Hollo-Bolt®: Blind Connector for Structural Steelwork

Purdue ECT Team
Purdue University, ectinfo@ecn.purdue.edu

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**Hollo-Bolt®: Blind Connector for Structural Steelwork**

**The Need**
Structural steel connections for connecting to square, rectangular or circular structural tube or to conventional steel where access is available from one side only poses problems. A technology was needed which could provide a quicker and tidier installation than traditional methods such as welding, unsightly strapping or drilling and tapping holes. The invention of the Hollo-Bolt® provided such a solution.

**The Technology**
Lindapter® International devised a product called the Hollo-Bolt® in the 1990s to suit virtually any type of hollow section profile. Since its invention, Lindapter’s R&D department has continued to develop the range with the rapid expansion in diameters, lengths, finishes and head variants.

All variants of the Hollo-Bolt feature three core parts: a central bolt, a sleeve installed over the bolt complete with collar and shank, and a cone that is screwed onto the end of the central bolt. The Hollo-Bolt’s inbuilt collapse mechanism facilitates the blind connection by drawing the cone towards the head of the bolt as it is installed, spreading the shank’s legs to provide a secure connection.

Following comprehensive testing, the Steel Construction Institute (SCI) and British Constructional Steelwork Association (BCSA) recognise the Hollo-Bolt as a primary...
structural connection in the design guide 'Joints in Steel Construction – Simple Connections'. Furthermore, the entire Hollo-Bolt range is CE marked and approved by the Deutsches Institut für Bautechnik and TÜV NORD.

Installation is undertaken in the following steps:
1. Align pre-drilled fixture and steelwork. Insert Hollo-Bolt through fixture and steelwork.
2. Grip the Hollo-Bolt collar with an open ended spanner.
3. Using a torque wrench, tighten the central bolt to the recommended torque.

![Figure 2 Installation Procedure Diagram](image)
Note: When installing, ensure that the Hollo-Bolt collar is held firmly against the fixture throughout the installation process. For ease of installation, pneumatic tools may be used on primary structural connections.

![Figure 3 A Finished Job with Hollo-Bolt®](image)

**The Benefits**

Suitable for primary and secondary steelwork connections.
- Suitable for virtually any type of hollow section / structural tube.
- No welding, on-site drilling or tapping required.
- Fast, cost effective and simple installation.
- Guaranteed performance at safe working loads and a 5:1 factor of safety.
- Available in a range of protective coatings, or stainless steel throughout.

**Status**

The Hollo-Bolt has undergone rigorous testing for the Steel Construction Institute (SCI) and British Constructional Steelwork Association (BCSA) to recognise it as a primary structural connection in the design guide 'Joints in Steel Construction – Simple Connections'. The Hollo-Bolt has been specified on vast range of products across the globe to become one of Lindapter’s bestselling products. Some case studies include:
- BMW World, Germany – Connecting mounting points for the installation of solar panels.
- Kimmel Center, USA – Splicing structural tube section.
- Rose Hill Foundation Conservatory, USA – Primary steelwork connections.
- Eureka Tower, Australia – Attaching sculptures to the façade of the building.
- HafenCity, Germany – Connecting hollow sections of the glazing support frame.
BARRIERS
None known at this time.

POINTS OF CONTACT
Charlie Humphreys.
Tel: (610)-590-2160, Fax: (610)-590-0457

REFERENCES

REVIEWERS
Peer reviewed as an emerging construction technology

DISCLAIMER
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