FIXFAST

Maximum reliability. Minimum fuss.

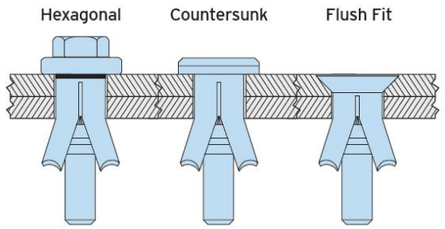
Lindapter® Hollo-Bolt®

Introduction

The Lindapter Hollo-Bolt are often used in applications where standard nuts and bolts can't be used.

The Hollo-Bolt is typically used to attach brackets, cleats, support rails etc to box section steelwork or closed steelwork. These products are used in the metal roofing, cladding and facade markets as well as the structural steel market.

Hollo-Bolt® by Lindapter®
Installation is quickly carried out by inserting into pre-drilled steelwork and tightening with a torque wrench.
Independent approvals include CE Mark, DIBt, TÜV and ICC-ES seismic accreditation.



- Fast, cost saving installation from one side.
- For square, rectangular and circular hollow sections.
- High resistance to shear and tension.
- Patented High Clamping Force design.
- A range of head types for architectural finishes.
- CE Mark, DIBt, TÜV and ICC-ES Seismic approvals.

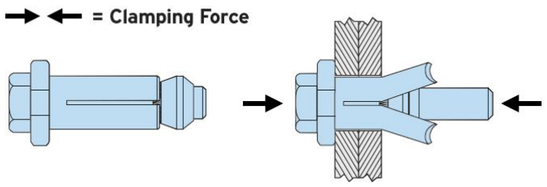
Head variants	Sizes					Corrosion Protection			
	M8	M10	M12	M16 HCF*	M20 HCF*	JS500	Hot dip galv.	Sheraplex	Stainless steel
Hexagonal Normal visible protrusion	✓	✓	✓	✓	✓	✓	✓	✓	✓
Countersunk Minimal visible protrusion	✓	✓	✓	✓	-	✓	-	✓	✓
Flush Fit Zero visible protrusion	✓	✓	✓	-	-	✓	-	✓	✓

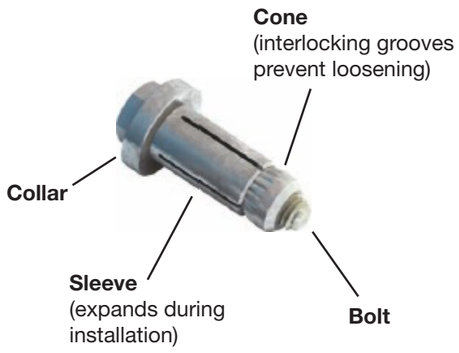
* Sizes M16 and M20, known as the Hollo-Bolt (HCF), feature a High Clamping Force mechanism to produce three times more clamping force than the same sized product without the mechanism.

Standard Hollo-Bolt®

A typical connection is made by inserting the Hollo-Bolt into the pre-drilled holes of the fixture and hollow section. As the bolt head is tightened, the cone is pulled up the bolt thread, causing the sleeve to expand until the cone locks the sleeve against the hollow section's inner wall.

At full tightening torque, a clamping force is established between the fixture and the steel section to form a secure connection. Once installed, only the head and collar are visible.

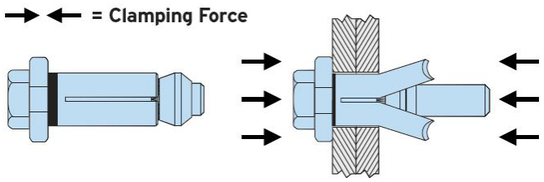


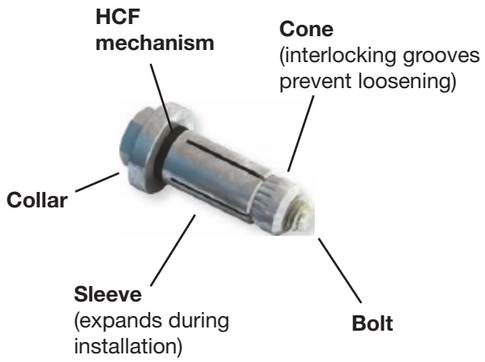


Hollo-Bolt® HCF

By working closely with Structural Engineers and Steel Fabricators, Lindapter identified the need for the larger M16 and M20 Hollo-Bolt to have an increased clamping force suitable for higher strength structural connections. This led to Lindapter's invention of the High Clamping Force (HCF) design, optimised for superior performance.

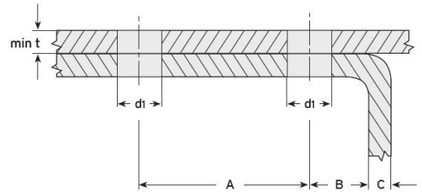
The HCF mechanism consists of a special rubber washer that compresses during installation to significantly increase the clamping force between the connecting steelwork, when compared to a product of the same size without the mechanism, thereby reducing displacement.



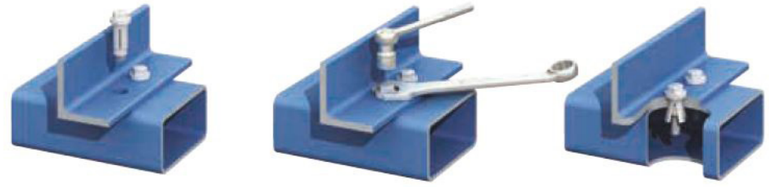


Hexagonal and Countersunk

Type		Outer Ply min t mm	Clearance hole d1mm	Hole distances		Edge distances
Hex	Countersunk			min A mm	min B mm	B + C mm
HB08	HBCSK08	-	14 (+1.0/-0.2)	35	13	> 17.5
HB10	HBCSK10	-	18 (+1.0/-0.2)	40	15	> 22.5
HB12	HBCSK12	-	20 (+1.0/-0.2)	50	18	> 25.0
HB16	HBCSK16	8	26 (+2.0/-0.2)	55	20	> 32.5
HB20	-	8	33 (+2.0/-0.2)	70	25	>33.0



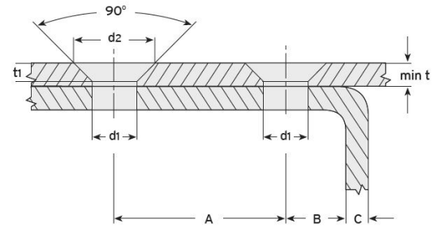
1. Align pre-drilled fixture and section, then insert the Hollo-Bolt.
2. Grip Hollo-Bolt collar with an open ended spanner.
3. Using a calibrated torque wrench, tighten the central bolt to the recommended torque.



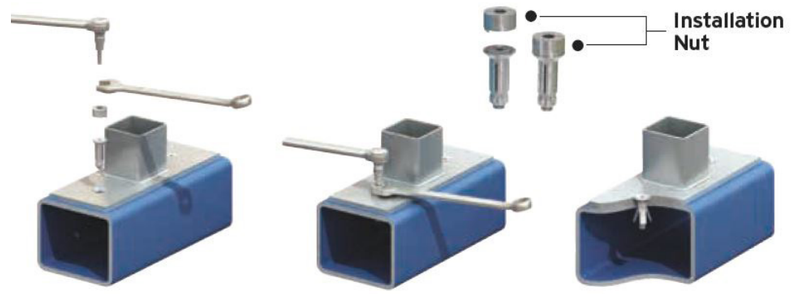
Sizes M16 and M20 require the thickness of the outer ply (min t) to be at least 8mm. If necessary, spacer washers should be used beneath the collar to increase the thickness to 8mm.

Flush Fit

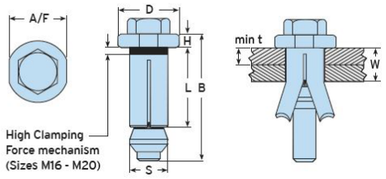
Type	Outer Ply min t mm	Clearance hole d1mm	Countersunk		Hole distances		Edge distances
			d2 mm	t1 mm	min A mm	min B mm	B + C mm
HBFF08	8	14 (+1.0/-0.2)	27	6.5	35	13	> 17.5
HBFF10	10	18 (+1.0/-0.2)	31	6.5	40	15	> 22.5
HBFF12	10	20 (+1.0/-0.2)	35	7.5	50	18	> 25.0



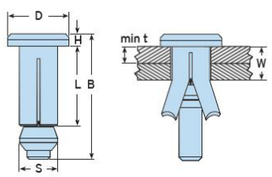
1. Align pre-drilled fixture and section, then insert the Hollo-Bolt.
2. Apply the installation nut and grip with an open ended spanner.
3. Using a calibrated torque wrench, tighten the central bolt to the recommended torque.



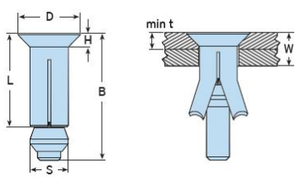
a) Hexagonal



b) Countersunk



c) Flush Fit

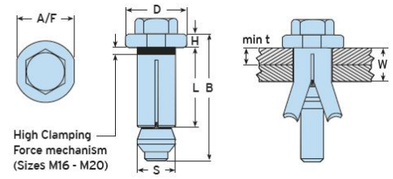


a) Hexagonal		b) Countersunk				Sleeve		Collar				Safe working loads (5:1 Safety factor)	
Product code	Bolt length B mm	Product Code	Bolt length B mm	Clamping thickness W mm	Outer ply min t mm	Length L mm	Outer Ø S mm	Height H mm	Ø D mm	A/F mm	Tightening torque Nm	Tensile kN	Single shear kN
HB08-1	M8 x 50	HBCSK08-1	M8 x 50	3 - 22	-	30	13.75	5	22	19	23	4.0	5.0
HB08-2	M8 x 70	HBCSK08-2	M8 x 70	22 - 41	-	49	13.75	5	22	19	23	4.0	5.0
HB08-3	M8 x 90	HBCSK08-3	M8 x 90	41 - 60	-	68	13.75	5	22	19	23	4.0	5.0
HB10-1	M10 x 55	HBCSK10-1	M10 x 55	3 - 22	-	30	17.75	6	29	24	45	8.5	10.0
HB10-2	M10 x 70	HBCSK10-2	M10 x 70	22 - 41	-	48	17.75	6	29	24	45	8.5	10.0
HB10-3	M10 x 90	HBCSK10-3	M10 x 90	41 - 60	-	67	17.75	6	29	24	45	8.5	10.0
HB12-1	M12 x 60	HBCSK12-1	M12 x 60	3 - 25	-	35	19.75	7	32	30	80	10.5	15.0
HB12-2	M12 x 80	HBCSK12-2	M12 x 80	25 - 47	-	57	19.75	7	32	30	80	10.5	15.0
HB12-3	M12 x 100	HBCSK12-3	M12 x 100	47 - 69	-	79	19.75	7	32	30	80	10.5	15.0
HB16-1	M16 x 75	HBCSK16-1	M16 x 75	12 - 29	8	41.5	25.75	8	38	36	190	21.0	30.0
HB16-2	M16 x 100	HBCSK16-2	M16 x 100	29 - 50	8	63	25.75	8	38	36	190	21.0	30.0
HB16-3	M16 x 120	HBCSK16-3	M16 x 120	50 - 71	8	84	25.75	8	38	36	190	21.0	30.0
HB20-1	M20 x 90	-	-	12 - 34	8	50	32.75	10	51	46	300	35.0	40.0
HB20-2	M20 x 120	-	-	34 - 60	8	76	32.75	10	51	46	300	35.0	40.0
HB20-3	M20 x 150	-	-	60 - 86	8	102	32.75	10	51	46	300	35.0	40.0

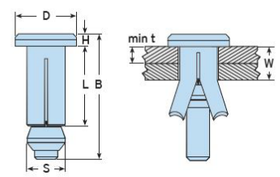
Sizes M16 and M20, known as the Hollo-Bolt (HCF), feature a patented High Clamping Force mechanism to produce three times more clamping force than the same sized product without the mechanism.

Hollo-Bolts can be used on a wide variety of steel hollow shape sections. Safe working loads shown are based on use in S275 structural hollow section and are applicable to the Hollo-Bolt only in both tension and shear. 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 by a qualified Structural Engineer.

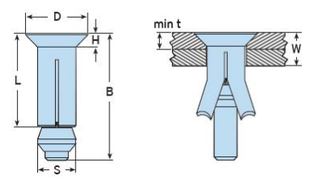
a) Hexagonal



b) Countersunk



c) Flush Fit



c) Flush fit				Sleeve		Collar				Safe working loads (5:1 Safety factor)	
Product code	Countersunk bolt B mm	Clamping thickness W mm	Outer ply min t mm	Length L mm	Outer Ø S mm	Height H mm	Ø D mm	Installation nut A/F mm	Tightening torque Nm	Tensile kN	Single shear kN
HBFF08-1	M8 x 50	10 - 27	8	35	13.75	5	24	19	23	4.0	5.0
HBFF08-2	M8 x 70	27 - 45	8	54	13.75	5	24	19	23	4.0	5.0
HBFF08-3	M8 x 90	45 - 64	8	73	13.75	5	24	19	23	4.0	5.0
HBFF10-1	M10 x 50	12 - 27	10	36	17.75	6	30	24	45	8.5	10.0
HBFF10-2	M10 x 70	27 - 45	10	54	17.75	6	30	24	45	8.5	10.0
HBFF10-3	M10 x 90	45 - 64	10	73	17.75	6	30	24	45	8.5	10.0
HBFF12-1	M12 x 55	12 - 30	10	42	19.75	7	33	30	80	10.5	15.0
HBFF12-2	M12 x 80	30 - 52	10	64	19.75	7	33	30	80	10.5	15.0
HBFF12-3	M12 x 100	52 - 74	10	86	19.75	7	33	30	80	10.5	15.0

Hollo-Bolts can be used on a wide variety of steel hollow shape sections. Safe working loads shown are based on use in S275 structural hollow section and are applicable to the Hollo-Bolt only in both tension and shear. 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 by a qualified Structural Engineer.

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