

BoxBolt® The Blind Steelwork Fixing Solution



BoxBolt is a fully tested and approved blind fixing solution for connecting to hollow section steelwork or to general steelwork sections or where access is restricted to one side only. The BoxBolt fixing is suitable for use with rectangular, square and even circular hollow sections.

The BoxBolt features a hexagon head design to aid installation with a standard spanner but also allows it to be installed with our unique BoxSok™ installation tool for when installation time needs to be kept to an absolute minimum.

The BoxBolt is available in three finishes, these are; Zinc Plated for the less aggressive environments, Hot Dip Galvanised for the more aggressive environments, and Stainless Steel for the most arduous of applications. These finishes combined with three lengths of BoxBolt make it extremely flexible to suit its environment and application. The BoxBolt is approved for use by Lloyds Register (LR) type approval and the Deutsches Institut für Bautechnik (DIBt) to give the specifier and user total confidence.

BoxBolt® Technical Data

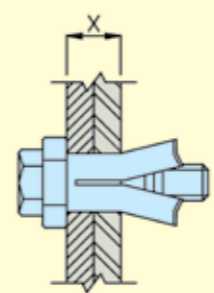
Table 1

Part Number & description		Dimensional information									Load information				
BoxBolt Size	Product code	Size	Setscrew length (mm)	Fixing range (dim x)		Across Flats of shoulder (mm)	Shoulder thickness (mm)	Dim A	Dim B	Hole size (ø c)	Bolt Dia.	Thickness of material being connected to	Safe Working loads (kn)		Torque (Nm)
				Min	Max								Tensile	Shear	
M06	BQ1Z06*	1	45	3	29	18	5	30	11	11 +1.0,-0.25	M06	3.0	2.2	5	19
M08	BQ1_08	1	50	3	26	22	6	35	13	14 +1.0,-0.25	M08	5.0	2.7	7	25
	BQ2_08	2	70	12	46							6.3 or 8.0	4.5		
	BQ3_08	3	90	24	66							10.0 or 12.5	6		
M10	BQ1_10	1	50	3	23	24	7	40	15	18 +1.0,-0.25	M10	5.0	4.5	13	45
	BQ2_10	2	70	15	43							6.3	8.4		
	BQ3_10	3	90	30	63							10.0 or 12.5	11.5		
M12	BQ1_12	1	55	3	25	26	8	50	18	20 +1.0,-0.25	M12	5.0	4.5	15	80
	BQ2_12	2	80	18	50							6.3	7.8		
	BQ3_12	3	100	36	70							8.0	13.1		
M16	BQ1_16	1	75	3	35	36	9	55	20	26 +2.0,-0.25	M16	5.0	6.4	35	190
	BQ2_16	2	100	24	60							6.3	8.2		
	BQ3_16	3	120	48	80							8.0	13.9		
												10.0	23.7		
M20	BQ1_20	1	100	3	42	46	11	70	25	33 +2.0,-0.25	M20	12.5	31	40	300
												6.3	8		
												8.0	15.3		
												10.0	28.4		
												12.5	43.7		

* BQ1Z06 is tested at an external test house but is not approved by LR type or DIBt.

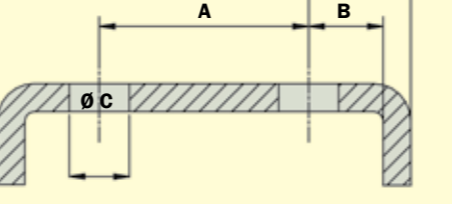
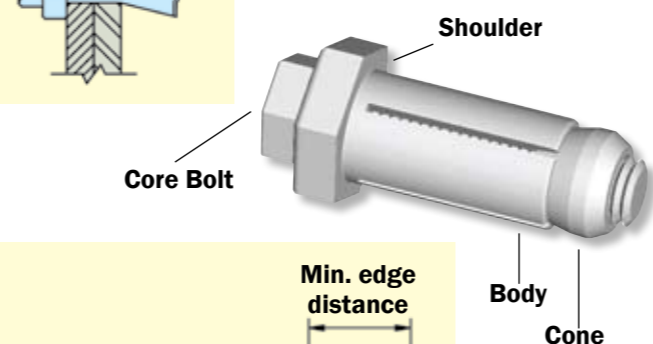
BoxBolt® Technical Information

Clamping Range



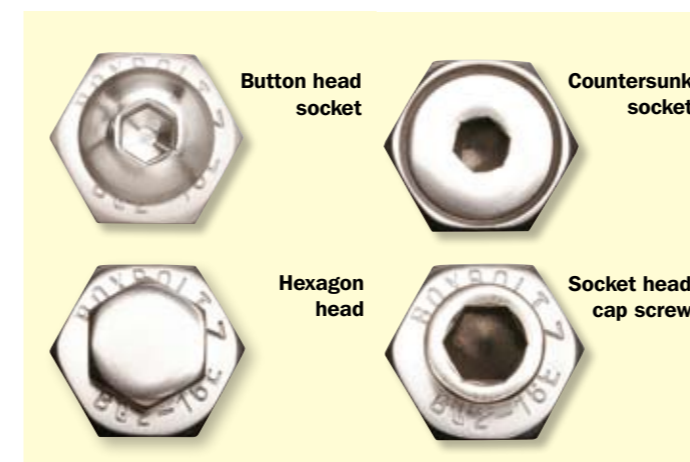
Select the type of finish you require on the BoxBolt by replacing the _ in the code with a Z for zinc plated, a G for Hot Dip Galvanised or an S for Stainless Steel.

Example: BQ2G12 is a M12 BoxBolt size 2 in Hot Dip Galvanised Finish.



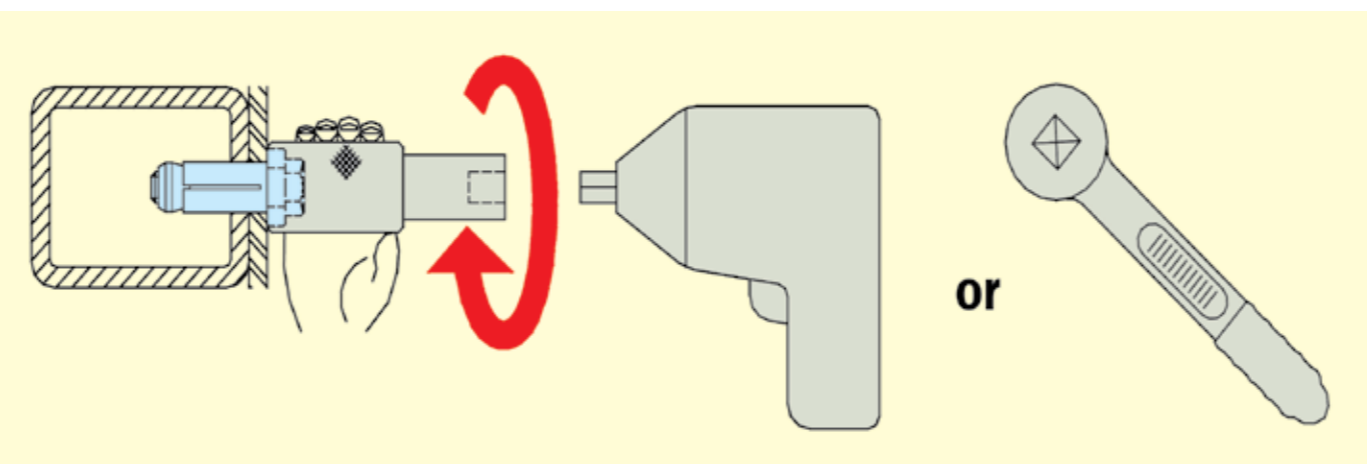
Note: Min edge distance = Dim B plus the thickness of hollow section

- Do not exceed the Safe Working Loads (SWL) specified.
- All loads include a 5:1 Factor for Safety.
- The tensile load of the BoxBolt is based upon the strength of the structure being connected to. Please consult a licensed structural engineer to establish the load for steel sections other than those shown in table 1.

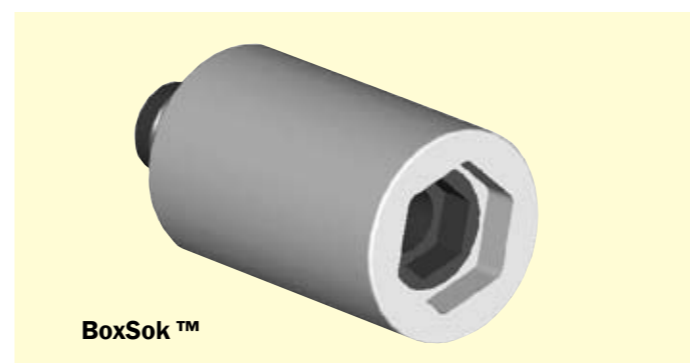


The BoxBolt is often used on high profile projects where the aesthetics of the building are essential. It is for this reason the BoxBolt can be adapted to suit the requirements of the Client and the Architect to make the connection pleasing to the eye. The most common versions we can offer are shown in table 1. Should you require a different style then please contact our technical department.

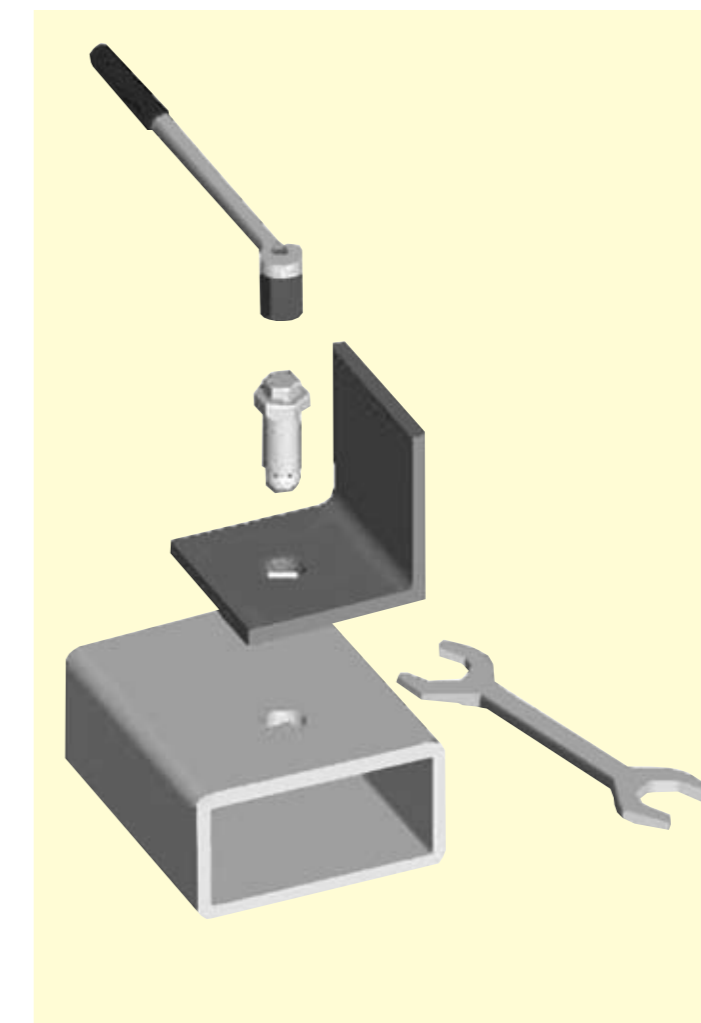
BoxSok™ Rapid Assembly Tool



The BoxSok Installation Tool (patent applied for) is a unique rapid assembly tool for the BoxBolt fixing. This specially designed socket holds the hexagon shoulder on the body to stop it rotating whilst allowing the inner socket to tighten up the core bolt. The core bolt draws the cone up inside the slotted body of the sleeve and expands the individual fins inside the connection. The BoxSok eliminates the need for two tools to install the BoxBolt; this considerably speeds up the installation process and also reduces the risk of trapping hands between two tools. The BoxSok device is available to suit all BoxBolt diameters.



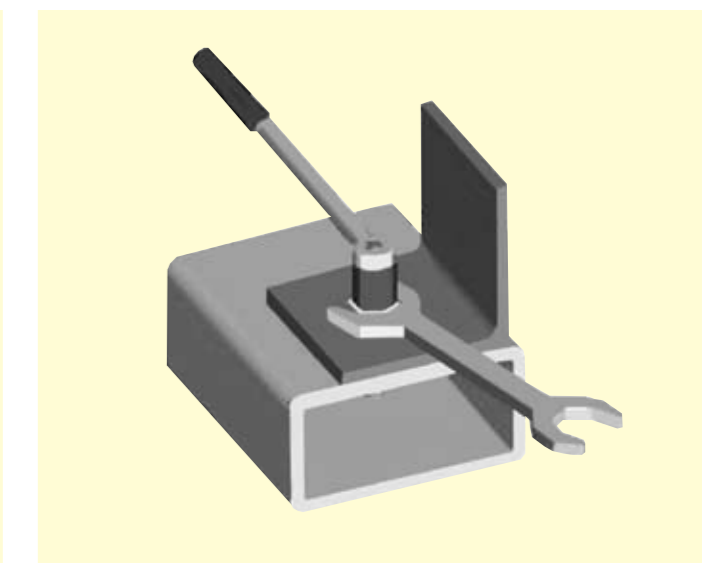
BoxBolt® Installation Instructions



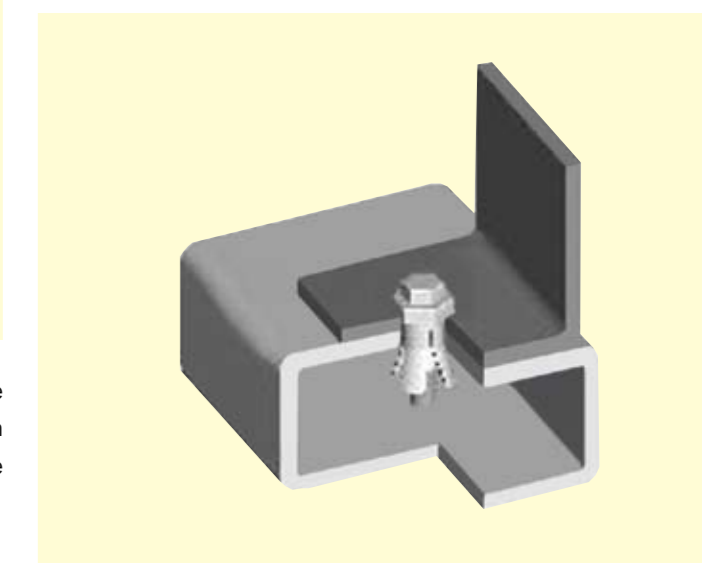
STEP 1: Align the holes in the bracket to be secured with the pre-drilled hole in the structural tube. Insert the BoxBolt through both pieces of steel until the underside of the shoulder is flush with the outside of the steel.

MATERIALS

Mild steel to BS EN 10083 Grade 1.1151
Stainless steel to BS EN 10088 Grade 1.4401
FINISHES
Zinc plated to BS EN 12329 : Class Fe//Zn8//A
Hot Dip Spun Galvanised to BS EN ISO 1461

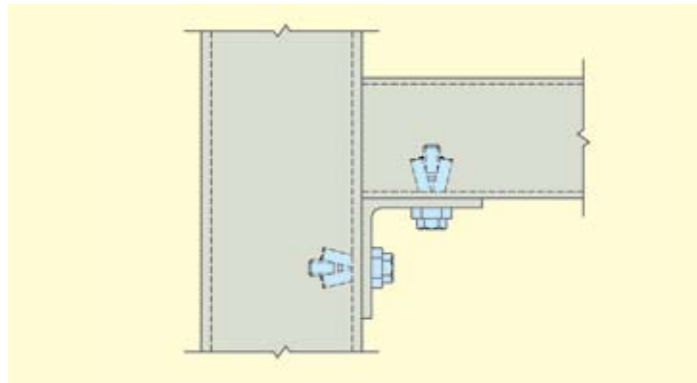


STEP 2: Hold the hexagon shoulder of the BoxBolt with an open ended wrench. Use an impact wrench or ratchet to tighten the core bolt.

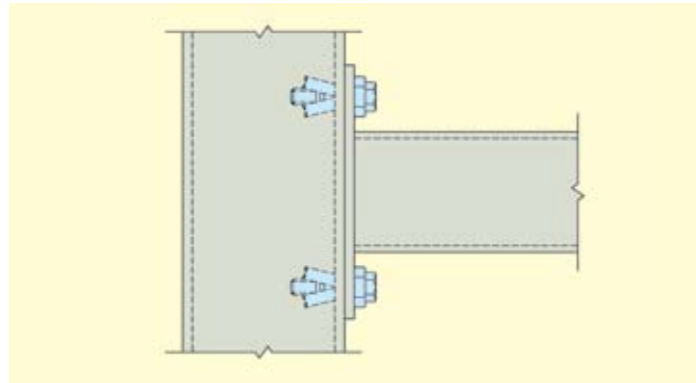


STEP 3: Remove the open ended wrench and check to ensure that the core bolt is tightened to the recommended torque.

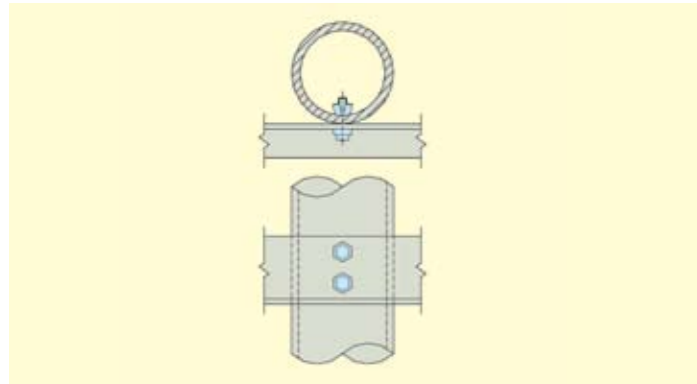
BoxBolt® Application Examples



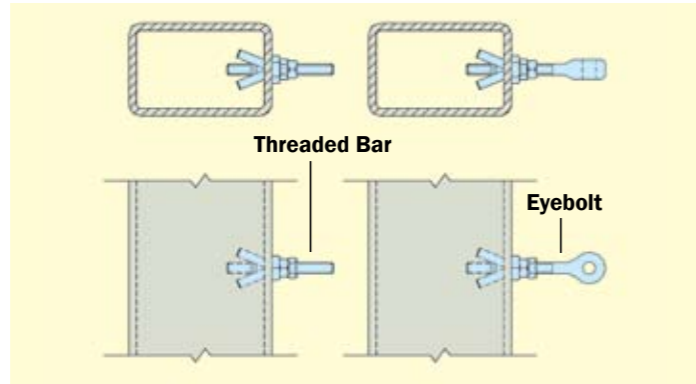
1 Structural tube to structural tube connected with an angle bracket.



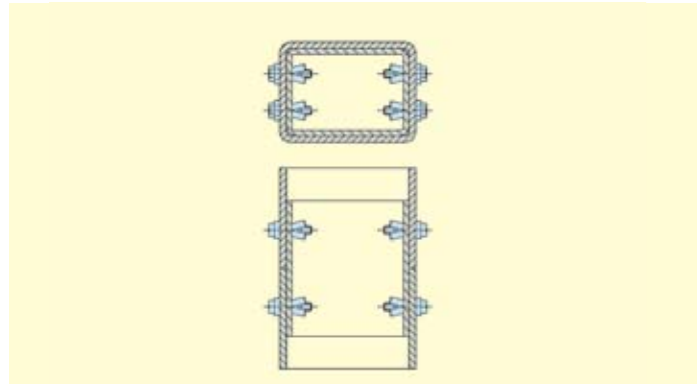
2 Structural tube with an end plate connected to vertical structural tube.



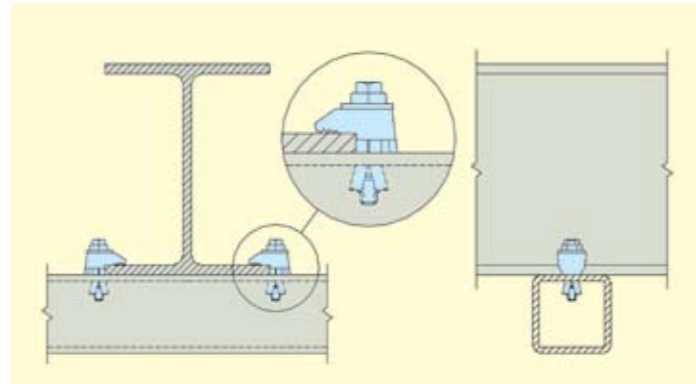
3 Angle to Tubular Post The BoxBolt is suitable for most profiles of structural tube, including circular sections.



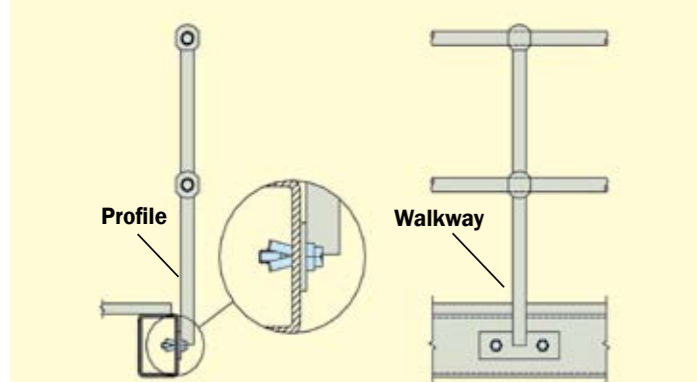
4 Replacing the Core Bolt The core bolt down the centre of the BoxBolt can be replaced with threaded rod, eyebolts or other threaded items.



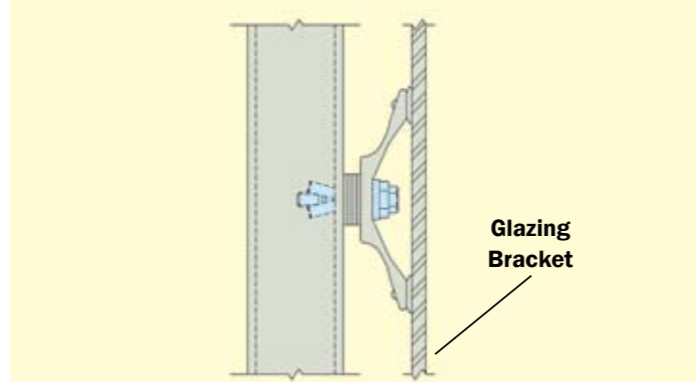
5 Structural Tube Sleeve Connection By using one structural tube inside another, a sleeve connection can be easily made using the Boxbolt.



6 Structural Tube to Wide Flange Beam The BoxBolt can be used with other BeamClamp products to connect structural tube section to existing steel without the need for site drilling and welding.



7 The BoxBolt can be used to connect any type of bracket, such as a mounting plate for hand railing as shown.



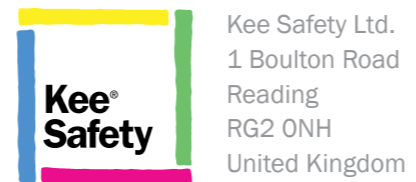
8 Securing Glazing Bracket. The BoxBolt can be used to secure glazing panel brackets to building structures with access only required from the outside.

FASTRACKCAD
ARCHITECTURAL CAD DATABASES

Please visit our website and click on the Fastrack CAD link for 2D CAD blocks in both .dwg and .dxf format of the BoxBolt in all sizes and lengths.

TEKLA Structures

The BoxBolt features within Tekla Structures Steelwork detailing package for ease of specification. The macros are fully interactive so the bolt diameter and length can be changed to suit your individual application.



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A KEE SAFETY PRODUCT
SAFE STEELWORK CONNECTIONS

The Approved Blind Steelwork Fixing



- LARGE OVERLAPPING FIXING RANGE
- 5 TO 1 FACTOR OF SAFETY
- ZINC PLATED, HOT DIP GALVANISED, STAINLESS STEEL
- BOXSOK TOOL FOR EASE OF INSTALLATION

