

## **BoxBolt®Cavity Solutions**



**BoxBolt** is a fully tested and approved blind connection solution for connecting to hollow section steel or where access is restricted to one side only. The **BoxBolt** 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 wrench. It 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; Zinc Plated for the less aggressive environments, Hot Dip Galvanized for the more aggressive environments, and Stainless Steel for the most demanding 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**

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 Galvanized or an **S** for Stainless Steel.

Example: BQ2G12 is a 1/2" BoxBolt size 2 in Hot Dip Galvanized Finish.

| P                          | art Number & | Description                     | Dimensional Information |                                  |          |                             |                       |               |                  | Load Information                             |       |                   |
|----------------------------|--------------|---------------------------------|-------------------------|----------------------------------|----------|-----------------------------|-----------------------|---------------|------------------|--|-------|-------------------|
| Product<br>Code<br>BQ1Z06* | Bolt<br>Dia  | Description 1/4* BoxBolt Size 1 | Setscrew<br>Length      | Clamping Range<br>(X)<br>Min Max |          | Across Flats<br>of Shoulder | Shoulder<br>Thickness | Sleeve<br>Dia | Hole Size<br>Dia | Available Strength<br>(lbs)<br>Tensile Shear |       | Torque<br>(ft lb) |
|                            |              |                                 |                         | 1/8"                             | 7/8*     | 11/16*                      | 3/16"                 | 3/8"          | 1/2"             | 2872   | 4793  | 14                |
| BQ1_08                     | 5/16"        | 5/16" BoxBolt Size 1            | 2*                      | 3/16"                            | 1"       | 7/8"                        | 1/4"                  | 1/2"          | 5/8"             | 5071   | 5917  | 18                |
| BQ2_08                     | 5/16"        | 5/16" BoxBolt Size 2            | 2-3/4"                  | 11/16*                           | 1-13/16* | 7/8"                        | 1/4"                  | 1/2"          | 5/8"             | 5071   | 5917  | 18                |
| BQ3_08                     | 5/16"        | 5/16" BoxBolt Size 3            | 3-9/16"                 | 1-3/16"                          | 2-5/8"   | 7/8"                        | 1/4"                  | 1/2"          | 5/8"             | 5071   | 5917  | 18                |
| BQ1_10                     | 3/8"         | 3/8" BoxBolt Size 1             | 2*                      | 3/16"                            | 7/8*     | 15/16"                      | 1/4"                  | 11/16"        | 3/4"             | 9718   | 10985 | 33                |
| BQ2_10                     | 3/8"         | 3/8" BoxBolt Size 2             | 2-3/4"                  | 11/16*                           | 1-11/16* | 15/16*                      | 1/4"                  | 11/16"        | 3/4"             | 9718   | 10985 | 33                |
| BQ3_10                     | 3/8"         | 3/8" BoxBolt Size 3             | 3-9/16*                 | 1-3/8"                           | 2-1/2"   | 15/16"                      | 1/4"                  | 11/16"        | 3/4"             | 9718   | 10985 | 33                |
| BQ1_12                     | 1/2"         | 1/2" BoxBolt Size 1             | 2-3/16*                 | 3/16"                            | 1"       | 1"                          | 5/16"                 | 3/4"          | 13/16"           | 13015  | 12676 | 59                |
| BQ2_12                     | 1/2"         | 1/2" BoxBolt Size 2             | 3-1/8"                  | 3/4"                             | 2'       | 1"                          | 5/16*                 | 3/4"          | 13/16"           | 13015  | 12676 | 59                |
| BQ3_12                     | 1/2"         | 1/2" BoxBolt Size 3             | 4"                      | 1-9/16"                          | 2-3/4"   | 1"                          | 5/16*                 | 3/4"          | 13/16"           | 13015  | 12676 | 59                |
| BQ1_16                     | 5/8"         | 5/8" BoxBolt Size 1             | 3*                      | 3/16"                            | 1-3/8"   | 1-7/16*                     | 3/8"                  | 1*            | 1-1/16"          | 26199  | 29578 | 140               |
| BQ2_16                     | 5/8"         | 5/8" BoxBolt Size 2             | 4*                      | 1-3/16"                          | 2-3/8"   | 1-7/16*                     | 3/8"                  | 1*            | 1-1/16"          | 26199  | 29578 | 140               |
| BQ3_16                     | 5/8"         | 5/8" BoxBolt Size 3             | 4-3/4"                  | 2-3/16"                          | 3-1/8"   | 1-7/16*                     | 3/8"                  | 1"            | 1-1/16*          | 26199  | 29578 | 140               |
| BQ1_20                     | 3/4"         | 3/4" BoxBolt Size 1             | 4*                      | 5/16"                            | 1-5/8*   | 1-13/16"                    | 7/16*                 | 1-1/4"        | 1-3/8"           | 36932  | 33804 | 221               |
| BQ2_20                     | 3/4"         | 3/4" BoxBolt Size 2             | 4-3/4"                  | 1-3/8"                           | 2-13/16* | 1-13/16"                    | 7/16*                 | 1-1/4"        | 1-3/8"           | 36932  | 33804 | 221               |
| BQ3_20                     | 3/4"         | 3/4" BoxBolt Size 3             | 6*                      | 2-9/16"                          | 4"       | 1-13/16"                    | 7/16"                 | 1-1/4"        | 1-3/8"           | 36932  | 33804 | 221               |

 $\ensuremath{^{\star}}$  BQ1Z06 is tested at an external test house but is not approved by LR type or DIBt.

The loads stated above have a partial reduction factor of 0.75 applied to the ultimate tensile and shear strength to give the available strengths of the BoxBolt. A further reduction factor or factor of safety should be applied to these load values that is relevant to the application, code, or design guidelines. The overall strength of the connection is normally governed by the strength of material the BoxBolt is connecting into; therefore, the structural capacity of the connection should be checked by a structural engineer.

Approvals – The published loads are taken from physical testing in hollow structural section which are then verified by Lloyds Register Type Approval. The BoxBolt is also tested and approved by DIBt (Deutsches Institut fur Bautechnik) which complies with the DIN 18800 and Eurocode 3 design methods for bolted steel connections. A design guide and calculator is available when using these methods. Please ask our technical team for more information.