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Hollo-Bolt®: Blind Connector for Structural Steelwork

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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.



FIGURE 1 THE HOLLO-BOLT ®

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.*

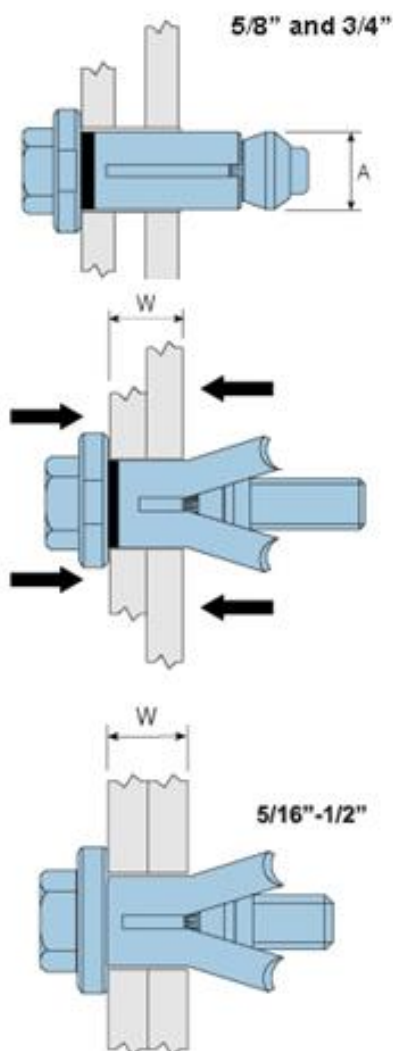


FIGURE 2 INSTALLATION PROCEDURE DIAGRAM



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®

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

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REFERENCES

1. <http://www.lindapterusa.com>

REVIEWERS

Peer reviewed as an emerging construction technology

DISCLAIMER

Purdue University does not endorse this technology or represents that the information presented can be relied upon without further investigation.

PUBLISHER

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