hot dip galvanised



Packing used to adjust the tail length of the clamp to meet differing beam flange thicknesses.

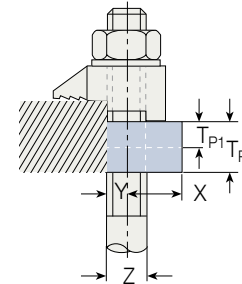
Product Code	Bolt Z	Y mm	Dimensions			Width mm
			X mm	T mm		
CW12	M12	6	19.5	2.5		31
CW16	M16	8	17.5	3		38
CW20	M20	10	22	4		44
CW24	M24	12	29	4		57

Order example: CW12 BZP



## Type P1 short / P2 short

Mild Steel, malleable iron,  
bright zinc plated / hot dip galvanised



Packing used to adjust the tail length of the clamp to meet differing beam flange thicknesses.

Product Code		Bolt Z	Y mm	X mm	Dimensions		Width mm
P1	P2				T <sub>P1</sub> mm	T <sub>P2</sub> mm	
P1S12	P2S12	M12	6	16	6	12	30
P1S16	P2S16	M16	8	21	8	16	35
P1S20	P2S20	M20	10	23	10	20	43
P1S24	P2S24	M24	12	32	12	24	54

Order example: P1S12 BZP

# Cavity Fixings Type HB



## Type HB - Hollo-Bolt®

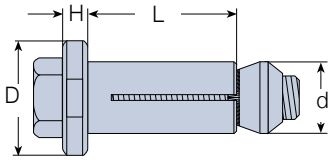
- Steel, bright zinc plated plus JS 500
- Steel, hot dip galvanised
- Stainless Steel Grade 316

Suitable for hollow sections, tubes and where access is available from one side only. For high corrosion protection the Hollo-Bolt® comes with additional JS500 protection as standard or hot dip galvanised. Sizes M16 and M20 have a patented collapse mechanism for optimised clamping force. Speedy installation with standard tools and for the Type Hollo-Bolt® Flush Fit with installation nut. (One free per box)

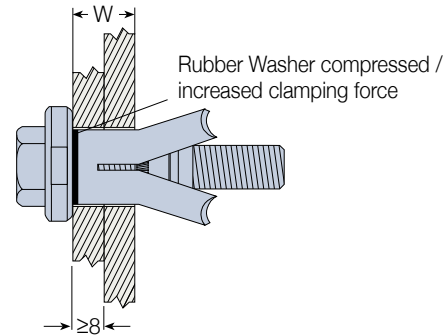
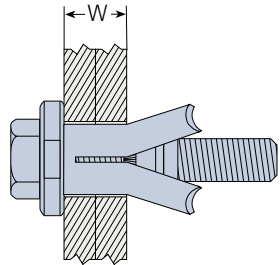
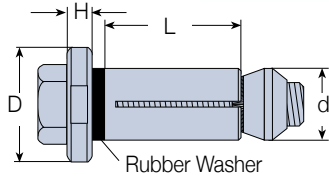
**Awarded the Design Council's Millennium Product status for innovation in the year 2000.**



### Hollo-Bolt®: M8, M10, M12



### Hollo-Bolt®: M16, M20



### Head Variations



Flush Fit  
M8-M12



Countersunk (Head)  
M8-M16



Hexagonal Head  
M8-M20



Socket Head Cap Screw  
Supplied to order



Button Head Security  
Supplied to order



# Cavity Fixings Load Table - Type HB

## Type HB - Holo-Bolt®

Product Code	Bolt	Clamping Thickness W mm	Outer Ply <sup>1)</sup> min t mm	Sleeve		Collar			Torque Nm	SHS Section		Safe Working Loads <sup>2)</sup> (5:1 Factor of Safety)	
				Length L mm	Outer Ø d mm	Height Ø H mm	D mm	A/F mm		Material	Dimensions mm	Tensile kN	Single Shear kN
HB08-1	M8x50	3 - 22	-	30							140x140x5.0	4.0	
HB08-2	M8x70	22 - 41	-	49	13.75	5	22	19	23	S275	150x150x6.3	4.0	5.0
HB08-3	M8x90	41 - 60	-	68							200x200x10.0	4.0	
HB10-1	M10x55	3 - 22	-	30							100x100x6.3	7.0	
HB10-2	M10x75	22 - 41	-	48	17.75	6	29	24	45	S275	140x140x8.0	8.5	10.0
HB10-3	M10x90	41 - 60	-	67							150x150x6.3	8.0	
											180x180x8.0	7.0	
											200x200x10.0	8.0	
HB12-1	M12x60	3 - 25	-	35							140x140x5.0	6.5	
HB12-2	M12x90	25 - 47	-	57	19.75	7	32	30	80	S275	140x140x8.0	10.5	
HB12-3	M12x110	47 - 69	-	79							150x150x6.3	10.0	15.0
											180x180x8.0	10.0	
											200x200x10.0	10.5	
HB16-1	M16x75	12 - 29	8	41.5							100x100x6.3	13.5	
HB16-2	M16x100	29 - 50	8	63	25.75	8	38	36	190	S275	100x100x10.0	18.5	
HB16-3	M16x120	50 - 71	8	84							140x140x5.0	8.0	
											140x140x6.3	15.0	
											140x140x8.0	20.0	30.0
											140x140x12.5	21.0	
											150x150x6.3	11.5	
											180x180x8.0	17.0	
											200x200x10.0	15.0	
HB20-1	M20x90	12 - 34	8	50							140x140x6.3	16.0	
HB20-2	M20x120	34 - 60	8	76	32.75	10	51	46	300	S275	140x140x8.0	23.0	
HB20-3	M20x150	60 - 86	8	102							140x140x10.0	25.0	40.0
											140x140x12.5	35.0	
											150x150x6.3	12.5	
											180x180x8.0	18.0	
											200x200x10.0	19.0	

➤ 1) The thickness of the outer ply needs to be at least 8mm. If necessary spacer washers should be used beneath the collar to increase the thickness to 8mm.

2) The Holo-Bolt® can be used on a wide variety of SHS sections; those shown above are only representative to give an indication of variations in Holo-Bolt® capacity.

The safe working loads, in both tension and shear, are applicable to the Holo-Bolt® only, failure of the section, particularly on those with thin walls and a wide chord face, could occur at a lower figure and its strength should be checked using the 'Green Book' design guide.

Order example: HB08-1 BZP plus JS 500

# Cavity Fixings Load Table - Type HBFF

## Type HBFF - Hollo-Bolt® Flush Fit

Product Code	Counter Sunk Bolt	Clamping Thickness	Outer Ply	Sleeve		Collar		Installation Tool A/F	Torque	SHS Section		Safe Working Loads (5:1 Factor of Safety)	
				Length	Outer Ø	Height Ø				Material	Dimensions	Tensile	Single Shear
				L mm	d mm	H mm	D mm						
HBFF08-1	M8x50	5	10 - 27	8	30	13.75	5	24	19	23	S275	140x140x5.0	4.0
												150x150x6.3	4.0
												180x180x8.0	4.0
												200x200x10.0	4.0
HBFF10-1	M10x60	6	12 - 27	10	30	17.75	6	30	24	45	S275	100x100x6.3	7.0
												140x140x5.0	6.0
												140x140x8.0	8.5
												150x150x6.3	8.0
												180x180x8.0	7.0
												200x200x10.0	8.0
HBFF12-1	M12x60	8	12 - 30	10	35	19.75	7	33	30	80	S275	140x140x5.0	6.5
												140x140x8.0	10.5
												150x150x6.3	10.0
												180x180x8.0	10.0
												200x200x10.0	10.5

Order example: HBFF08-1 BZP plus JS 500 without / with \_\_\_\_ installation nut(s)

