



BoxBolt™ The Expansion Bolt For Structural Tube

BOXBOLT™

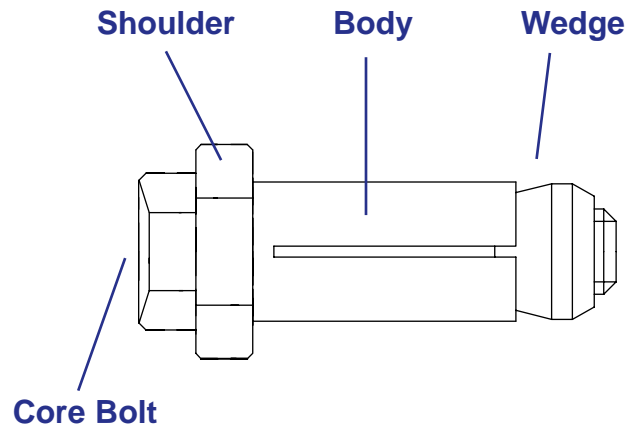


The BoxBolt is an expansion anchor for steel that can be used to make connections to structural tube sections. The BoxBolt is suitable for use with rectangular, square and circular sections, or other types of steelwork where access is restricted to one side only.

The shoulder of the BoxBolt is hexagonal. This allows it to be held in position with an open ended wrench while a torque wrench is used to tighten the core bolt. As the core bolt is tightened the threaded wedge is drawn up inside the body, the fins expand, and a secure connection is made. To reduce installation time, BeamClamp can provide a one piece accessory called the BoxSok™ that will attach to most air and power tools. Contact Kee Industrial Products for further information.

BoxBolt Advantages:

- Simple connections to structural tube
- Guaranteed Safe Working Load
- 5:1 Factor of Safety
- No close tolerance holes required
- Available in zinc plate finish
- Available in hot dip galvanized finish
- Available in stainless steel
- Large combined material clamping range
- Special lengths available



BoxBolt ensures safe and secure steel to steel connections.



BoxBolt is suitable for use with a wide variety of steelwork.



BoxBolt™ Technical Data

BoxBolt™

Part Number & Description			Dimensional Information						Load Information				
Product Code	Bolt Dia.	Description	Screw Length	Clamping Range (X)		Across Flats of Shoulder	Shoulder Thickness	Hole Dia.	BoxBolt Dia.	Structural Tube	Safe Working Load (lbs)		Torque (ft lb)
				Min	Max						Tensile	Shear	
BQ1Z08	5/16"	5/16" BoxBolt Size 1	2"	1/8"	1"	7/8"	1/4"	5/8"	5/16"	4 x 4 x 3/16"	607		
BQ2Z08	5/16"	5/16" BoxBolt Size 2	2 3/4"	1/2"	1 13/16"	7/8"	1/4"	5/8"	5/16"	4 x 4 x 1/4" or 5/16"	1012	1574	18
BQ3Z08	5/16"	5/16" BoxBolt Size 3	3 3/16"	1"	2 5/8"	7/8"	1/4"	5/8"	5/16"	4 x 4 x 3/8" or 1/2"	1349		
BQ1Z10	3/8"	3/8" BoxBolt Size 1	2"	1/8"	7/8"	1 5/16"	1/4"	3/4"	3/8"	4 x 4 x 3/16"	1012		
BQ2Z10	3/8"	3/8" BoxBolt Size 2	2 3/4"	5/8"	1 11/16"	1 5/16"	1/4"	3/4"	3/8"	4 x 4 x 1/4"	1888	2922	33
BQ3Z10	3/8"	3/8" BoxBolt Size 3	3 3/16"	1 3/16"	2 1/2"	1 5/16"	1/4"	3/4"	3/8"	4 x 4 x 5/16", 3/8" or 1/2"	2585		
BQ1Z12	1/2"	1/2" BoxBolt Size 1	2 3/16"	1/8"	1"	1"	5/16"	13/16"	1/2"	4 x 4 x 3/16"	1012		
BQ2Z12	1/2"	1/2" BoxBolt Size 2	3 1/8"	3/4"	2"	1"	5/16"	13/16"	1/2"	4 x 4 x 1/4"	1753		
BQ3Z12	1/2"	1/2" BoxBolt Size 3	4"	1 7/16"	2 3/4"	1"	5/16"	13/16"	1/2"	4 x 4 x 5/16"	2945	3372	59
									1/2"	4 x 4 x 3/8" or 1/2"	3462		
BQ1Z16	5/8"	5/8" BoxBolt Size 1	3"	1/8"	1 3/8"	1 7/16"	3/8"	1 1/8"	5/8"	4 x 4 x 3/16"	1439		
BQ2Z16	5/8"	5/8" BoxBolt Size 2	4"	1"	2 5/8"	1 7/16"	3/8"	1 1/8"	5/8"	4 x 4 x 1/4"	1843		
BQ3Z16	5/8"	5/8" BoxBolt Size 3	4 3/4"	1 7/8"	3 1/8"	1 7/16"	3/8"	1 1/8"	5/8"	4 x 4 x 5/16"	3125	7868	140
									5/8"	4 x 4 x 3/8"	5328		
									5/8"	4 x 4 x 1/2"	6969		
BQ1Z20	3/4"	3/4" BoxBolt Size 1	4"	1/8"	1 5/8"	1 13/16"	7/16"	1 3/8"	3/4"	4 x 4 x 1/4"	1798		
BQ2Z20	3/4"	3/4" BoxBolt Size 2	4 3/4"	1 3/16"	2 13/16"	1 13/16"	7/16"	1 3/8"	3/4"	4 x 4 x 5/16"	3439		
BQ3Z20	3/4"	3/4" BoxBolt Size 3	6"	2 3/8"	4"	1 13/16"	7/16"	1 3/8"	3/4"	4 x 4 x 3/8"	6384	8992	221
									3/4"	4 x 4 x 1/2"	9824		



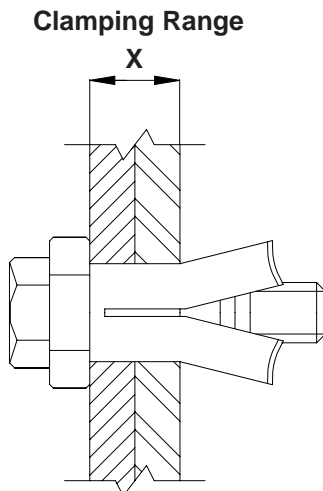
Do not exceed the Safe Working Loads (SWL) specified. All loads include a 5:1 Factor of Safety

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 above.

Product Notes: The standard finish for the BoxBolt is zinc plate, this is indicated by the letter **Z** in the product code. If you require the BoxBolt with a hot dip galvanized finish, please substitute the letter **G**. If you require the BoxBolt in stainless steel, use the letter **S**. For example, 5/8" diameter Size 1 BoxBolt with a hot dip galvanized finish will be product code **BQ1G16** and a 3/8" Size 1 BoxBolt in stainless steel will be **BQ1S10**. The BoxBolt is only available with a metric internal bolt. Bolt diameters shown above in inches are converted from metric sizes.

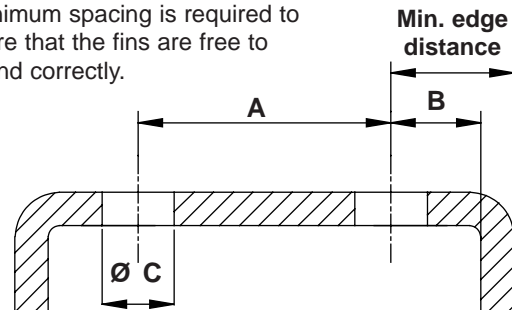
Clamping Range

The clamping range of the BoxBolt is the combined thickness of the steel being connected and the steelwork being connected to. Each diameter of BoxBolt has three overlapping lengths designed to accommodate a wide range of material thicknesses. If your clamping range exceeds those stated above, special lengths are available. Contact Kee Industrial Products for further information.



Hole Dimensions & Positioning

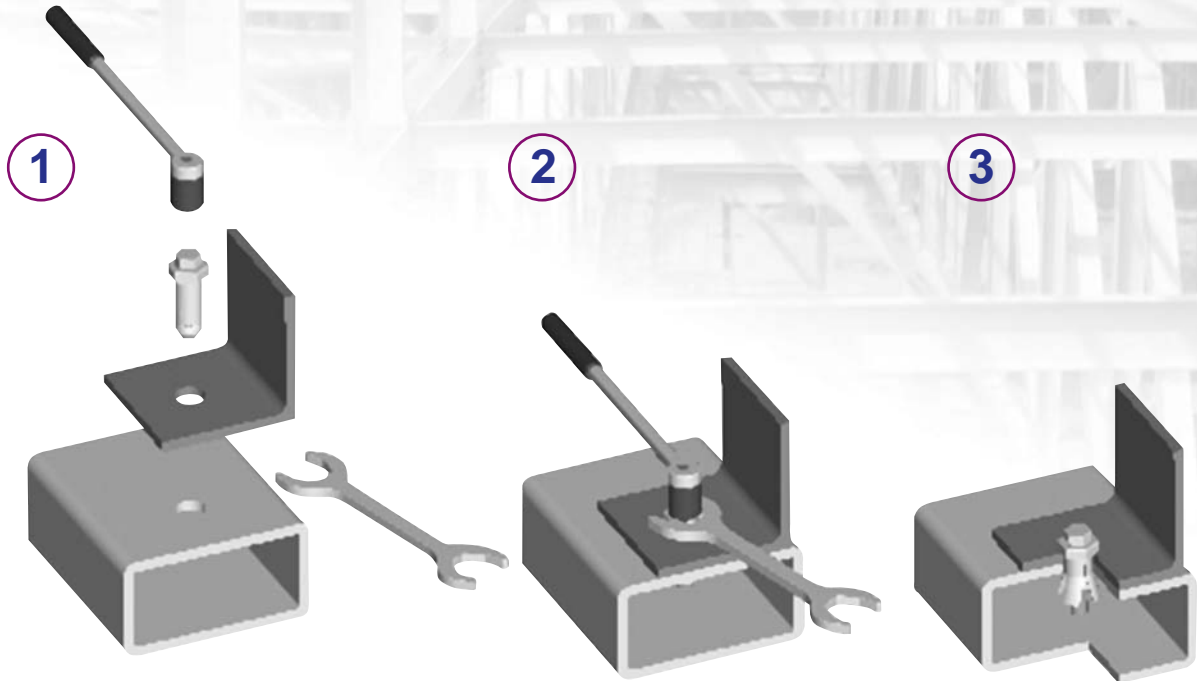
It is important that the correct hole size is drilled to accommodate the body of the BoxBolt. Dimensions are shown in the table below. If a BoxBolt is being used close to the edge of a section or in close proximity to another BoxBolt, a minimum spacing is required to ensure that the fins are free to expand correctly.



BoxBolt Size	Dim A	Dim B	Dim C
5/16"	1 3/8"	1/2"	5/8"
3/8"	1 9/16"	9/16"	3/4"
1/2"	2"	13/16"	13/16"
5/8"	2 3/16"	13/16"	1 1/8"
3/4"	2 3/4"	1"	1 3/8"

Minimum edge distance = Dim B + structural tube thickness

BoxBolt™ Installation Instructions

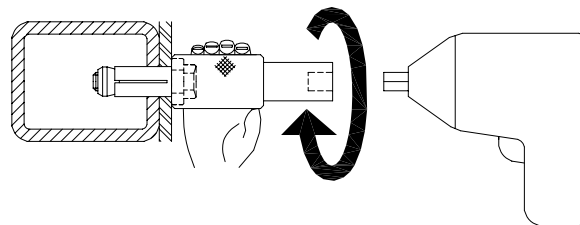


Step 1: Align the hole in the bracket to be secured with the pre-drilled hole in the structural tube. Insert the BoxBolt through both pieces of steel until the underside of the shoulder is flush with the outside of the steel.

Step 2: Hold the hexagon shoulder of the BoxBolt with an open ended wrench. Use a torque wrench to tighten the core bolt.

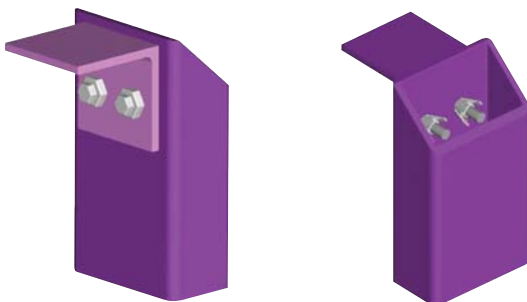
Step 3: Remove the open ended wrench and check to ensure that the core bolt is tightened to the recommended torque.

The BoxSok™

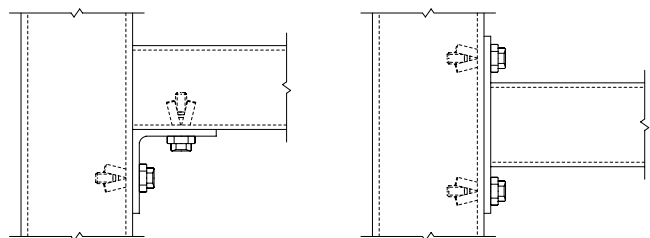


The BoxSok is a unique installation tool for the BoxBolt expansion anchor. It attaches to standard air and power tools and reduces the installation time for the BoxBolt. This specially designed socket holds the hexagon shoulder of the BoxBolt in place while a second socket tightens the core bolt pulling the threaded wedge up inside the body to expand the fins.

BoxBolt Application Examples



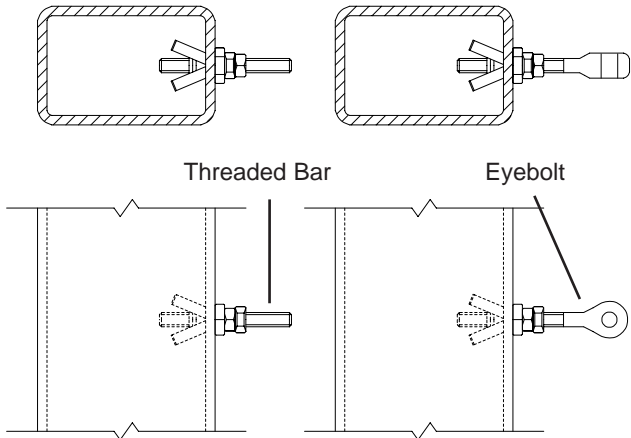
BoxBolts are used here to secure a bracket to structural tube.



Left: Structural tube to structural tube sections being connected with an angle bracket.

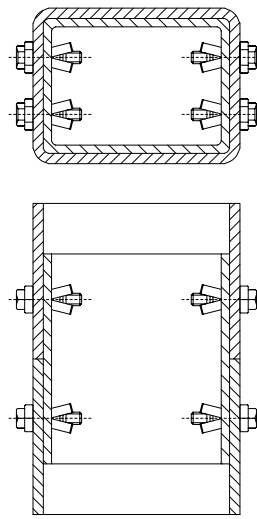
Right: Structural tube with drilled end plate being connected to vertical structural tube.

BoxBolt™ Application Examples



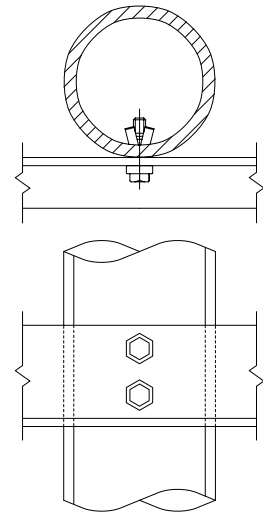
Replacing the Core Bolt

The core bolt down the center of the BoxBolt can be replaced with threaded rod, eyebolts or other threaded items.



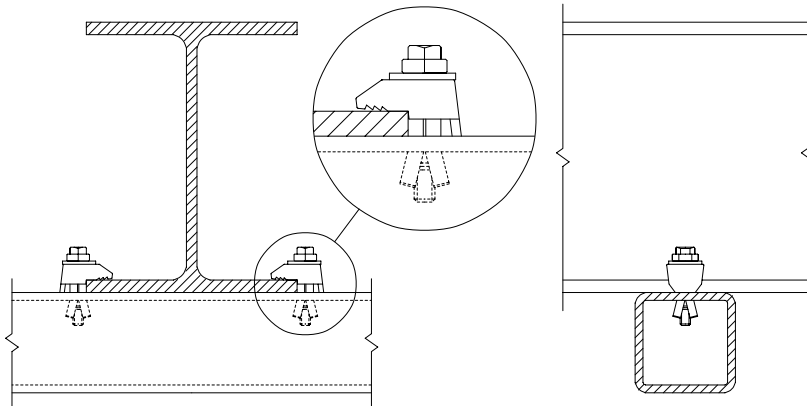
Structural Tube Sleeve Connection

By inserting one structural tube inside another, a sleeve connection can be easily made using the BoxBolt.



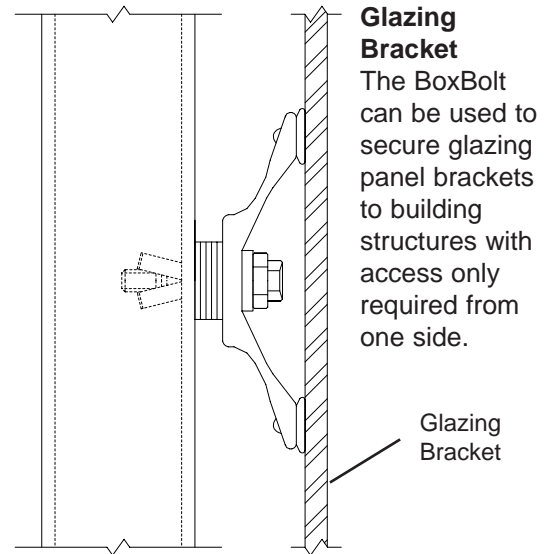
Angle to Tubular Post

The BoxBolt is suitable for most profiles of structural tube, including circular sections.



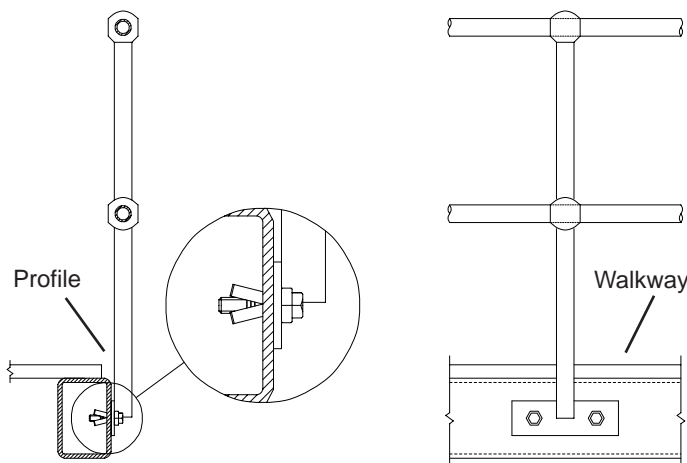
Structural Tube to Wide Flange Beam

The BoxBolt can be used with other BeamClamp products to connect structural tube sections to existing steel without the need for site drilling and welding.



Securing Glazing Bracket

The BoxBolt can be used to secure glazing panel brackets to building structures with access only required from one side.



Handrails to Structural Tube

The BoxBolt can be used to connect any bracket, such as the mounting plate of handrails to structures, with access only required from one side only.

