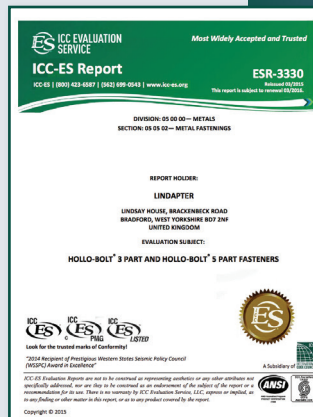




Full ICC-ES seismic approval (A to F)

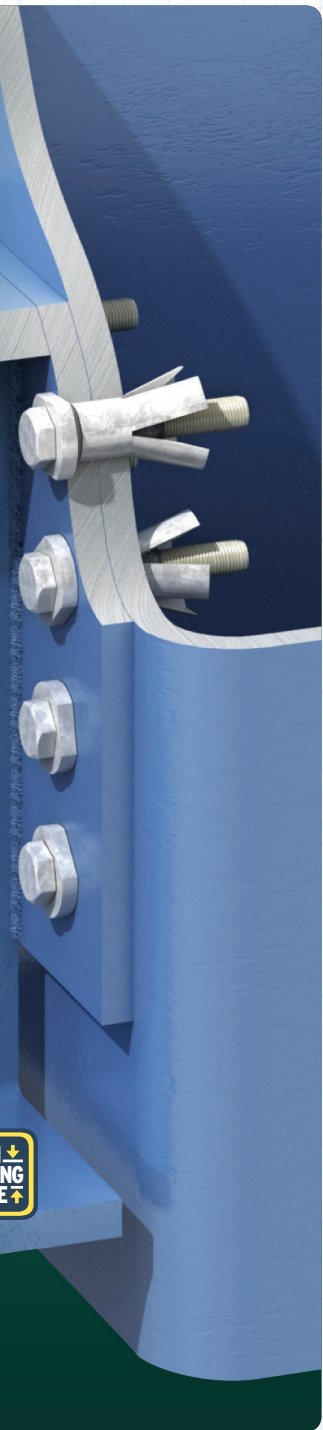
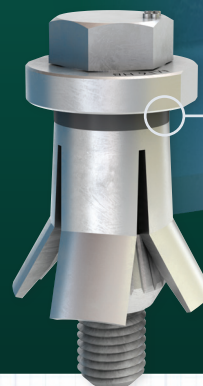
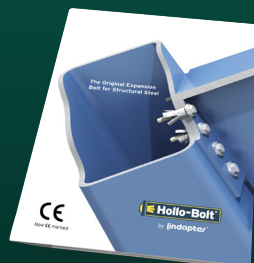
Hollo-Bolt is the **only** expansion bolt ICC-ES approved for Seismic Design Categories (SDC) A through F, in compliance with the 2012 International Building Code.

- ✓ Designed for HSS and other structural steel sections
- ✓ Fast installation from one side only
- ✓ Highest resistance to tensile loading in accordance with AC437
- ✓ Patented High Clamping Force design
- ✓ Hot Dip Galvanized corrosion protection
- ✓ All sizes approved (5/16" to 3/4")
- ✓ Standard product at standard pricing
- ✓ Available 'off-the-shelf' from your local distributor



More information

For further details please download the Hollo-Bolt brochure or the ICC-ES report (ESR-3330) from www.hollo-bolt.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.* ”

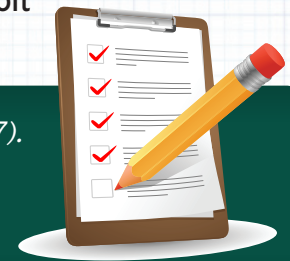
“ *Hollo-Bolt Fasteners may be used to resist wind loads, and seismic loads in Seismic Design Categories A through F.* ”



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



Time saving installation



Lower labor costs



Easy to install from one side



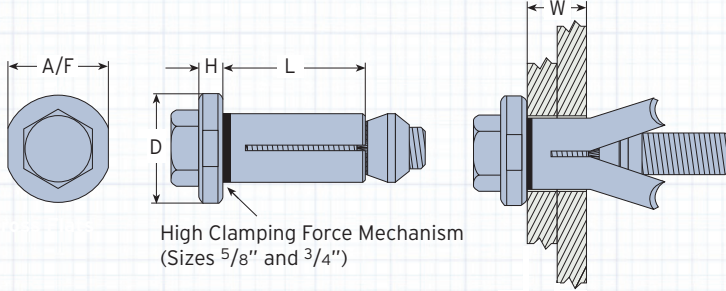
For HSS and other hollow sections



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



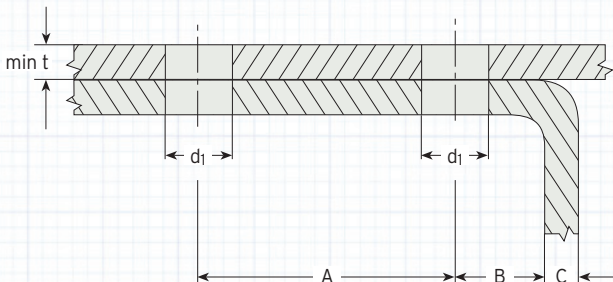
ALLOWABLE LOADING

Product Code	Bolt	Max Clamping Range W	Sleeve Length L	Collar			Tightening Torque ft lb	ALLOWABLE LOADING							
				Height H	Collar Ø D	A/F		Static and SDC* A, B, C				SDC* D, E, F			
								LRFD Method		ASD Method		LRFD Method		ASD Method	
Tensile lbs	Shear lbs	Tensile lbs	Shear lbs	Tensile lbs	Shear lbs	Tensile lbs	Shear lbs	Tensile lbs	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
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
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
LHBM16#3	5/8" x 4 3/4"	2" - 2 13/16"	3 5/16"	5/16"	1 1/2"	1 3/8"	140	13915	11645	8635	7285	13330	9780	8270	6090
LHBM20#1	3/4" x 3 9/16"	1/2" - 1 5/16"	1 15/16"	3/8"	2"	1 13/16"	221	19985	18390	12410	11490	19355	15330	12005	9555
LHBM20#2	3/4" x 4 3/4"	1 5/16" - 2 3/8"	3"	3/8"	2"	1 13/16"	221	19985	18390	12410	11490	19355	15330	12005	9555
LHBM20#3	3/4" x 5 7/8"	2 3/8" - 3 3/8"	4"	3/8"	2"	1 13/16"	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		Edge Distances B + C
			min A	min B	
5/16"	-	9/16"	1 3/8"	1/2"	1 1/16"
3/8"	-	3/4"	1 9/16"	9/16"	7/8"
1/2"	-	13/16"	2"	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



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

Kimmel Center Philadelphia, PA

Hollo-Bolts were specified to connect the arched trusses that form the 150ft high barrel-vault roof on the Kimmel Center for the Performing Arts in Philadelphia.

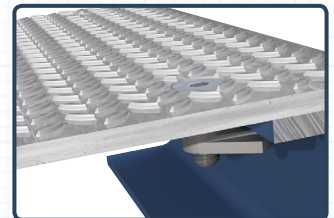
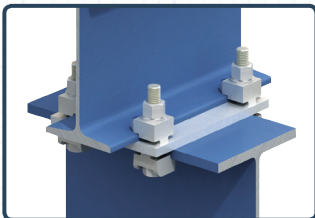
Over 35,000 size 3/8" were used to construct the arched trusses which in turn support the glass barrel vaulted roof, with a connection design that allowed a very rapid installation; splice joints were used inside the adjoining tube sections which were connected together using the Hollo-Bolts.

The extremely cost effective installation required no specialist equipment or labour and dramatically less work at height in comparison to traditional welding or through-bolting methods.



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