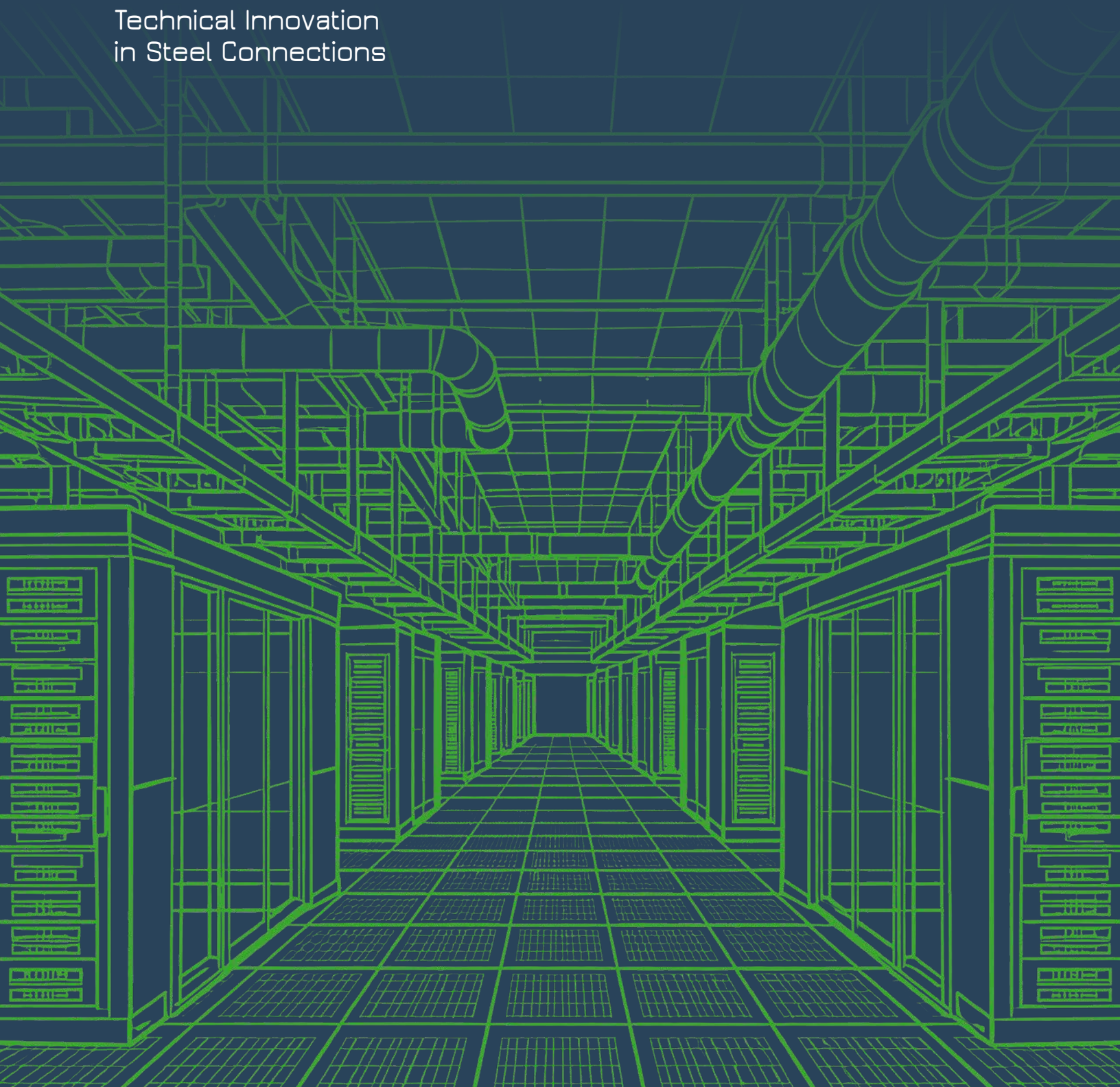
Data Centers

lindapter®

Technical Innovation
in Steel Connections



Welcome

lindapter®

Technical innovation in steel connections since 1934

Lindapter provides a unique range of approved solutions for overcoming challenging steel-to-steel connections. Our products are used extensively around the world and are the ideal solution for Data Center projects, with no field welding or drilling required.

Whether securing ceiling grids, multi-tier pipe supports, containment aisle modules, MEP services, steel or steel flooring in new build or refurbishment projects Lindapter has a proven, accredited and safe connection solution.

If you are a data center client, contractor or specifier then your projects and installations could benefit from Lindapter innovative steel clamping systems that provide a faster, safer and more cost-effective alternative to drilling or welding.

CONTENTS

KEY BENEFITS

No Welding
Say goodbye to the hazards and time-consuming process of welding. Lindapter allows for cold connections, eliminating the need for hot works, which increases safety and reduces onsite risk.

No Drilling or Bolting
Traditional methods of securing steel require intensive labor and time. With Lindapter, you can bypass the need for drilling or bolting, preserving the integrity of structures and saving hours of labor.

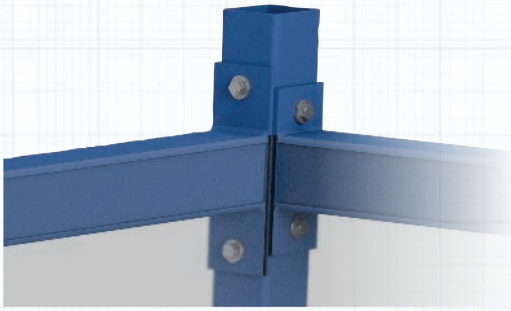
Speed Of Installation
Maximize productivity with quick and easy installation methods. Our solutions are designed to minimize project timelines, saving you valuable time and labor costs.

Easy, Adjustable Installation
No need for heavy machinery or specialized equipment. Lindapter connections are installed using simple hand tools, allowing for easy adjustments and more flexible project management.

Fire Tested
Many of Lindapters products are independently fire tested to provide additional compliance. The fire testing is carried out by BRE Global Ltd a UKAS accredited laboratory. The fire-resistance load ratings of each product can be found on our website or emailing support@Lindapter.com

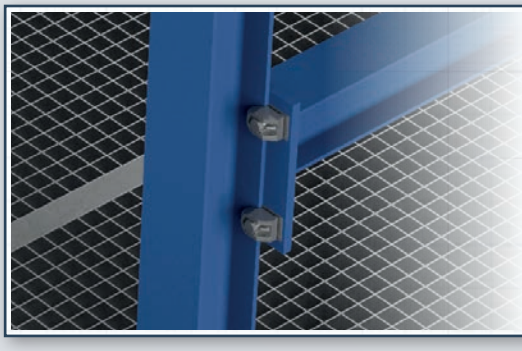
Approvals (see page 15)
For over 90 years Lindapter products have earned a respected reputation synonymous with safety and reliability due to its range of independent approvals. These approvals provide contractors with the evidence that the products are fit for purpose to help you prove compliance.

Product Range Overview



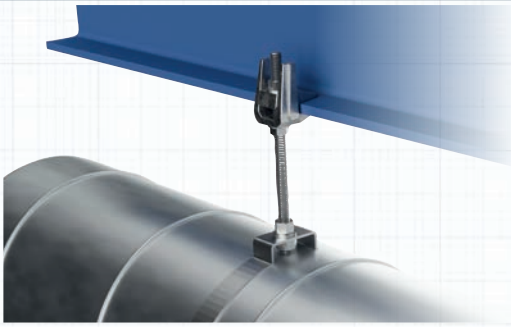
HOLLO-BOLT

Our expansion bolts require access to only one side of the Hollow Structural Section (HSS), and offer a faster alternative to welding or through-bolting, enabling contractors to reduce construction time and labor costs. Ideal applications include assembly of containment aisles and connecting modules together.



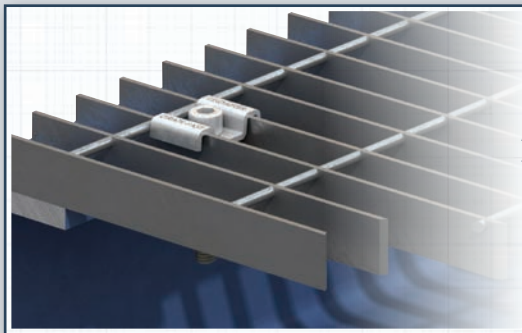
GIRDER CLAMPS

Steel sections are clamped together using girder clamp assemblies for a quick installation. This connection method is used extensively in data center applications including ceiling grids, multi-tier pipe supports, MEP services supports, steel racks, strut channel supports plus many others.



PIPE / CONDUIT SUPPORTS

Easy-to-install solutions for suspending building services from structural or secondary beams. The adjustability of these products allows the fast and precise alignment of items such as HVAC equipment, piping, fire protection and sprinkler systems.

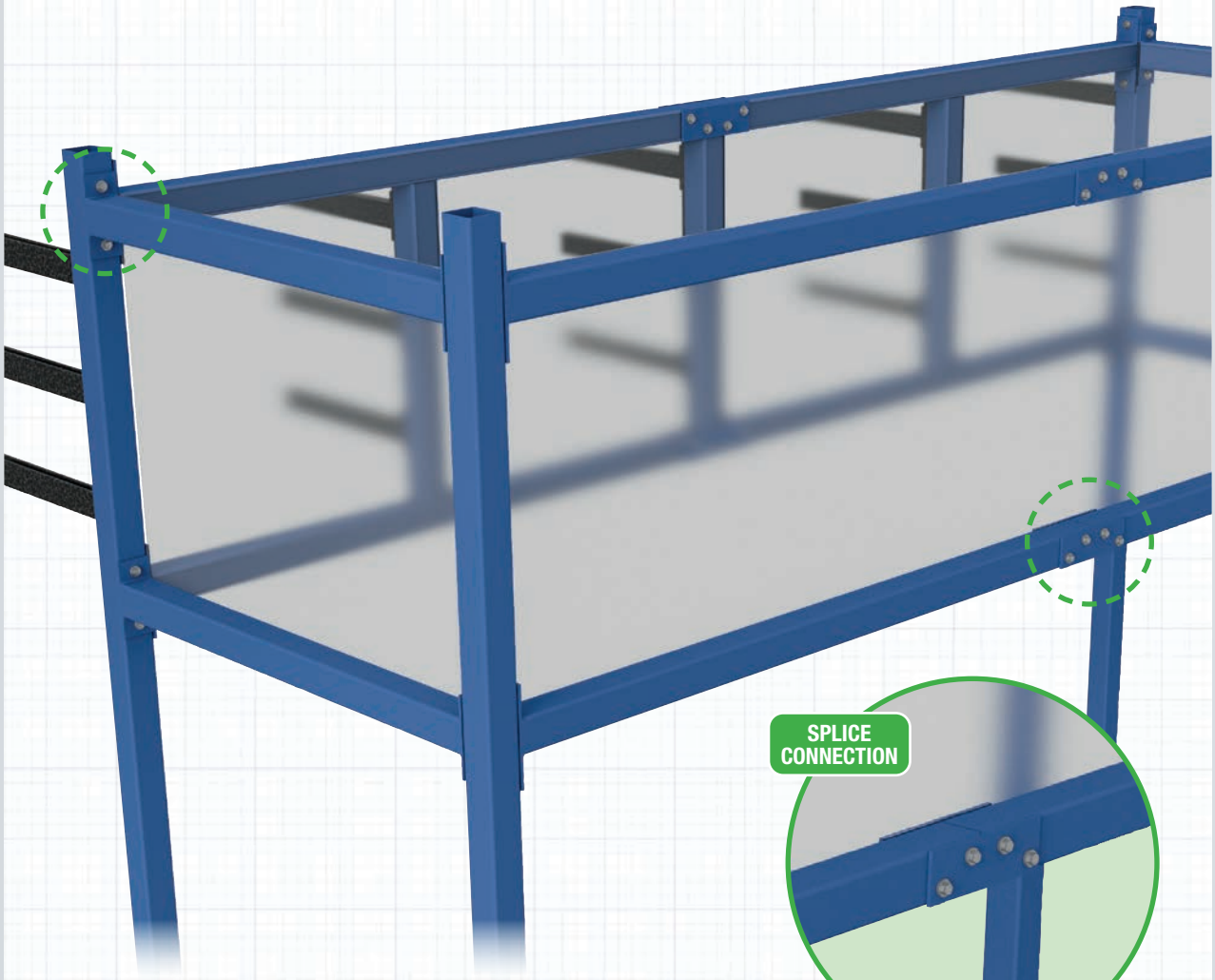


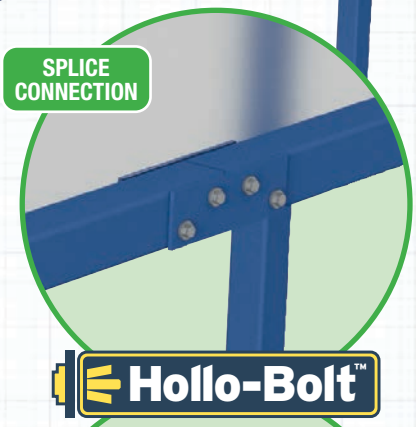
STEEL FLOOR CONNECTIONS

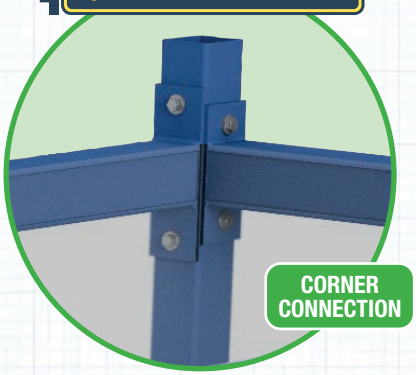
A range of innovative products for securing steel flooring to the supporting steel without the need for field drilling or welding. Access to the underside of the flooring is not required, eliminating the need for costly scaffolding or elevated floors.

Hollo-Bolt Solutions

TYPICAL APPLICATIONS







CONTAINMENT AISLE HSS FRAME SPLICE AND CORNER CONNECTIONS

Lindapter **Hollo-Bolts** are used to connect the hollow structural sections of containment aisle frames.

A simple splice connection is made and because the Hollo-Bolts only require access from one side less holes need to be drilled in the hollow structural sections.

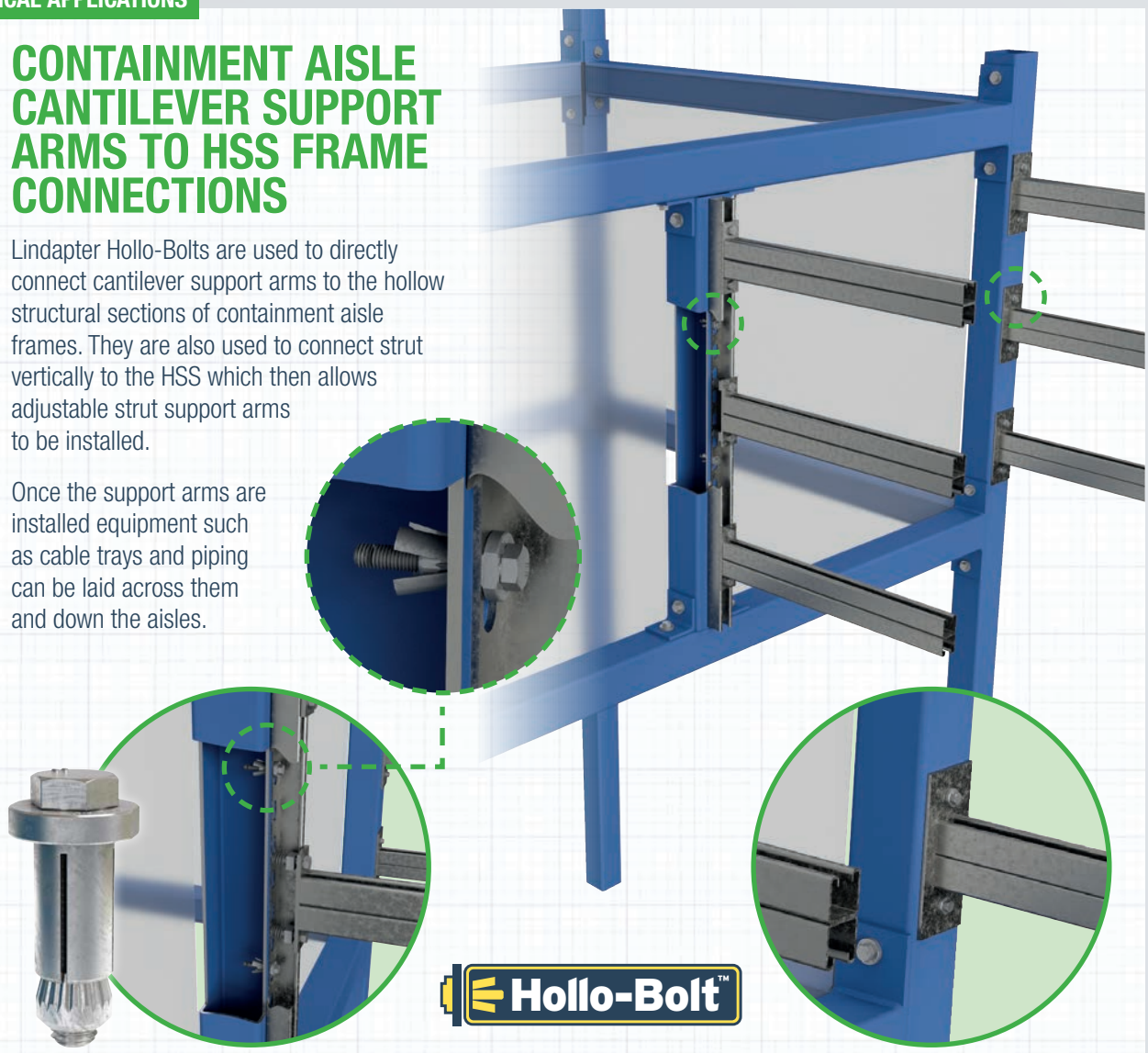
ICC ES ESR-3330 | CE | TÜVNORD | Fatigue Evaluated | Fire Tested

TYPICAL APPLICATIONS

CONTAINMENT AISLE CANTILEVER SUPPORT ARMS TO HSS FRAME CONNECTIONS

Lindapter Hollo-Bolts are used to directly connect cantilever support arms to the hollow structural sections of containment aisle frames. They are also used to connect strut vertically to the HSS which then allows adjustable strut support arms to be installed.

Once the support arms are installed equipment such as cable trays and piping can be laid across them and down the aisles.

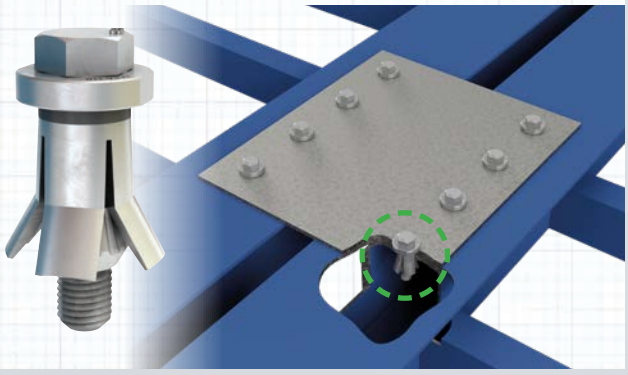


Hollo-Bolt™

CONNECTING CONTAINMENT AISLE MODULES TOGETHER

Once onsite, Lindapter **Hollo-Bolts** are used to connect the containment aisle modules together.

ICC ES ESR-3330 | CE | TÜVNORD | Fatigue Evaluated | Fire Tested

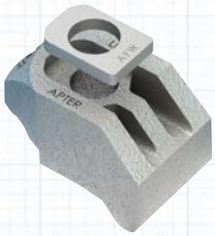


Girder Clamp Solutions

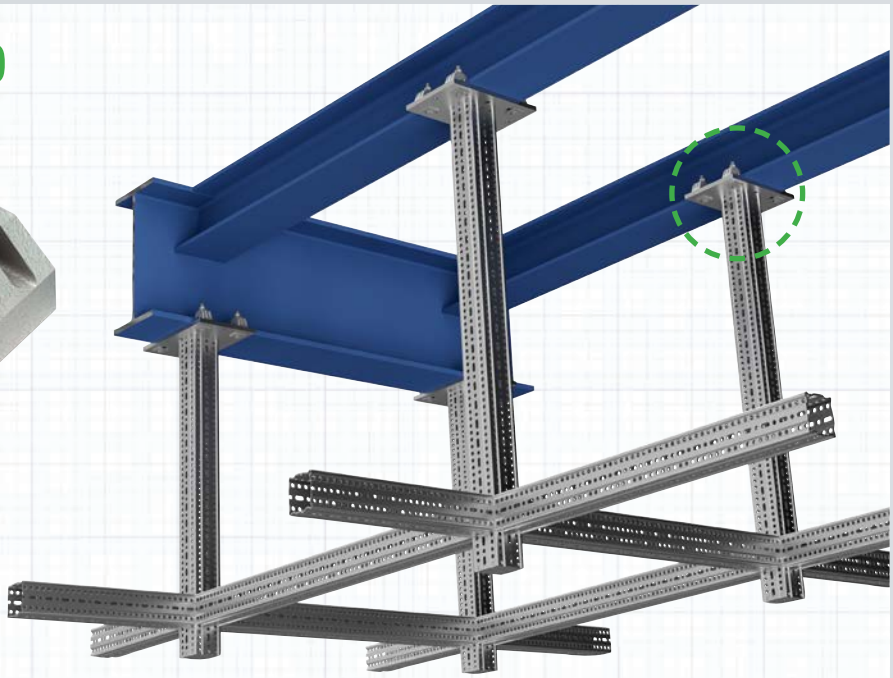
TYPICAL APPLICATIONS

CEILING GRID TO PRIMARY STEEL

Heavy duty **Type AF** girder clamps are used to connect ceiling grids to the primary steel.

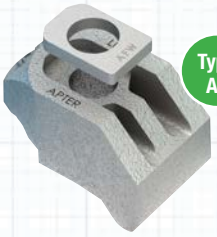


ICC ES ESR-3976 | CE | TÜVNORD | Fatigue Evaluated | Fire Tested



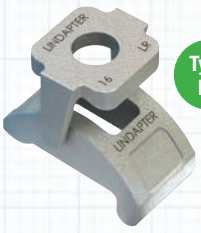
MULTI-TIER PIPE SUPPORTS

High slip resistance **Type AF** girder clamps and **Type LR** adjustable girder clamps are used to assemble pipe supports with high tensile and slip load capacities.



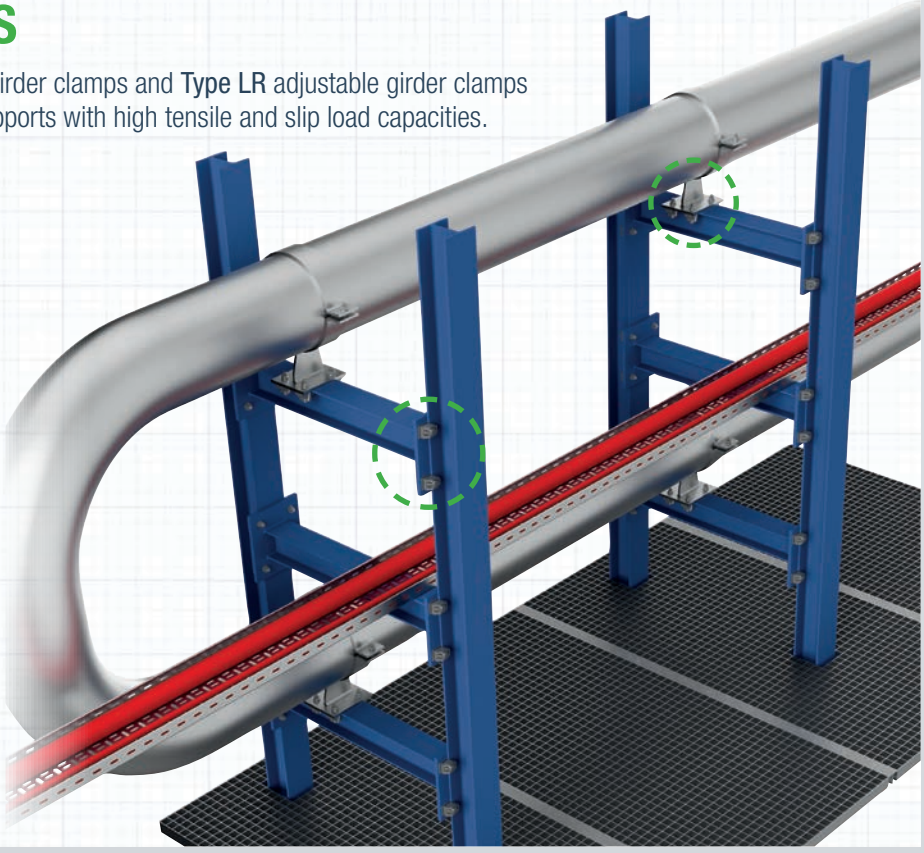
Type AF

ICC ES ESR-3976 | CE | TÜVNORD | Fatigue Evaluated | Fire Tested



Type LR

CE | Lloyd's Register | TÜVNORD

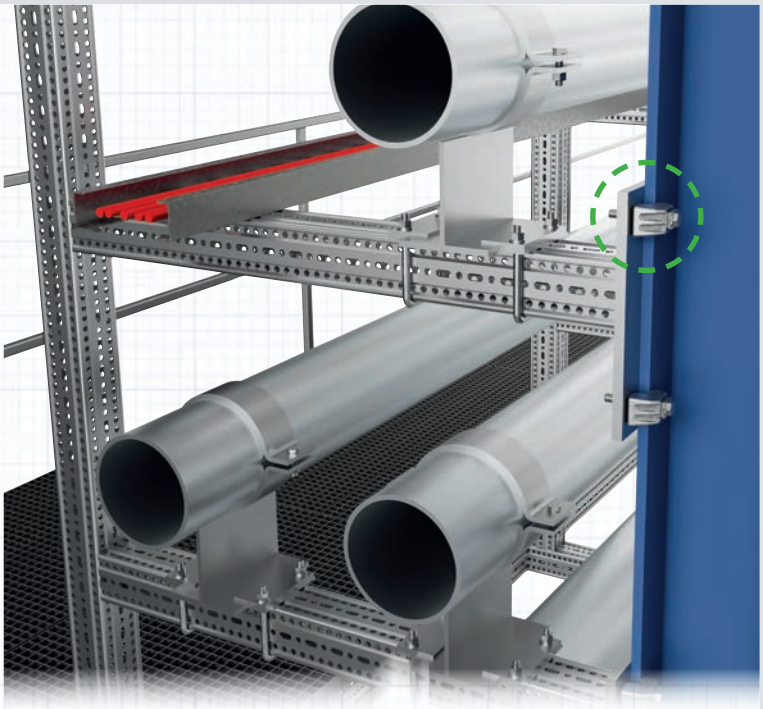


Girder Clamp Solutions

TYPICAL APPLICATIONS

HEAVY DUTY CHANNEL SYSTEM TO STEEL COLUMN

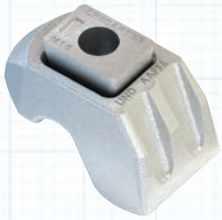
Type AAF high slip resistant girder clamps with location plates are used to connect heavy duty channel systems to the primary steel columns. The channel system is then used to support multiple types of MEP services including piping and electrical cable tray.



ICC ES ESR-3976 | CE | TÜVNORD | Fatigue Evaluated | Fire Tested

BACK-TO-BACK STRUT CHANNEL FRAMEWORK TO BEAM

Type AAF adjustable girder clamps with end plate creates a high strength connection between a back-to-back strut channel framework and primary steel beam. Containment aisle modules or MEP services can then be suspended from the strut channel framework.



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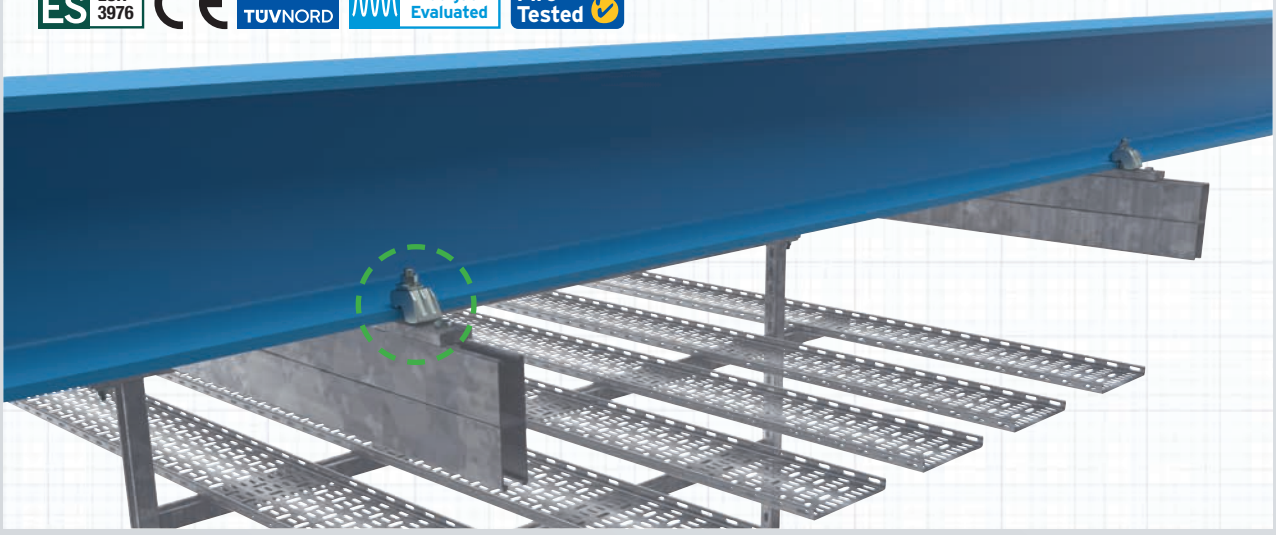
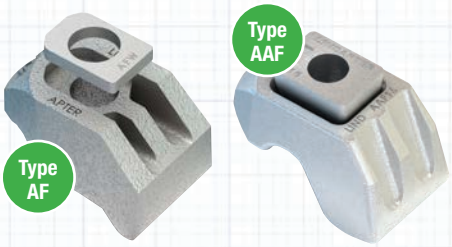


Girder Clamp Solutions

TYPICAL APPLICATIONS

STRUCTURAL STEEL RACKS

Type AAF and **Type AF** heavy duty girder clamps are used to connect the sections of structural steel racks or bays either offsite at the steel fabricator shop or in the field by contractors. Modular construction is becoming more popular as the demand for large scale data centers increases exponentially. Our girder clamps are quick and easy to install and remove the need to weld or drill the steel racks.



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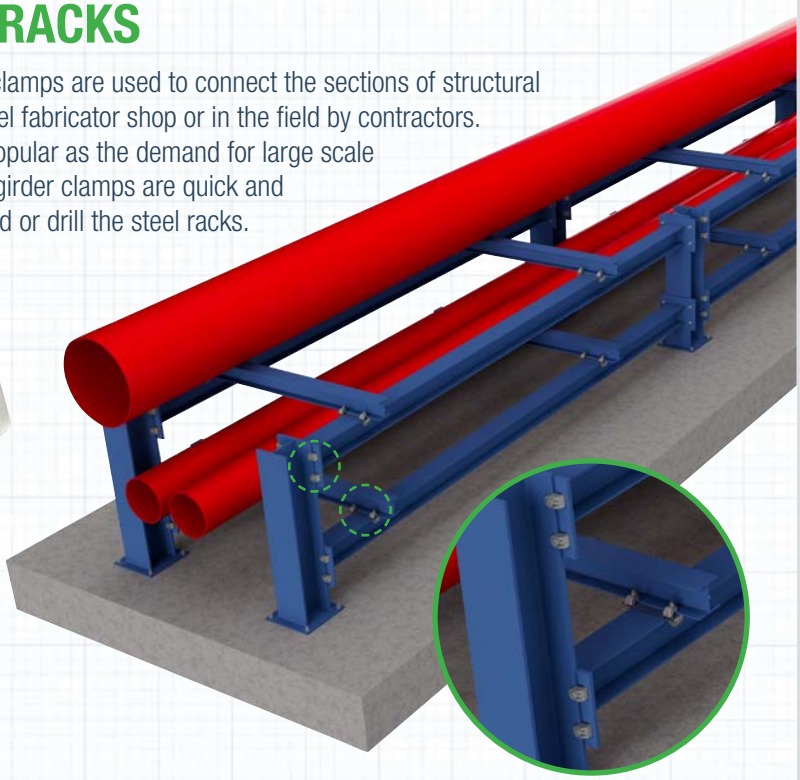
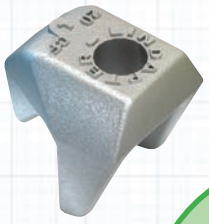
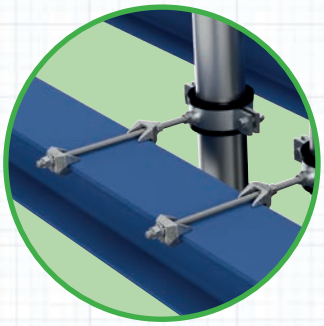


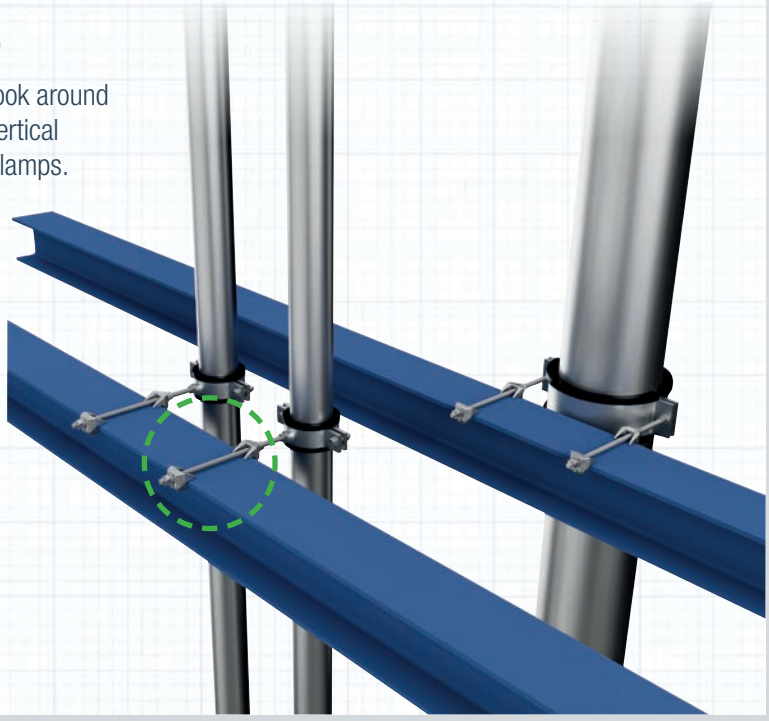
PIPE RISER SUPPORTS

Type CF high slip resistance girder clamps hook around the flange of horizontal beams and secures vertical piping with threaded rod and insulated pipe clamps.



CE | TÜVNORD





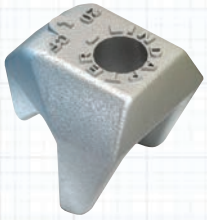
Girder Clamp Solutions

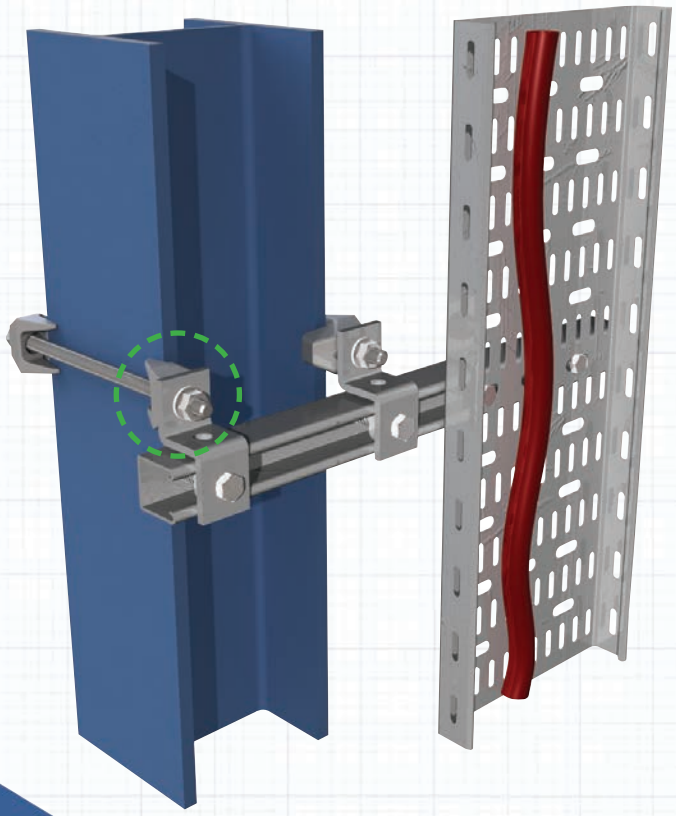
TYPICAL APPLICATIONS

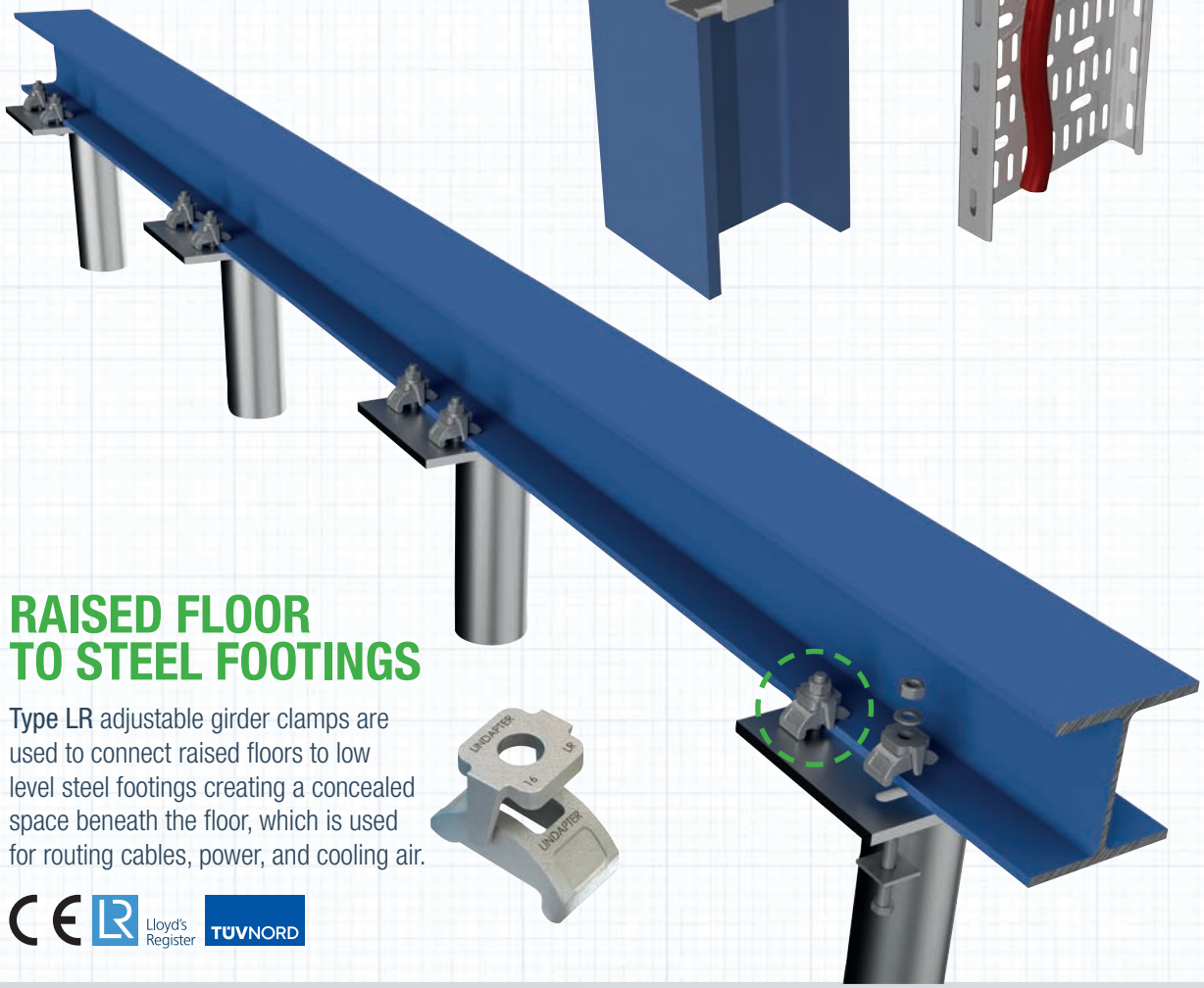
STRUT CHANNEL SUPPORT TO COLUMN

Type CF high slip resistance girder clamps and brackets are used to connect strut channel to the flanges of the primary steel column.

The support can be used to hold cable tray or other MEP services vertically.







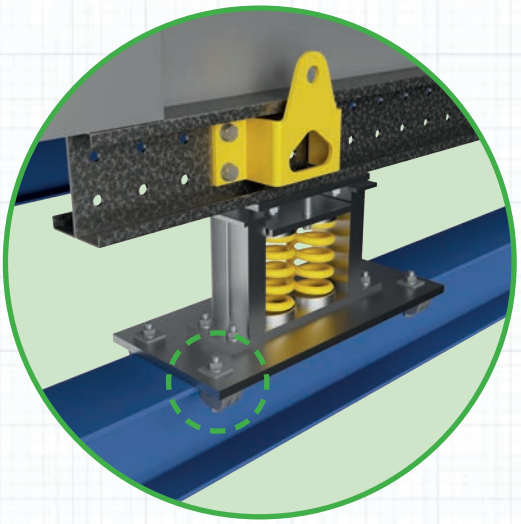
RAISED FLOOR TO STEEL FOOTINGS

Type LR adjustable girder clamps are used to connect raised floors to low level steel footings creating a concealed space beneath the floor, which is used for routing cables, power, and cooling air.

Girder Clamp Solutions

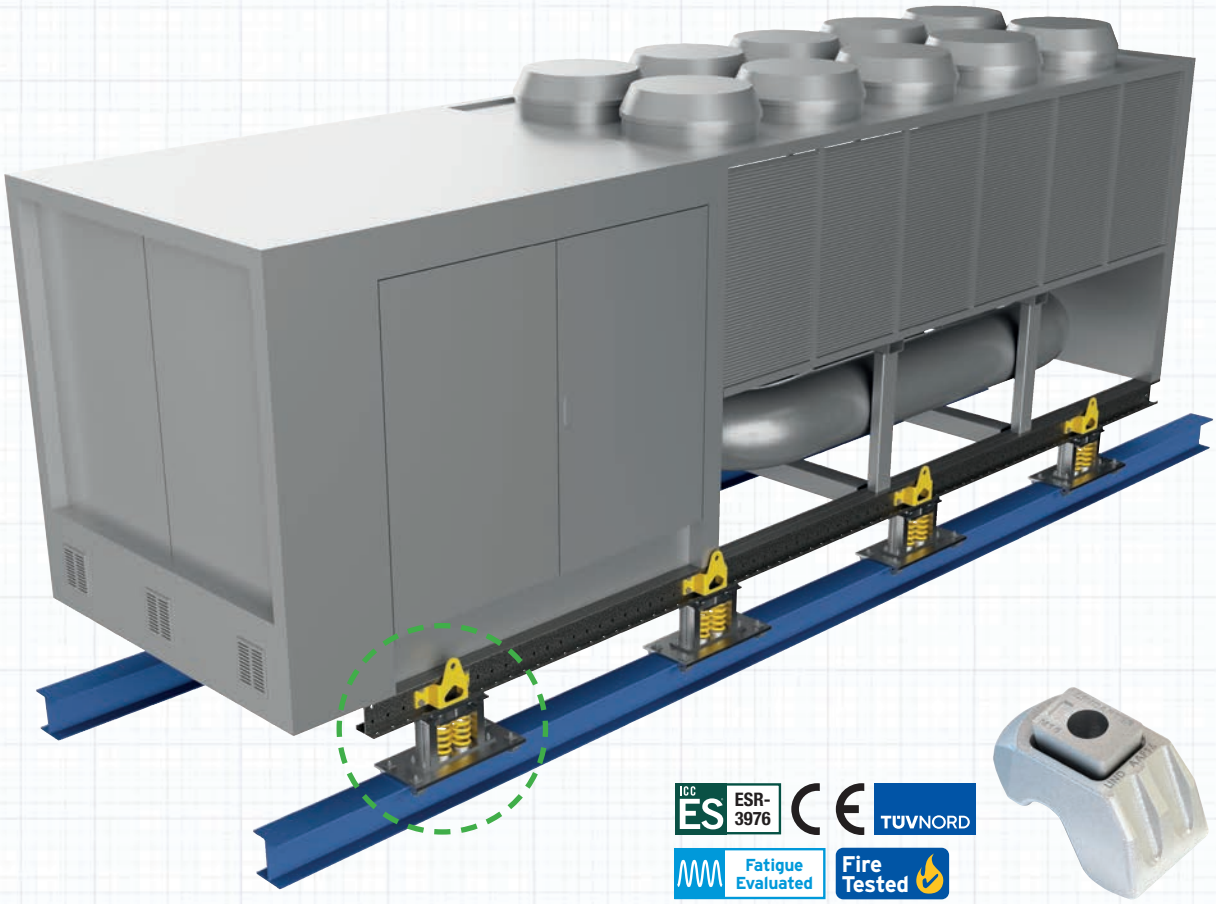
TYPICAL APPLICATIONS

CHILLER PLANT EQUIPMENT MOUNTING TO STEEL BASE FRAME



Type AAF high load capacity girder clamps with location plates are used to secure rooftop chiller units to the supporting steel base frame. This method provides a high strength connection, ensures accurate positioning, effective load transfer, and vibration resistance via the dampeners while eliminating the need for drilling or welding.

The clamping system also allows for adjustment during installation and facilitates future maintenance or equipment replacement without damage to the steel base frame.

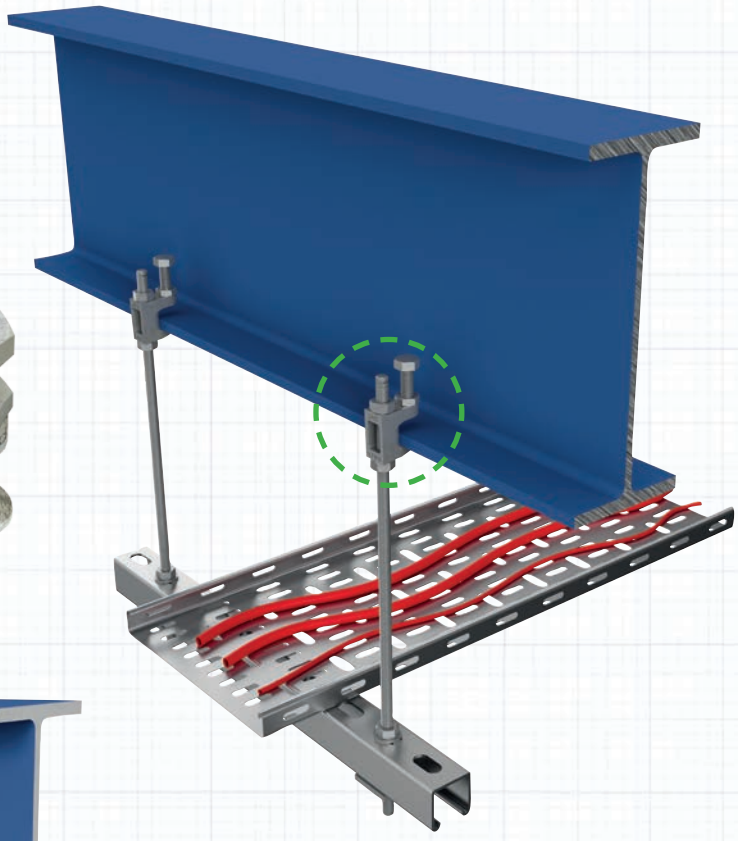


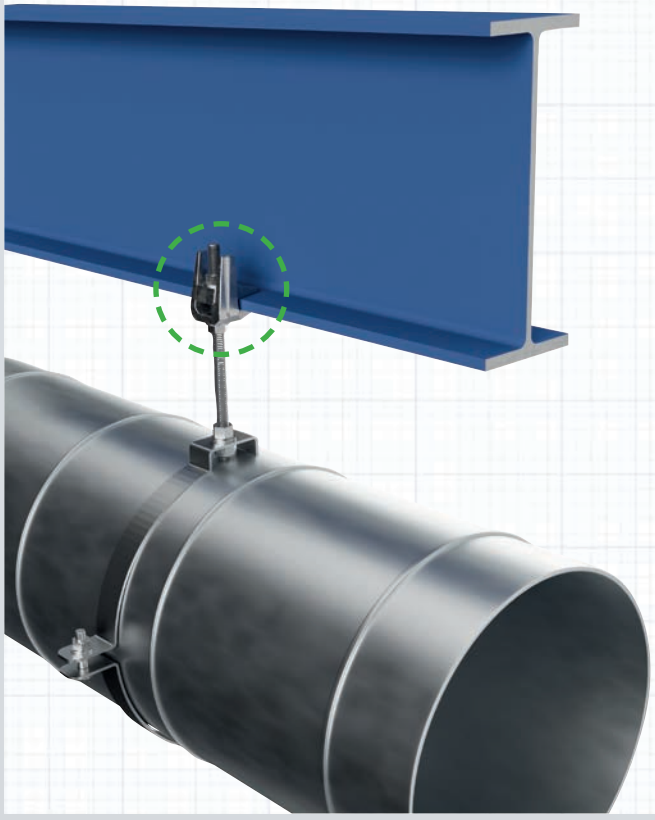
TYPICAL APPLICATIONS

PARALLEL OR TAPERED FLANGE BEAMS & STRUT TRAPEZE

Type FL beam flange clamp with threaded rod and strut trapeze are used to suspend cable tray, cable basket, pipes, HVAC systems or other MEP services from primary or secondary steel beams.

FM APPROVED | VdS | Fire Tested





BEAM FLANGE & DUCT SUSPENSION RING

FM APPROVED

Type F3 high strength beam flange clamp with threaded rod and duct suspension ring are used to suspend large spiral ducting for HVAC systems or other MEP services from primary or secondary steel beams.

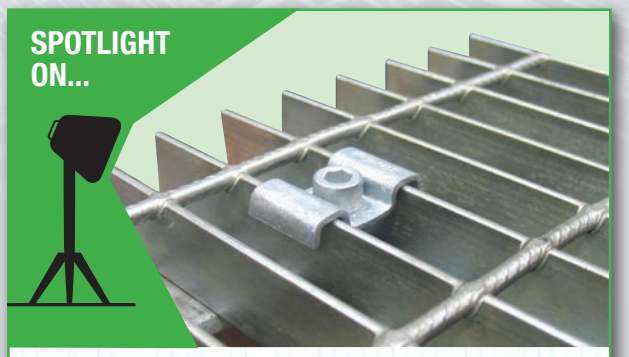
Steel Floor Connection Solutions

Lindapters range of innovative products for securing checker plate flooring and open bar grating to the supporting steel without the need for field drilling or welding.

Access to the underside of the flooring is not required, eliminating the need for costly scaffolding or elevated floors. Installation can be carried out quickly and safely from above, often by one person, significantly reducing costs.

- ✔ **Installation required from topside only**
- ✔ **Safe and quick installation**
- ✔ **No drilling or welding**
- ✔ **High corrosion resistance**
- ✔ **High quality and high strength**

SPOTLIGHT ON...



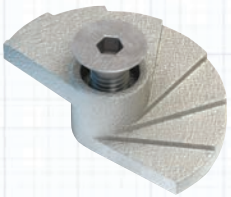
Topside Installation

Lindapter steel floor connections are all designed to only require installation from the topside. This is a significant benefit in terms of speed and cost for data center projects as scaffolding or other access equipment is not required.

Steel Floor Connection Solutions

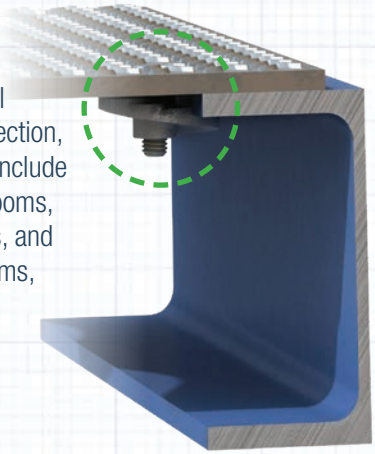
PRODUCT RANGE

FLOORFAST®



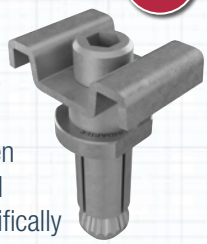
Lindapter FloorFast can be used in data center construction or refurbishment projects to quickly secure checker plate flooring to supporting steel and can be carried out quickly and safely from above, often by one person, significantly reducing costs.

The stepped clamping face locks under the steel to provide a secure connection, data center applications include walkways around plant rooms, UPS areas, battery rooms, and rooftop mechanical systems, raised floor areas, stairs and mezzanine floors.

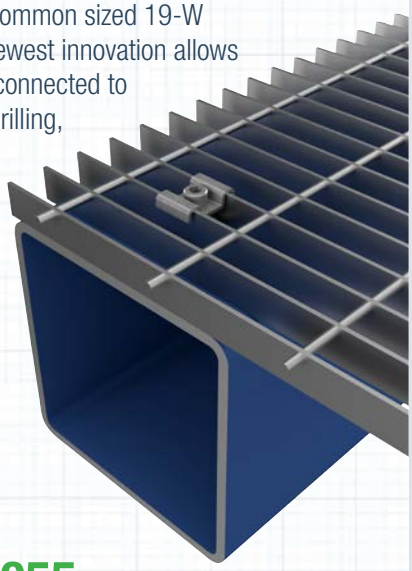


HOLLO-GRATE-FAST

NEW

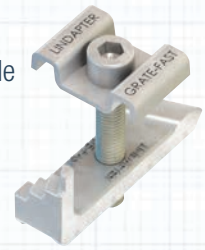


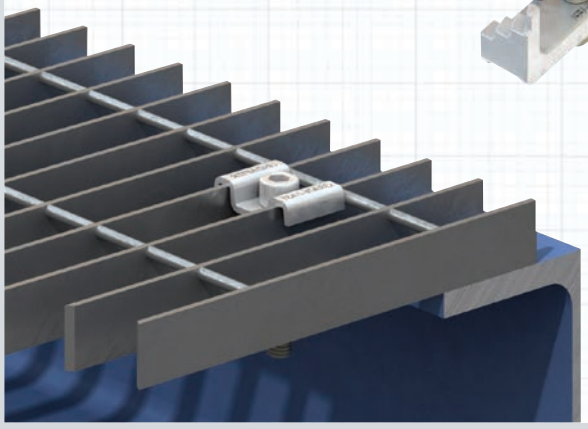
Leveraging the high strength of the legendary Hollo-Bolt with the ease and convenience of the Grate-Fast, the Hollo-Grate-Fast quickly secures open bar grating to Hollow Structural Section (HSS). Developed specifically for the most common sized 19-W grating, our newest innovation allows grating to be connected to HSS without drilling, welding or powder actuated fastening in the field.



GRATE-FAST®

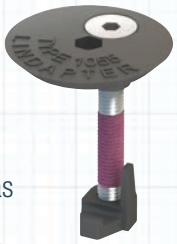
A high strength floor connection for rectangular open bar grating, providing superior clamping force due to a malleable iron cast body. Lloyd's Register approved for resistance to shock and vibration.





TYPE 1055

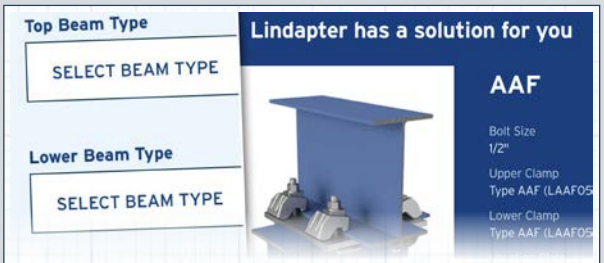
This unique solution enables solid steel plate flooring to be installed over the top of existing open-mesh or open-grid flooring using simple hand tools. Retrofitting pedestrian walkways in this way is also a fire safety solution, in case of a fire the solid steel plate flooring acts as a barrier to flames.



Technical Support & Service

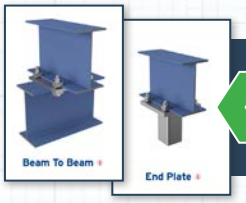
WE ARE HERE TO HELP

Lindapter offers an extensive range of technical support and services to help you achieve the optimum solution for your next project or application. Our philosophy is to deliver the highest level of service from initial design through to installation guidance.



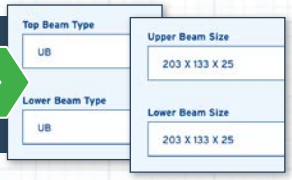
ONLINE GIRDER CLAMP CONFIGURATOR

Lindapter's new online design tool for engineers and specifiers produces fully detailed connection drawings within seconds. Find your next solution at www.Lindapter.com

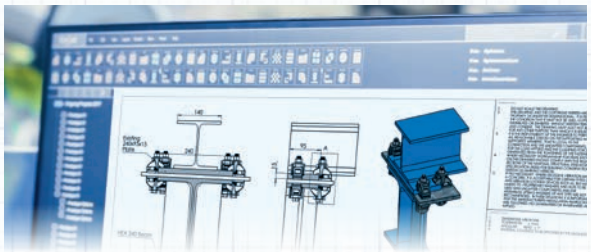


STEP 1
Select your connection requirement

STEP 2
Input your connection details

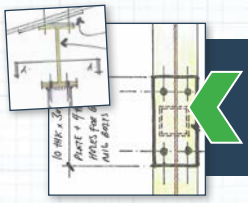


STEP 3
Choose your Lindapter solution



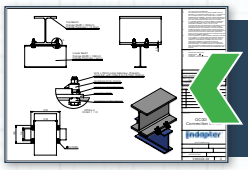
FREE CONNECTION DETAILING

Lindapter can design a custom connection based on your specific requirements free of charge. Our Technical Support Engineers will supply customized CAD drawings and BIM compatible files to complement your designs.



STEP 1
Email your requirement to support@Lindapter.com

STEP 2
Lindapter's Engineers will design your custom solution



STEP 3
An Engineer will send you a connection drawing

ICC-ES APPROVED CONNECTIONS

When designing a girder clamp connection as per AISC 360, AISC 341 and ASCE / SEI 7 as referenced by the locally adopted building code and to comply with ICC-ES refer to Evaluation Report ESR-3976 and the Special Inspection Document that are available to download from www.Lindapter.com. For applications with unusual loadings or where fatigue conditions are present contact Lindapter technical support.

Accreditation & Approvals

INDEPENDENT PRODUCT APPROVALS

ICC-ES
North America's leading evaluation service has approved multiple Lindapter products to be compliant with the International Building Code.

CE Mark
Provides additional assurance that a product complies with the EU Construction Product Regulation and will perform as stated in the corresponding Declaration of Performance (DoP). DoPs list Characteristic Resistances for use when designing connections to Eurocode 3.

UKCA
Demonstrates compliance with the Construction Products Regulation in Great Britain. Independently verified product specification data, including Characteristic Resistances for designing connections to Eurocode 3 are published in Declaration of Conformity (DoC) documents.

Fire Testing
As part of our continued commitment and investment in product development, many Lindapter products have been independently fire tested.

Factory Mutual
This American insurance organization offers an approval that is recognized by the fire protection industry worldwide.

VdS Schadenverhütung GmbH
VdS is a leading independent testing institution in Germany for products used in fire protection applications.

Fatigue Resistance Approval
Lindapter has gained independent approval for Types A, B, AF and AAF when used in fatigue applications.

Lloyd's Register Type Approval
Products subjected to tensile, frictional, vibration and shock tests, witnessed and verified by Lloyd's Register.

TÜV Nord
TÜV is the certifying authority for safety, quality and environmental protection in Germany.

QUALITY, ENVIRONMENT & TRACEABILITY

Accredited to **ISO 9001** since 1986, Lindapter strictly enforces a quality management system that includes rigorous product testing to ensure consistently high manufacturing standards.
As part of Lindapter's ISO 9001 quality management system and in compliance with the Construction Products Regulation, Lindapter operates a comprehensive Factory Production Control system that ensures traceability of all Lindapter products throughout the manufacturing process.

The company also operates an **ISO 14001** certified environmental management system, constantly monitoring and improving aspects of the business that may impact on the environment, such as the use of natural resources as well as handling and treatment of waste and energy consumption.

lindapter®

Ask Lindapter to design a solution to your connection requirements:

Tel: 866 566-2658 (BOLT)
General Inquiries: inquiries@Lindapter.com
Technical Inquiries: support@Lindapter.com

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