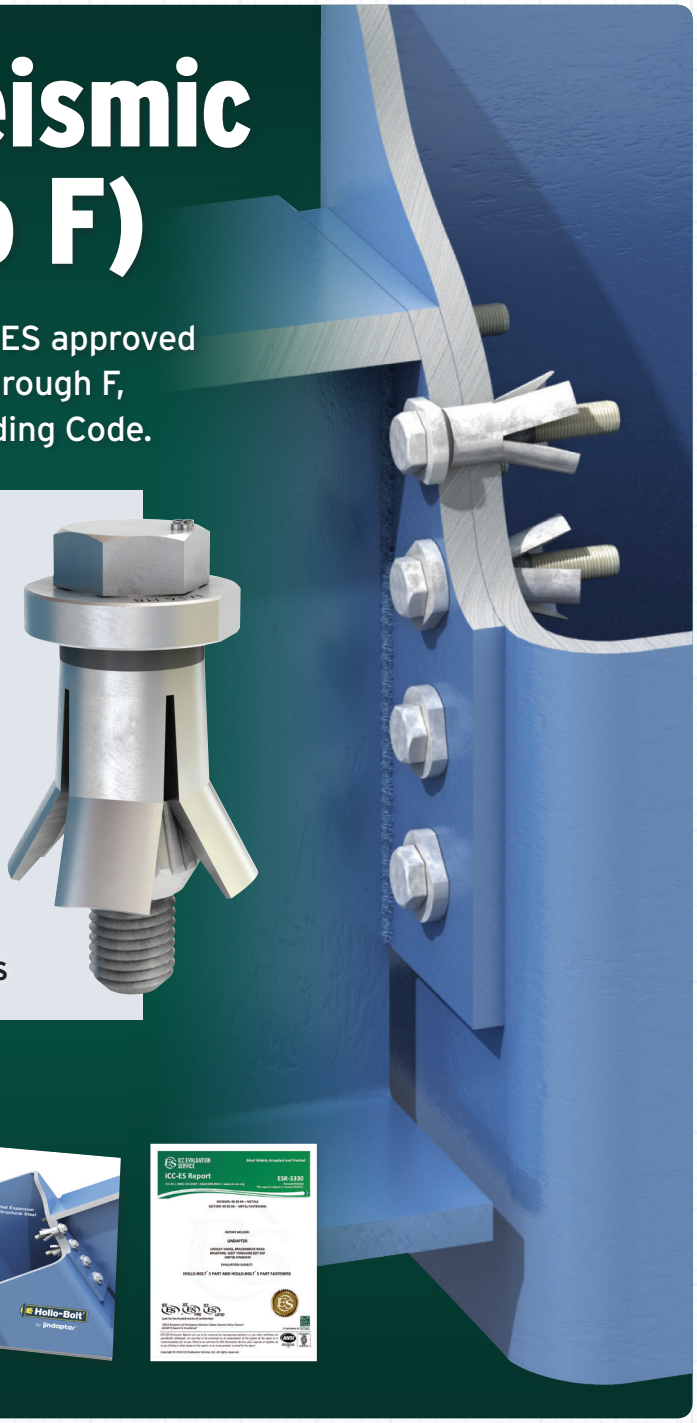
Hollo-Bolt® by lindapter®

ICC ES ESR-3330 Seismic Approved

Full ICC-ES seismic approval (A to F)

Hollo-Bolt is the **only** expansion bolt ICC-ES approved for Seismic Design Categories (SDC) A through F, in compliance with the International Building Code.



- ✔ **ICC-ES (International Code Council) Evaluation Report**
- ✔ **COLA (City of Los Angeles) Approval**

- For HSS & structural steel sections
- Fast installation from one side only
- High resistance to tensile & shear loads
- High Clamping Force design
- Hot Dip Galvanized corrosion protection
- Buy 'off-the-shelf' from local distributors

More information...

This document contains extracts from evaluation report ESR-3330. To view the full report or download the Hollo-Bolt brochure please visit **www.LindapterUSA.com**

ICC-ES approved use

ICC-ES is North America's leading evaluation service for innovative building products, providing evidence that products meet the requirements of building codes and technical standards. Two extracts from ESR-3330 are below...

> *Hollo-Bolt fasteners are designed for connecting structural steel to hollow structural section (HSS) steel members and other structural steel elements where access is difficult or restricted to one side only.*

> *Hollo-Bolt Fasteners may be used to resist wind loads, and seismic loads in Seismic Design Categories A through F.*

Testing and Evaluation Process

Product testing was carried out by an independent ISO 17025 accredited testing laboratory. ICC-ES thoroughly examined independent test reports, calculations, quality control methods and other factors. After extensive analysis, ICC-ES has certified that Hollo-Bolt is the only expansion bolt with the following:

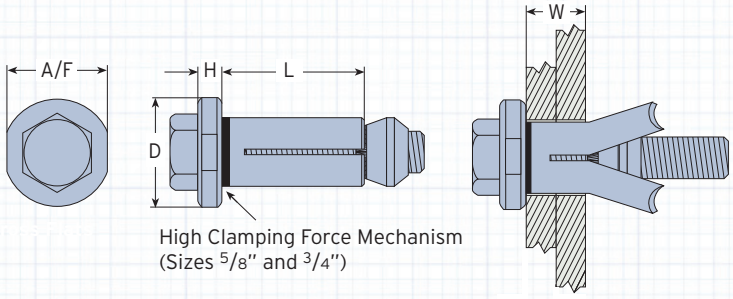
- *Highest resistance to tensile loading in accordance with Acceptance Criteria (AC437).*
- *Compliance with 2012 and 2009 International Building Codes.*
- *Compliance with 2013 Abu Dhabi International Building Code.*
- *Approved for use in Seismic Design Categories A, B, C, D, E and F.*

Reasons to use Hollo-Bolt

1. Time saving installation
2. Lower labor costs
3. Easy to install from one side
4. For HSS and other hollow sections
5. No welding or hot working needed

Hollo-Bolt Allowable Loading

LRFD and ASD Methods



High Clamping Force Mechanism
(Sizes 5/8" and 3/4")

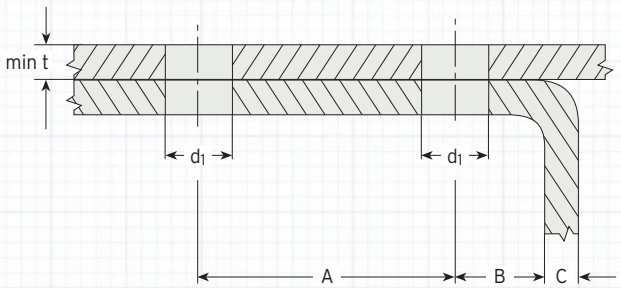
Sizes 5/8" & 3/4", known as the Hollo-Bolt HCF, feature a patented High Clamping Force mechanism to produce up to three times more clamping force than the same sized product without the mechanism. The significance of clamping force and the superior performance of Lindapter's unique Hollo-Bolt HCF is illustrated on page 7 of the Hollo-Bolt brochure, which can be downloaded at **www.hollo-bolt.com**

	Product Code	Bolt	Max Clamping Range W	Sleeve Length L	Collar Height H	Collar ø D	Collar A/F	Tightening Torque ft lb	ALLOWABLE LOADING: Static and SDC* A, B, C — LRFD Method Tensile lbs	LRFD Method Shear lbs	ASD Method Tensile lbs	ASD Method Shear lbs	SDC* D, E, F — LRFD Method Tensile lbs	LRFD Method Shear lbs	ASD Method Tensile lbs	ASD Method Shear lbs
	LHBM08#1	5/16" x 2"	1/8" - 7/8"	1 3/16"	3/16"	7/8"	3/4"	17	3775	3215	2340	2000	3305	2675	2045	1665
	LHBM08#2	5/16" x 2 3/4"	7/8" - 1 5/8"	1 15/16"	3/16"	7/8"	3/4"	17	3775	3215	2340	2000	3305	2675	2045	1665
	LHBM08#3	5/16" x 3 9/16"	1 5/8" - 2 3/8"	2 11/16"	3/16"	7/8"	3/4"	17	3775	3215	2340	2000	3305	2675	2045	1665
	LHBM10#1	3/8" x 2 3/16"	1/8" - 7/8"	1 3/16"	1/4"	1 1/8"	15/16"	33	6160	5485	3820	3415	5485	4565	3395	2830
	LHBM10#2	3/8" x 2 3/4"	7/8" - 1 5/8"	1 7/8"	1/4"	1 1/8"	15/16"	33	6160	5485	3820	3415	5485	4565	3395	2830
	LHBM10#3	3/8" x 3 9/16"	1 5/8" - 2 3/8"	2 5/8"	1/4"	1 1/8"	15/16"	33	6160	5485	3820	3415	5485	4565	3395	2830
	LHBM12#1	1/2" x 2 3/8"	1/8" - 1"	1 3/8"	1/4"	1 1/4"	1 3/16"	59	8545	7485	5305	4675	7465	6250	4630	3890
	LHBM12#2	1/2" x 3 5/32"	1" - 1 13/16"	2 1/4"	1/4"	1 1/4"	1 3/16"	59	8545	7485	5305	4675	7465	6250	4630	3890
	LHBM12#3	1/2" x 4"	1 13/16" - 2 3/4"	3 1/8"	1/4"	1 1/4"	1 3/16"	59	8545	7485	5305	4675	7465	6250	4630	3890
High Clamping Force (HCF)	LHBM16#1	5/8" x 3"	1/2" - 1 1/8"	1 5/8"	5/16"	1 1/2"	1 3/8"	140	13915	11645	8635	7285	13330	9780	8270	6090
High Clamping Force (HCF)	LHBM16#2	5/8" x 4"	1 1/8" - 2"	2 1/2"	5/16"	1 1/2"	1 3/8"	140	13915	11645	8635	7285	13330	9780	8270	6090
High Clamping Force (HCF)	LHBM16#3	5/8" x 4 3/4"	2" - 2 3/16"	3 5/16"	5/16"	1 1/2"	1 3/8"	140	13915	11645	8635	7285	13330	9780	8270	6090
High Clamping Force (HCF)	LHBM20#1	3/4" x 3 9/16"	1/2" - 1 5/16"	1 15/16"	3/8"	2"	1 3/16"	221	19985	18390	12410	11490	19355	15330	12005	9555
High Clamping Force (HCF)	LHBM20#2	3/4" x 4 3/4"	1 5/16" - 2 3/8"	3"	3/8"	2"	1 3/16"	221	19985	18390	12410	11490	19355	15330	12005	9555
High Clamping Force (HCF)	LHBM20#3	3/4" x 5 7/8"	2 3/8" - 3 3/8"	4"	3/8"	2"	1 3/16"	221	19985	18390	12410	11490	19355	15330	12005	9555

*Seismic Design Categories

Drilling and Preparation

Ensure that holes are drilled in both the fixture and section according to the drilling guidelines below. Please note that clearance holes are slightly larger than standard bolt clearance holes to accommodate the sleeve and cone.



Size	Outer Ply min t	Clearance Hole ø d_1	Hole Distances min A	Hole Distances min B	Edge Distances B + C
5/16"	-	9/16"	1 3/8"	1/2"	11/16"
3/8"	-	3/4"	1 9/16"	9/16"	7/8"
1/2"	-	13/16"	1"	3/4"	1"
5/8"	5/16"	1 1/16"	2 3/16"	13/16"	1 5/16"
3/4"	5/16"	1 5/16"	2 3/4"	1"	1 5/16"

- Clearance holes can be drilled with a -0 / + 1/16" tolerance
- Sizes 5/8" and 3/4", require the thickness of the outer ply (min t) to be at least 5/16". If necessary, spacer washers should be used beneath the collar to increase the thickness to 5/16".

Industry Leading International Approvals

LARR The Los Angeles Research Report provides independent evidence that the Hollo-Bolt product complies with the 2014 City of Los Angeles (COLA) Building Code.

CE Marking provides additional security for Engineers, Architects and Specifiers by demonstrating that product performance is tested and confirmed by a third party to meet a standard renowned on a European scale.

DIBt - Deutsches Institut für Bautechnik is a respected organization that approves construction products for use in Structural and Civil Engineering industries.

TÜV are a certifying authority for safety, quality and environmental protection. Hollo-Bolts are produced under strict quality and environment management systems to ensure consistently high manufacturing standards across the range.

Project Example

Wilshire Grand Center Los Angeles, CA

After gaining the full seismic approval from ICC-ES and the LARR approval, Hollo-Bolts were specified for the $1.2 billion Wilshire Grand Center project in Los Angeles.

Contractors used more than 3,000 Hollo-Bolts for tubular splice connections throughout the curved atrium structure. The prestigious building design required a discreet connection without drilling or welding to ensure a neat architectural finish.

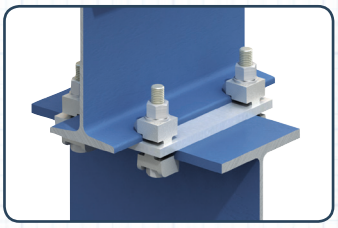
The Hollo-Bolts were installed quickly and required access to one side only, saving the contractors' time and money on the project.

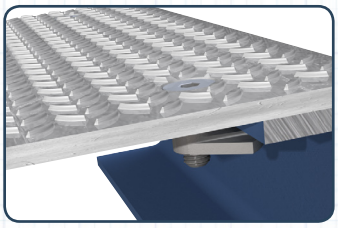
© Wilshire Grand Center

© Wilshire Grand Center

Other products by Lindapter

The range includes products for steel-to-steel, concrete decking, piping and steel floor connections.





Find your regional Lindapter representative at **www.LindapterUSA.com** or email **inquiries@LindapterUSA.com**