



STEEL

CASTINGS



CDP | Montreal, Canada



Contemporary Castings

- Used for special connections
- Used for standard connections
- Can be one-of large pieces formed with expendable molds (i.e. Structural)
- Can be smaller die cast pieces made in great quantity (i.e. glazing attachments)
- Can be solid or hollow depending on size and purpose
- Generally either **NODES** or **END CONNECTORS**

Use Steel Castings for

- Architecturally exposed structural steel particularly for HSS or timber connections
- Complex connections complex geometry; arduous loading; for increased connection stiffness
- Fatigue critical connections
- Functional applications to satisfy a need for special performance



Nodes



Young + Wright

University of Guelph | Canada

Casting and steel by Walters Inc.

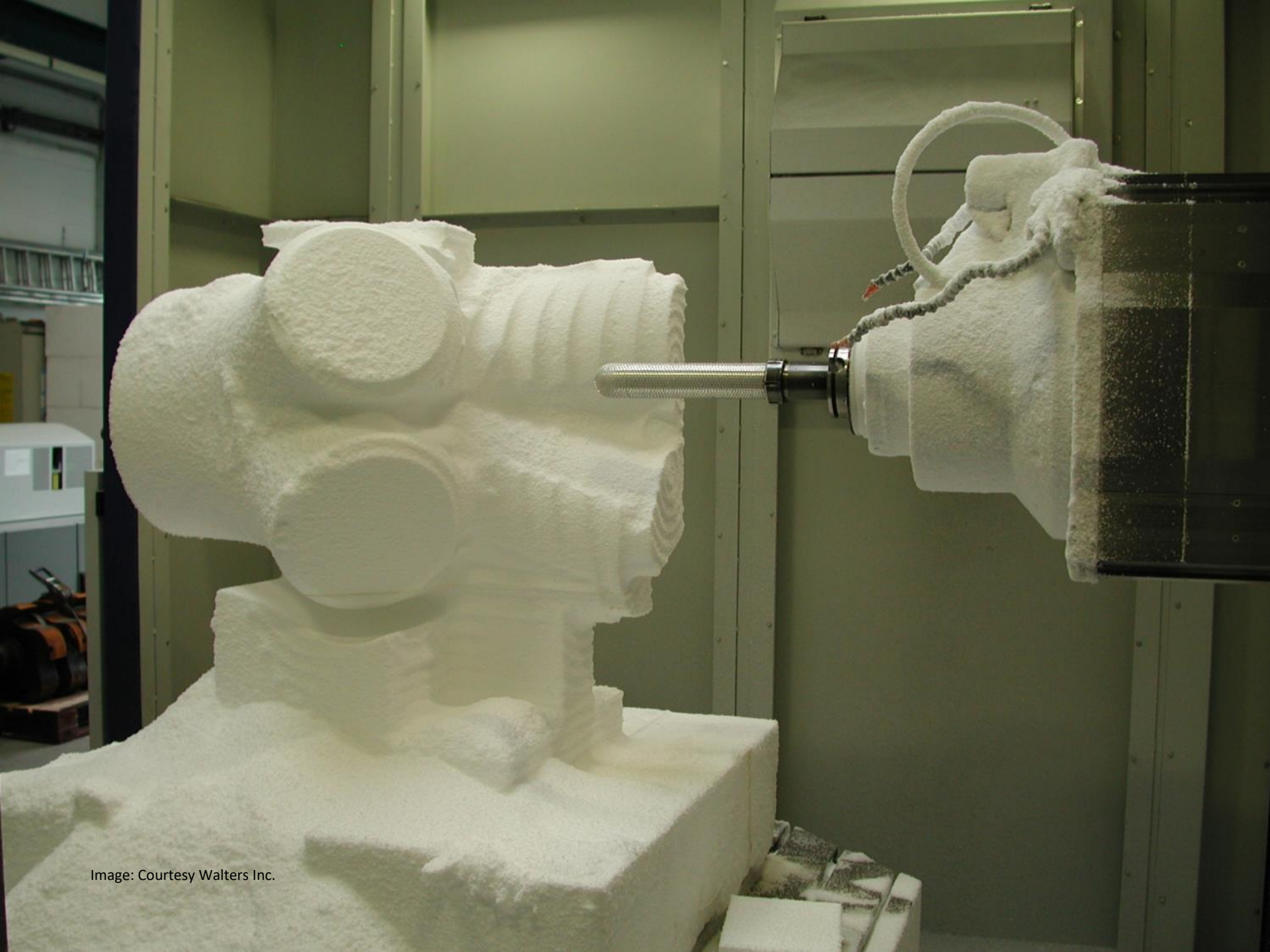
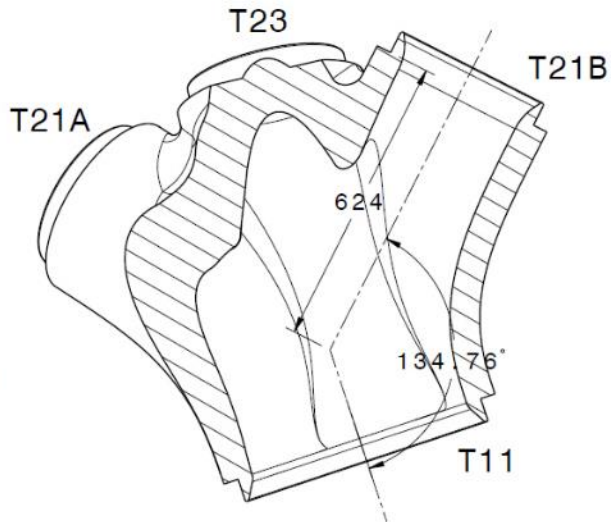
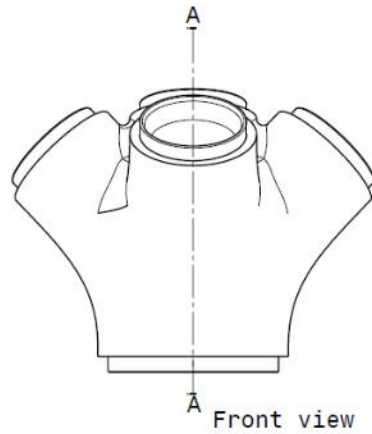
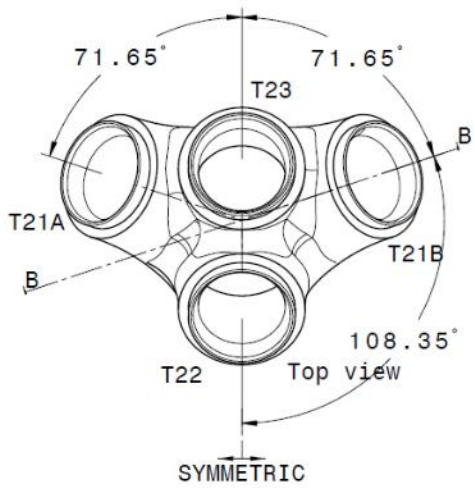
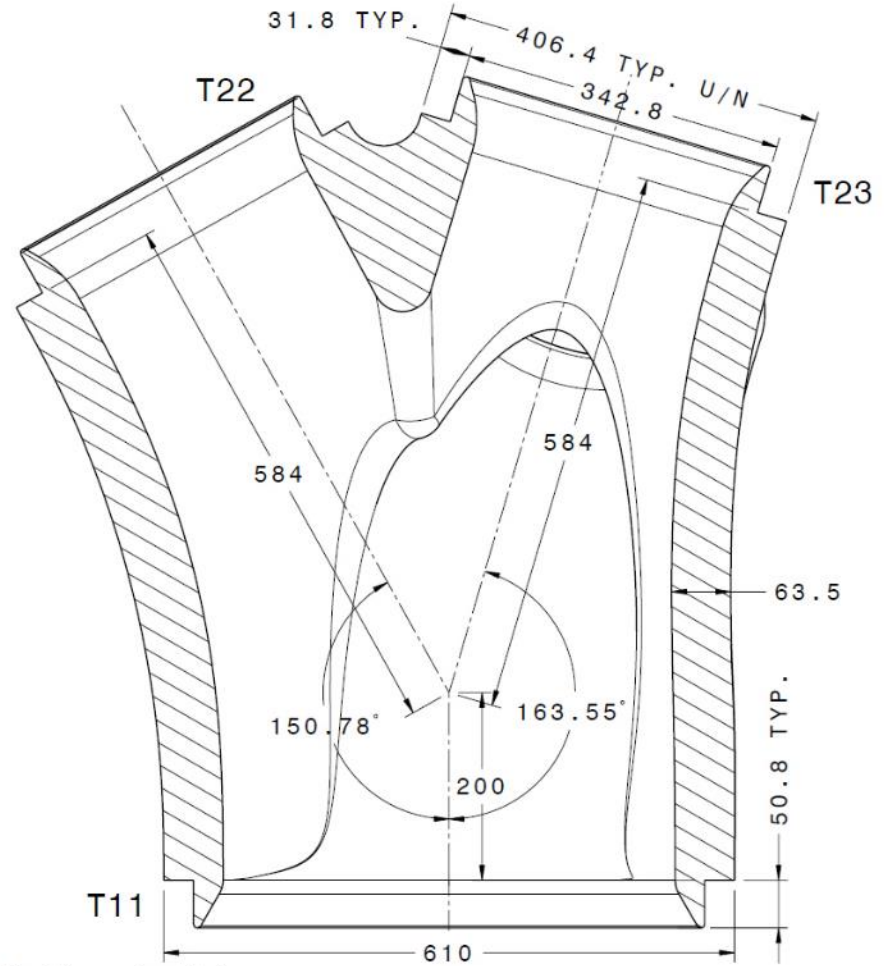


Image: Courtesy Walters Inc.



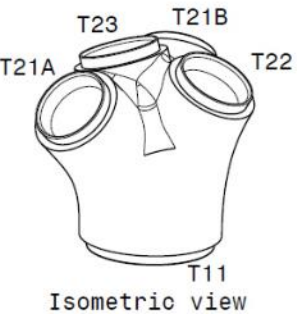
Section view B-B
Scale: 1:10



Section view A-A
Scale: 1:5

Dimensions are
in millimeters

Image: Courtesy Walters Inc.



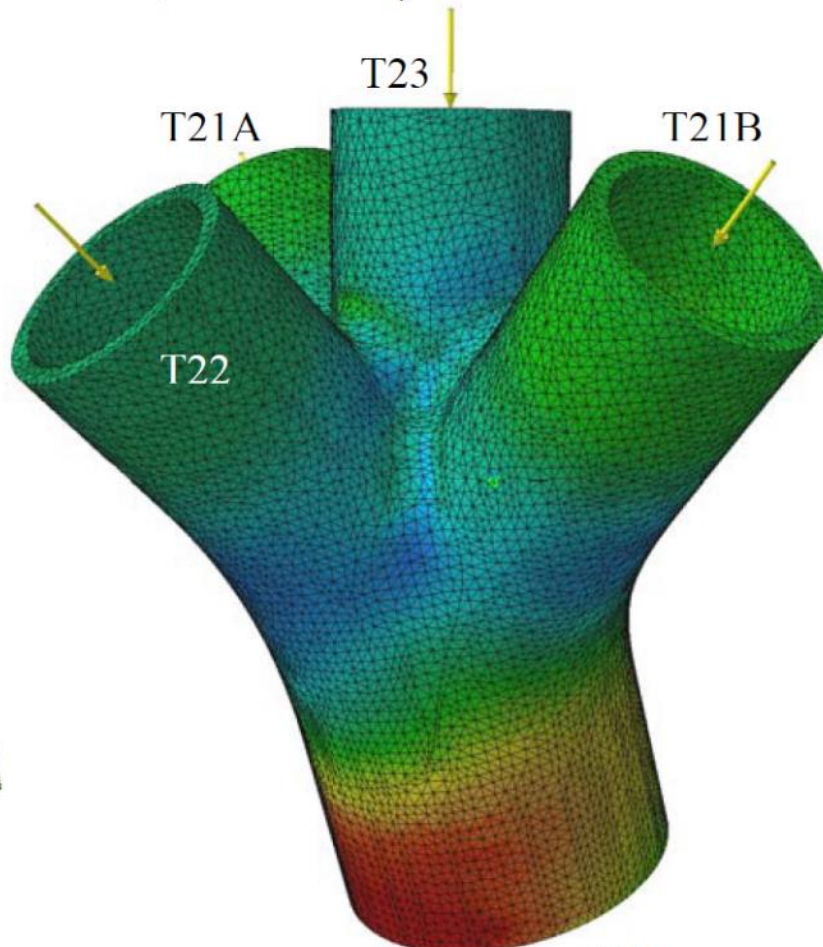
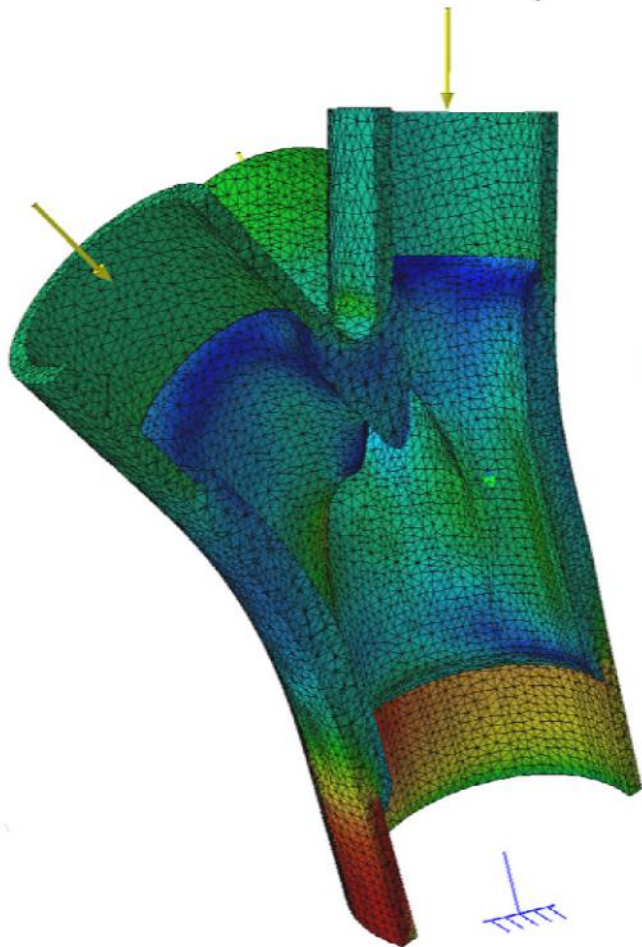


Image: Courtesy Walters Inc.

T11

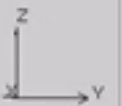
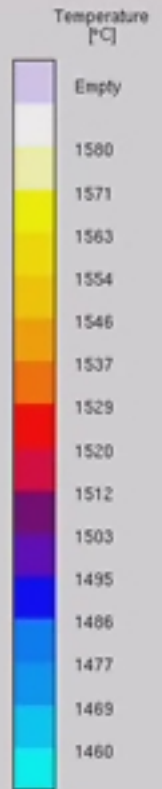
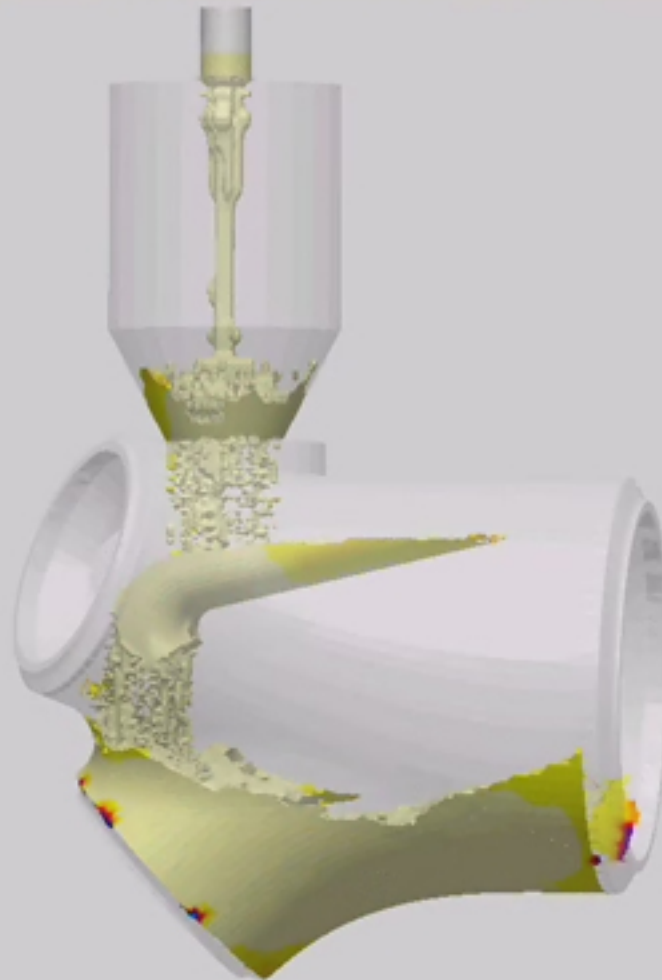


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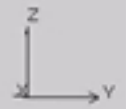
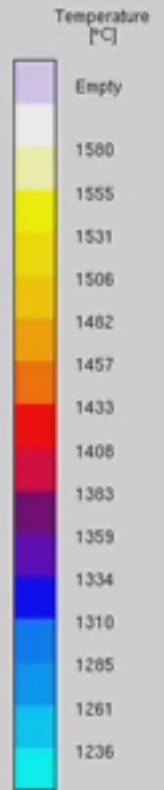
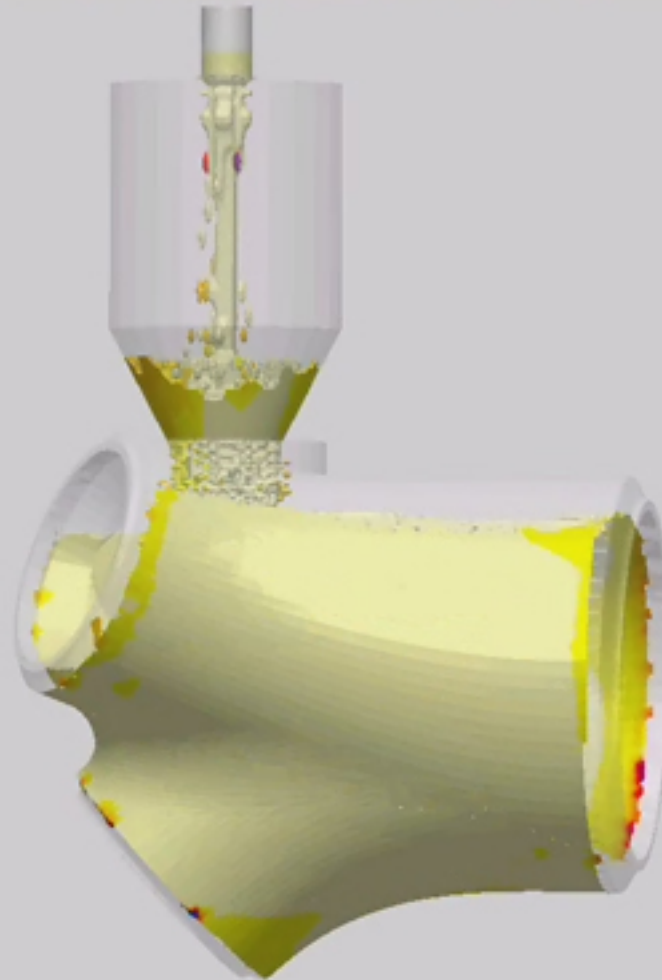


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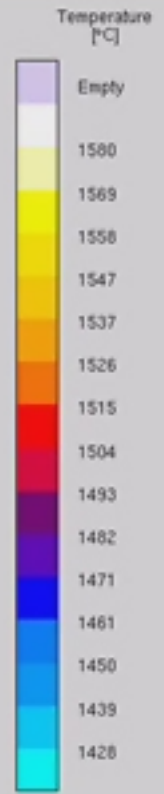
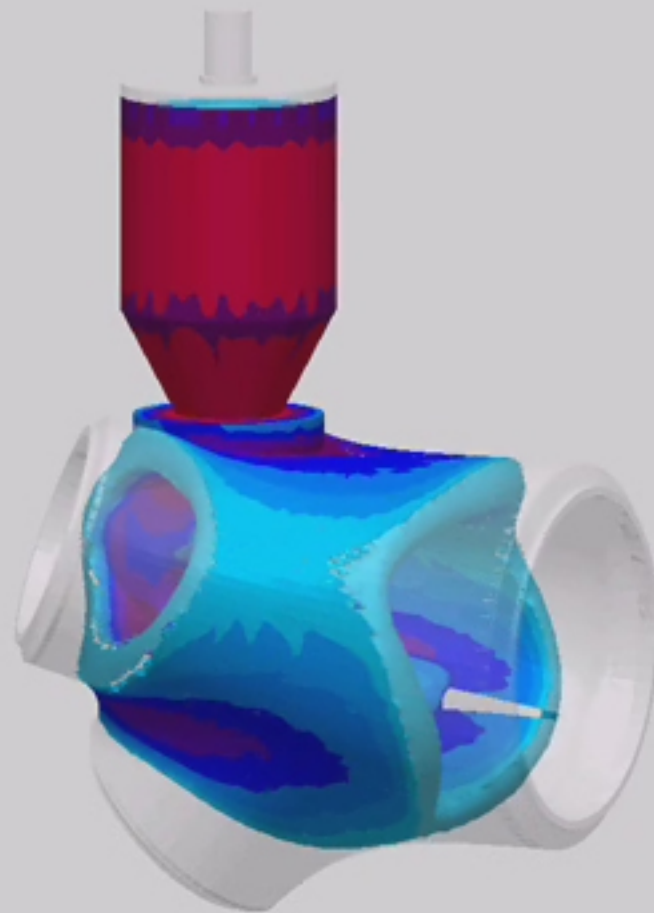



Image: Courtesy Walters Inc.



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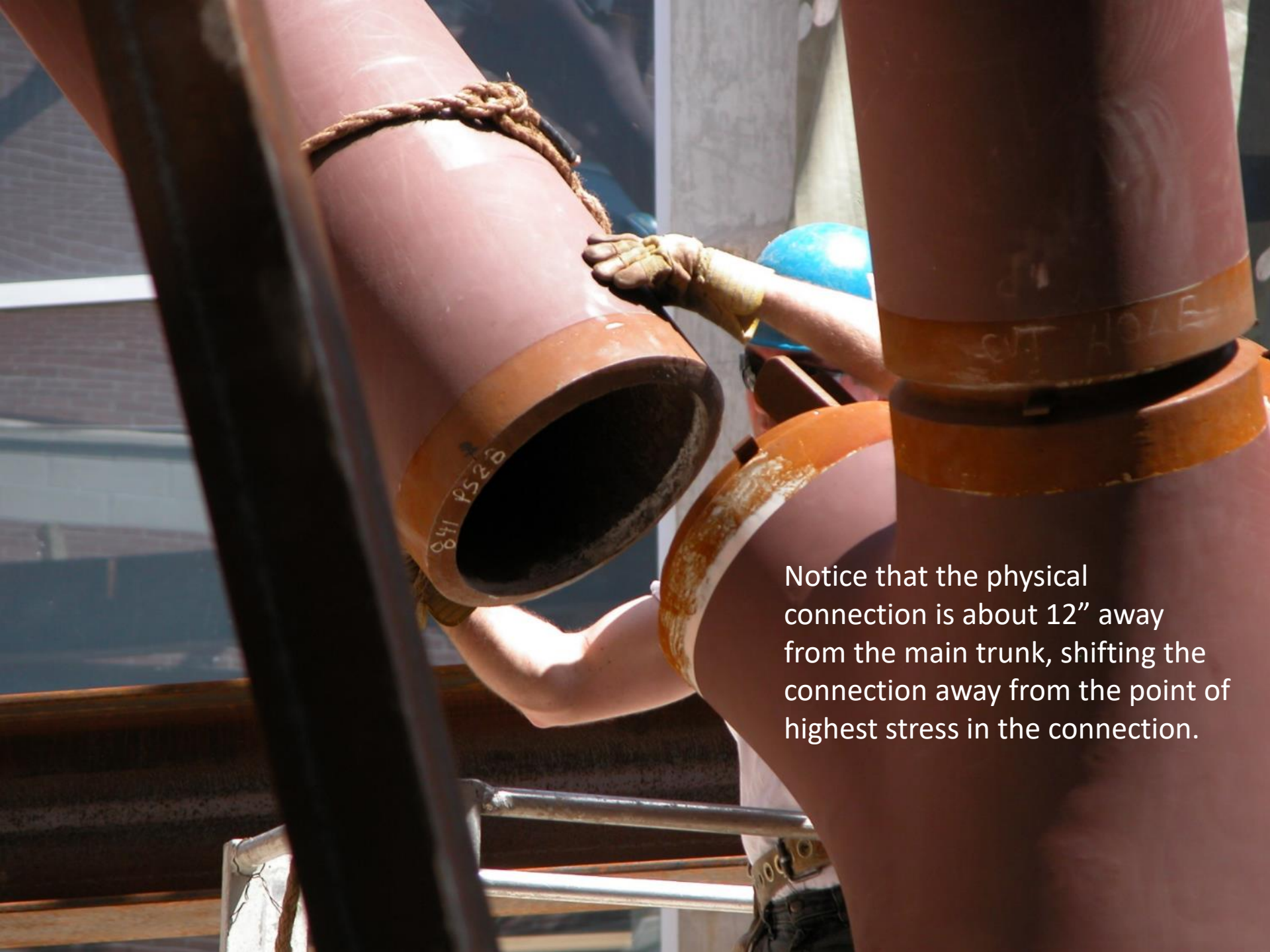
A large, light-colored industrial pipe is being supported by a complex steel scaffold structure. The pipe is positioned horizontally and is held in place by a metal bracket or support. The scaffold consists of various steel beams and plates, some of which are marked with handwritten numbers and letters. The background is a clear blue sky. The overall scene depicts a construction or maintenance project involving heavy machinery and structural steel.

Upper end of branch is supported on a padded rest. A large steel scaffold was created to shore the project as not to damage the steel.



PS28

Shanklin Co. Inc.



Notice that the physical connection is about 12" away from the main trunk, shifting the connection away from the point of highest stress in the connection.









Gerkan Marg & Partners

Hauptbahnhof Station | Berlin, Germany



John McAslan and Partners

Kings Cross Station | London, UK





&Co Architects

QRC | Toronto, Canada

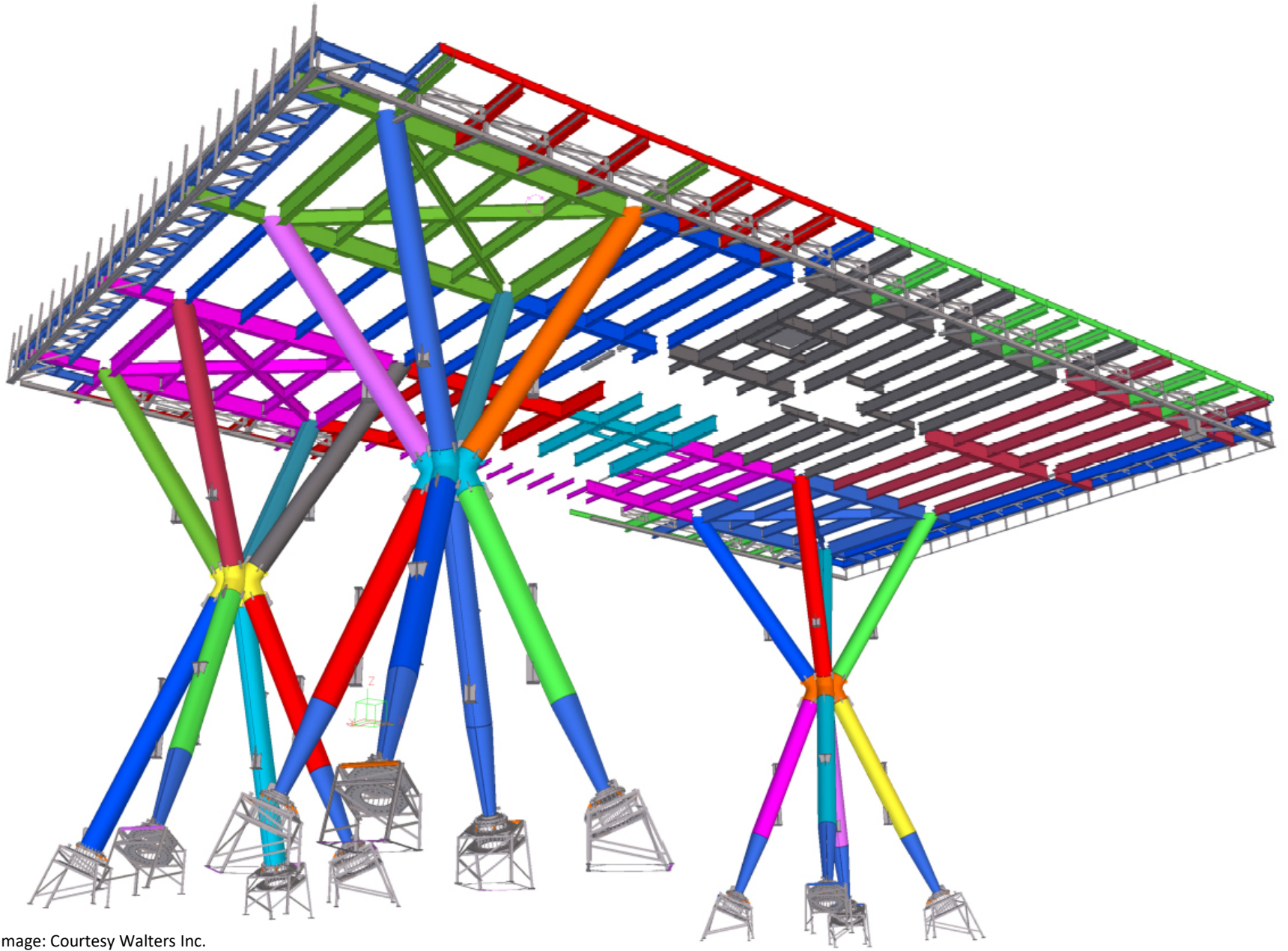


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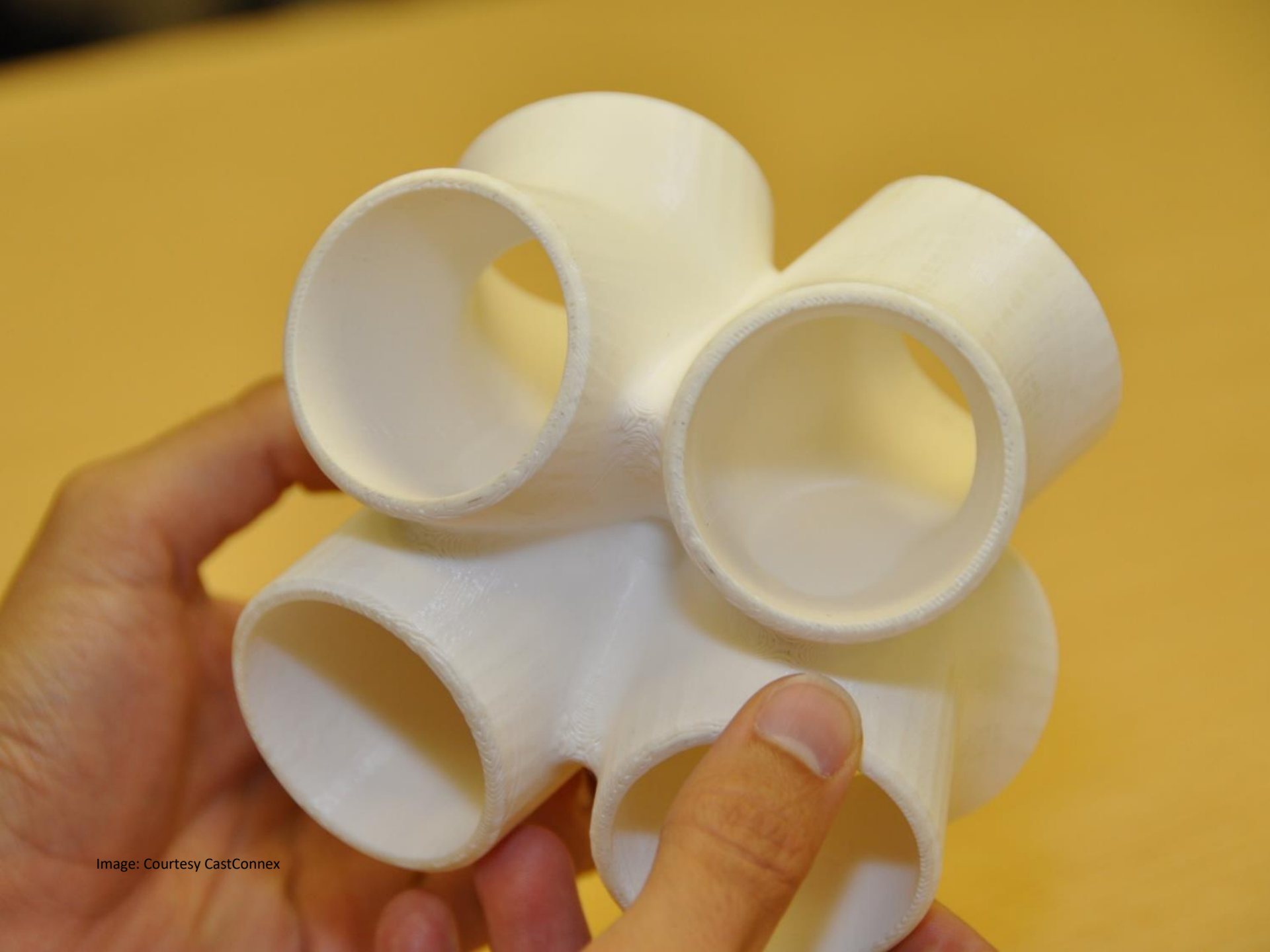


Image: Courtesy CastConnex



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Images: Courtesy CastConnex



Image: Courtesy CastConnex



Image: Courtesy CastConnex



Image: Courtesy CastConnex



10000 LBS

1

1 TON

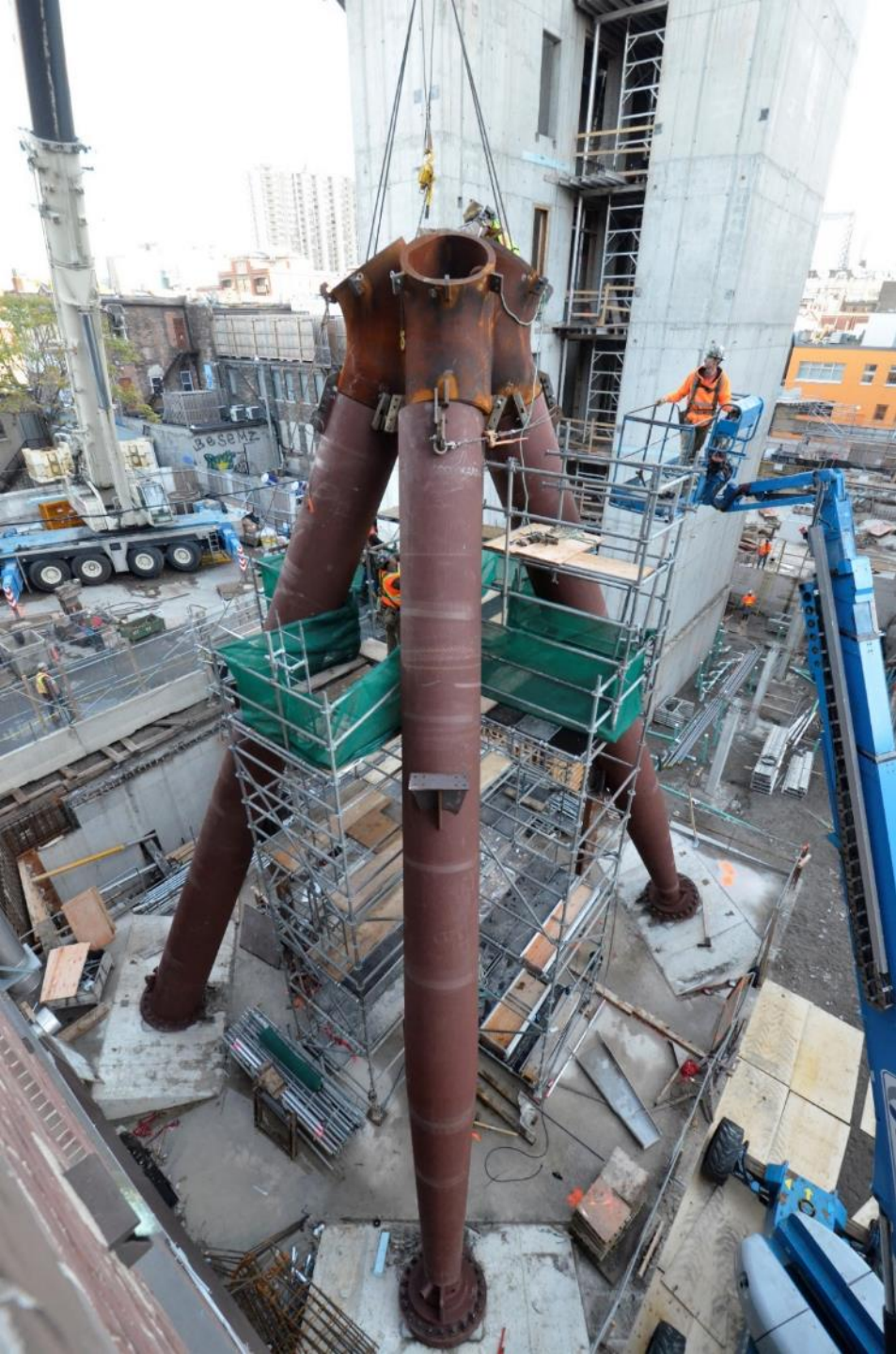
12' B

9366

GV

















Rosales + Partners

Esplanade Pedestrian Bridge

Image: Courtesy CastConnex



Image: Courtesy CastConnex



Image: Courtesy CastConnex



JW

20K 100 Pcs
SCREW JACKS

Pin Connectors

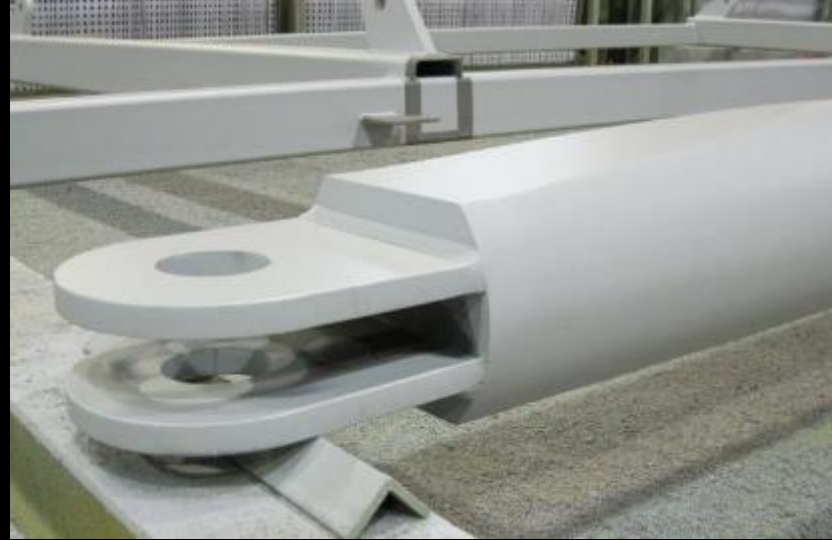


Image: Courtesy CastConnex



Image: Courtesy CastConnex





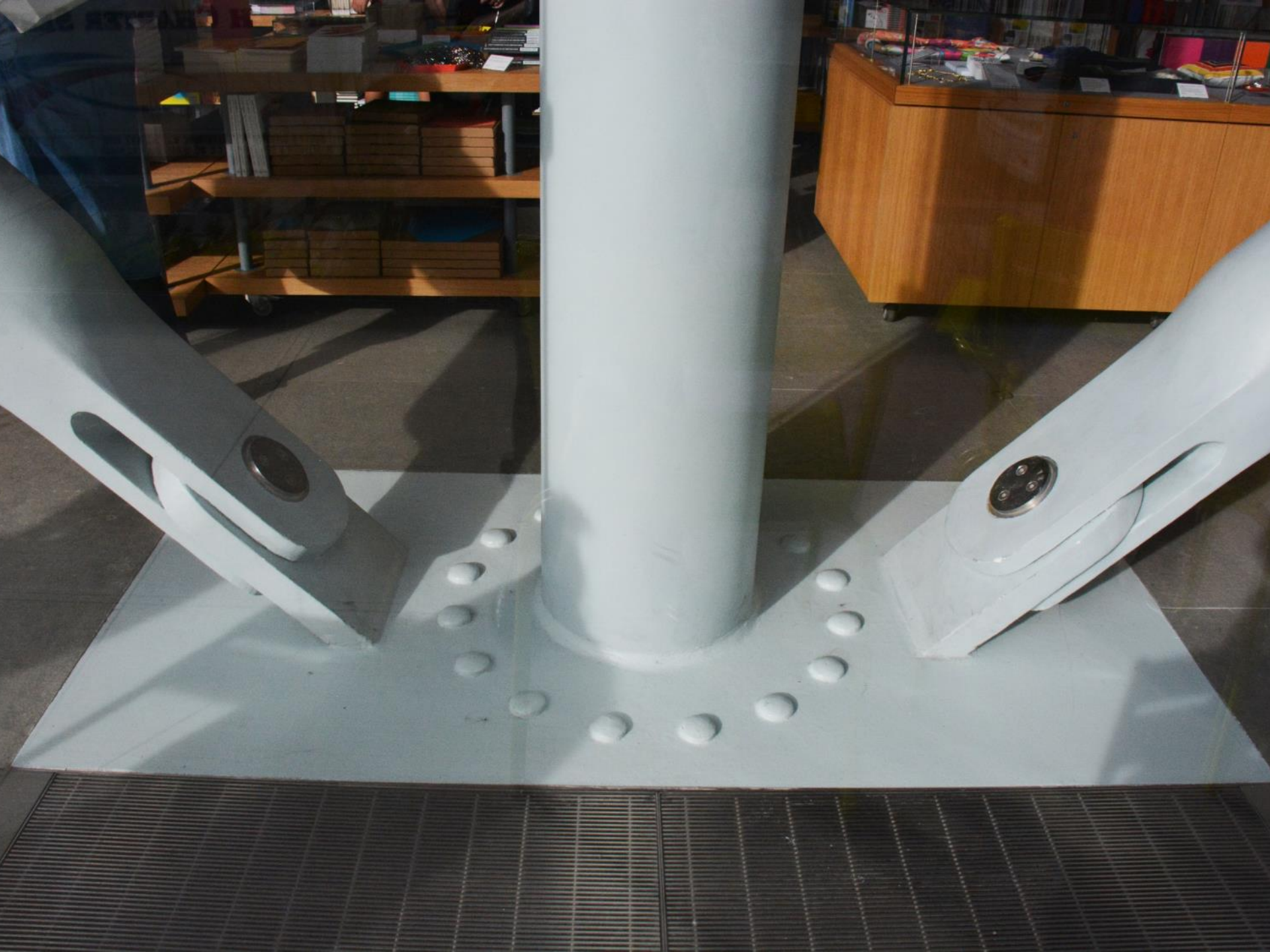


Renzo Piano

Whitney Art Museum | New York City

Image: Courtesy CastConnex

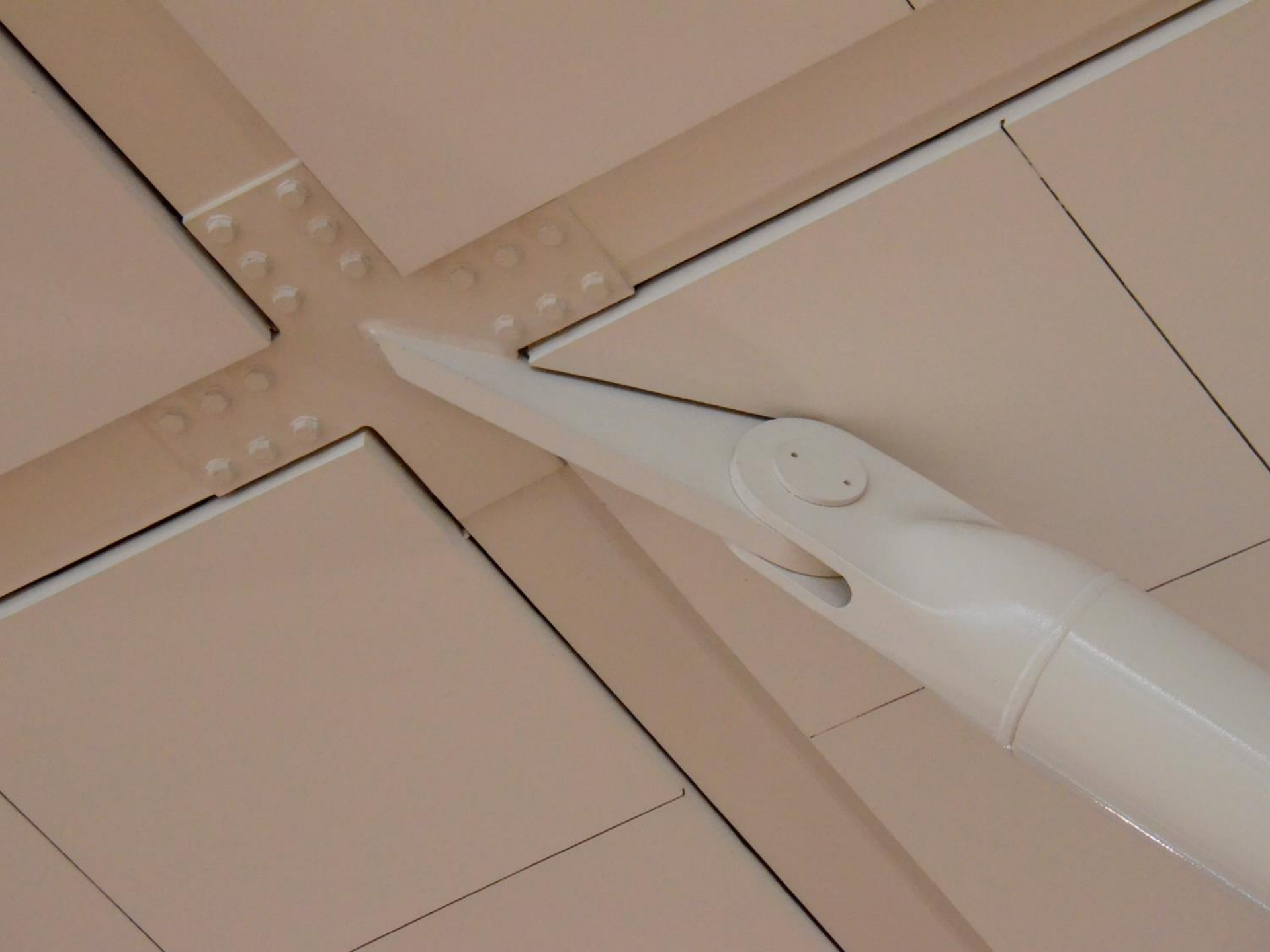






Brisbane International Airport | Brisbane, Australia







Architerra

Clark University | Massachusetts

Image: Courtesy CastConnex



Image: Courtesy Jonathan Edelman



Image: Courtesy CastConnex



Amherst Press and Skybox



Image: Courtesy CastConnex



Image: Courtesy CastConnex



Pelli Clarke Pelli Architects

Transbay Center | San Francisco

Image: Courtesy CastConnex

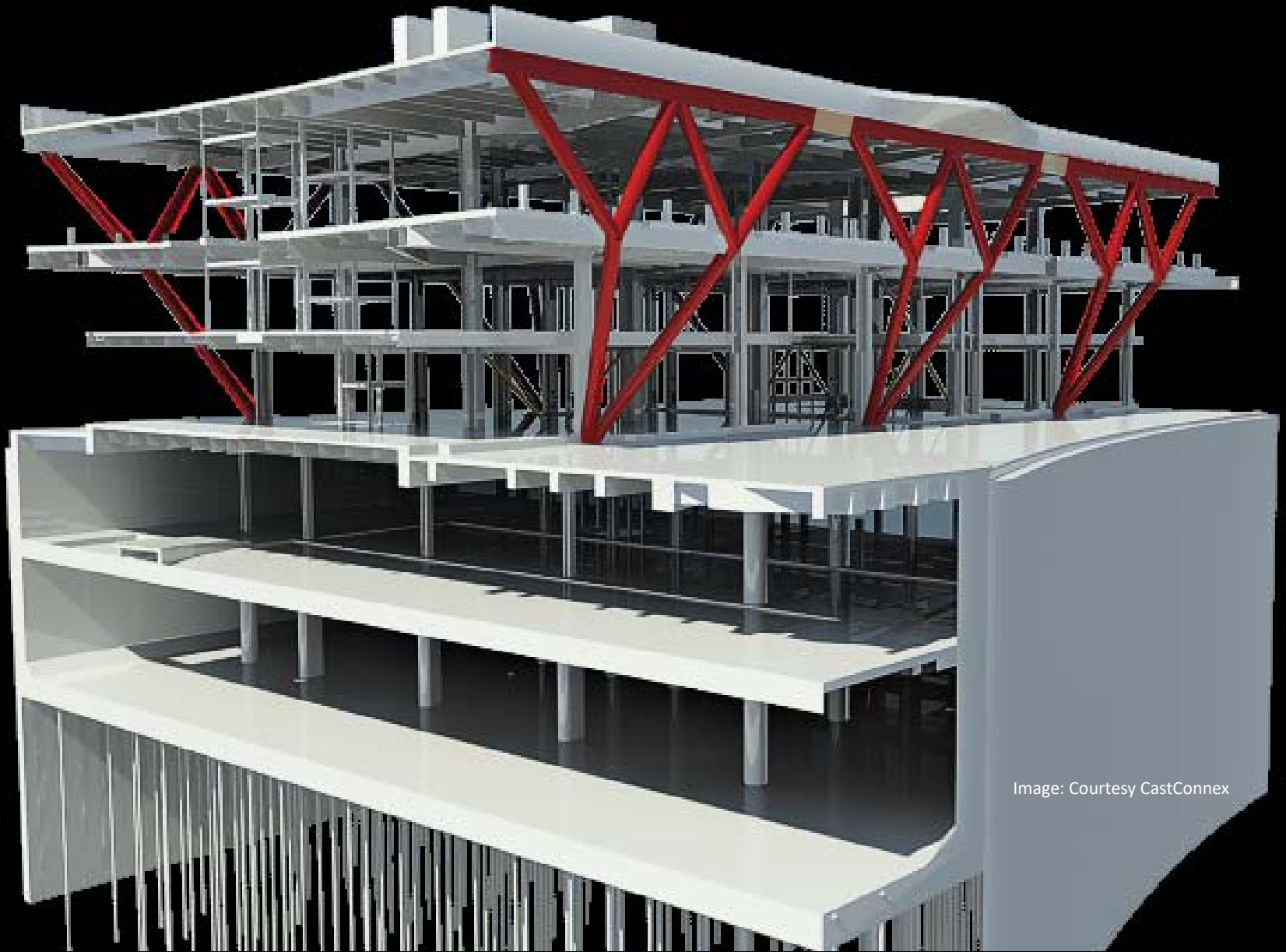


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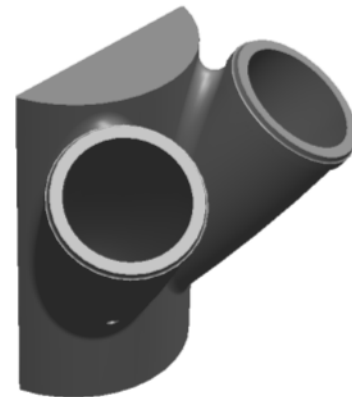
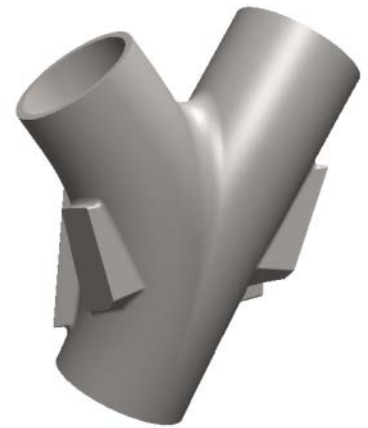
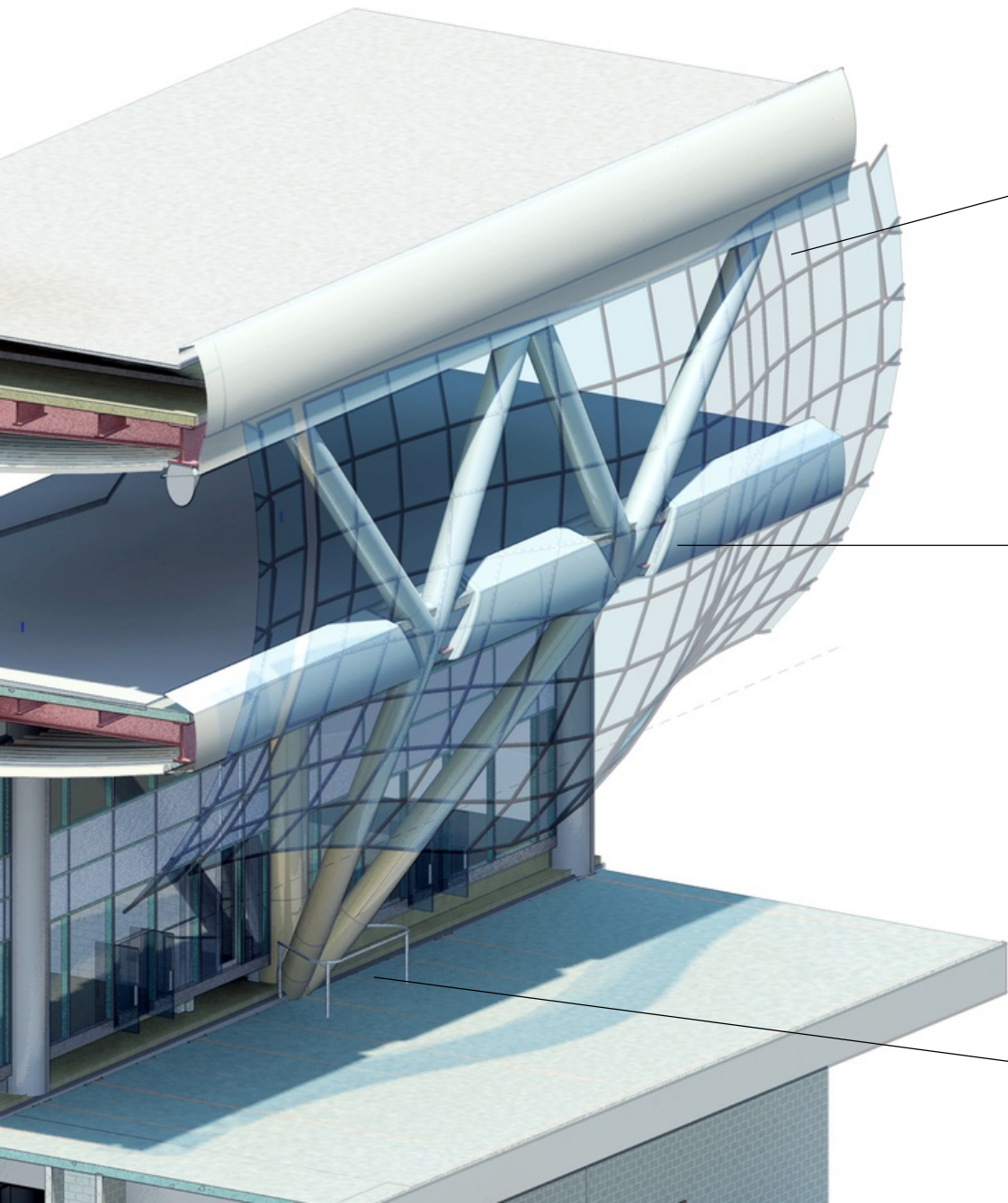




Image: Courtesy CastConnex



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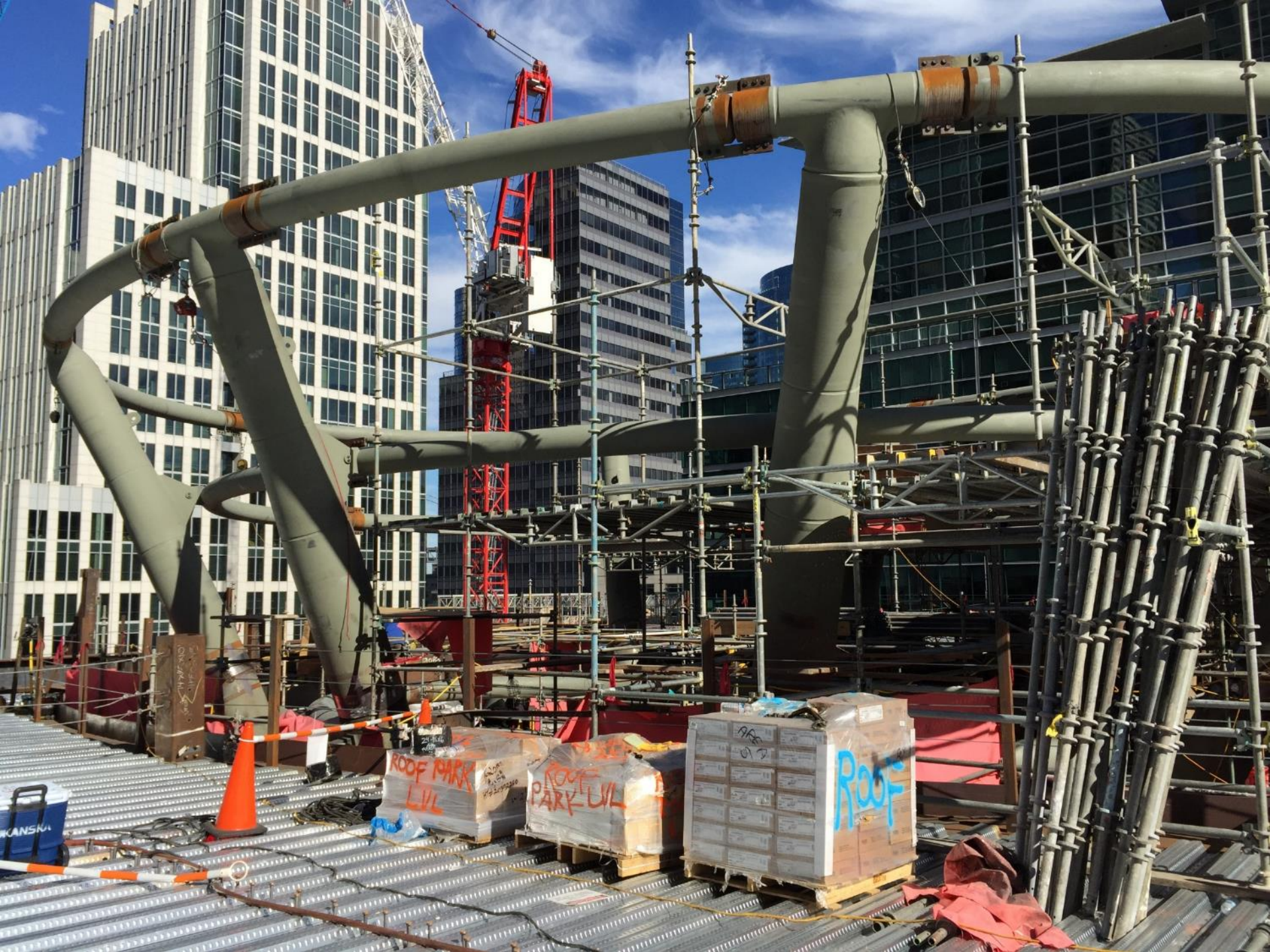


Image: Courtesy CastConnex



CAMBER: $\frac{1}{4}$ K70 69
SWEEP: $\frac{1}{16}$ K30 4K-
TWIST: \emptyset 100 4K-

Image: Courtesy CastConnex





Splice moved away from
point of load transfer.







56

56405

15-10-11-12

18-4D

20-7

INVERT
JK 5/29



SOM

University of Connecticut Innovation Partnership Building

Image: Courtesy SOM



Image: Courtesy CastConnex



Image: Courtesy CastConnex





University of Massachusetts-Amherst (Integrated) Design Building

Image: Alexa Schreyer



Image: Courtesy CastConnex



Image: Courtesy CastConnex



Photo: Alexa Schreyer



Photo: Alexa Schreyer



Photo: Alexa Schreyer



Photo: Alexa Schreyer



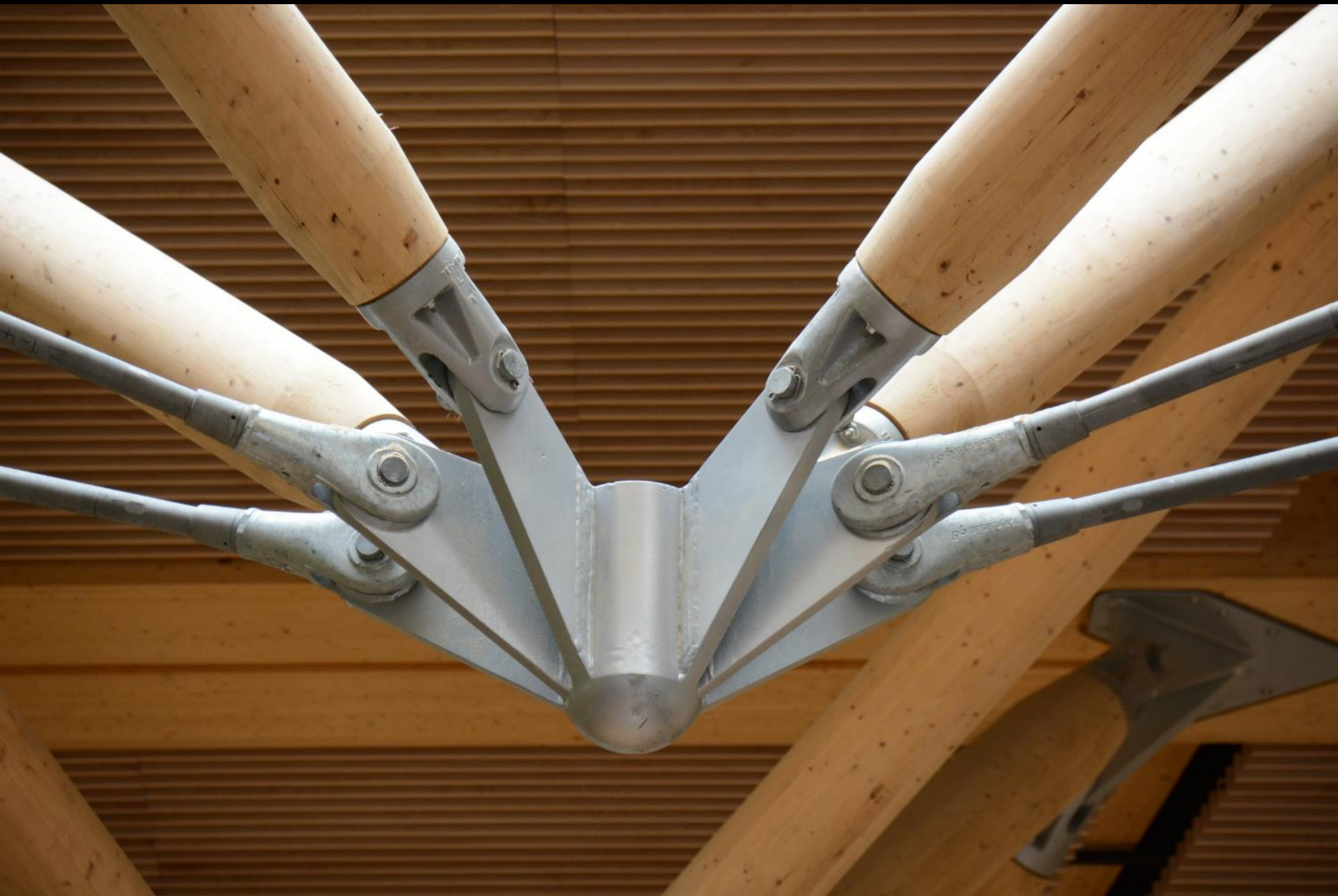
Photo: Alexa Schreyer



Photo: Alexa Schreyer



Photo: Alexa Schreyer









Berlin 1936 Olympic Stadium Retrofit





Berlin 1936 Olympic Stadium Retrofit





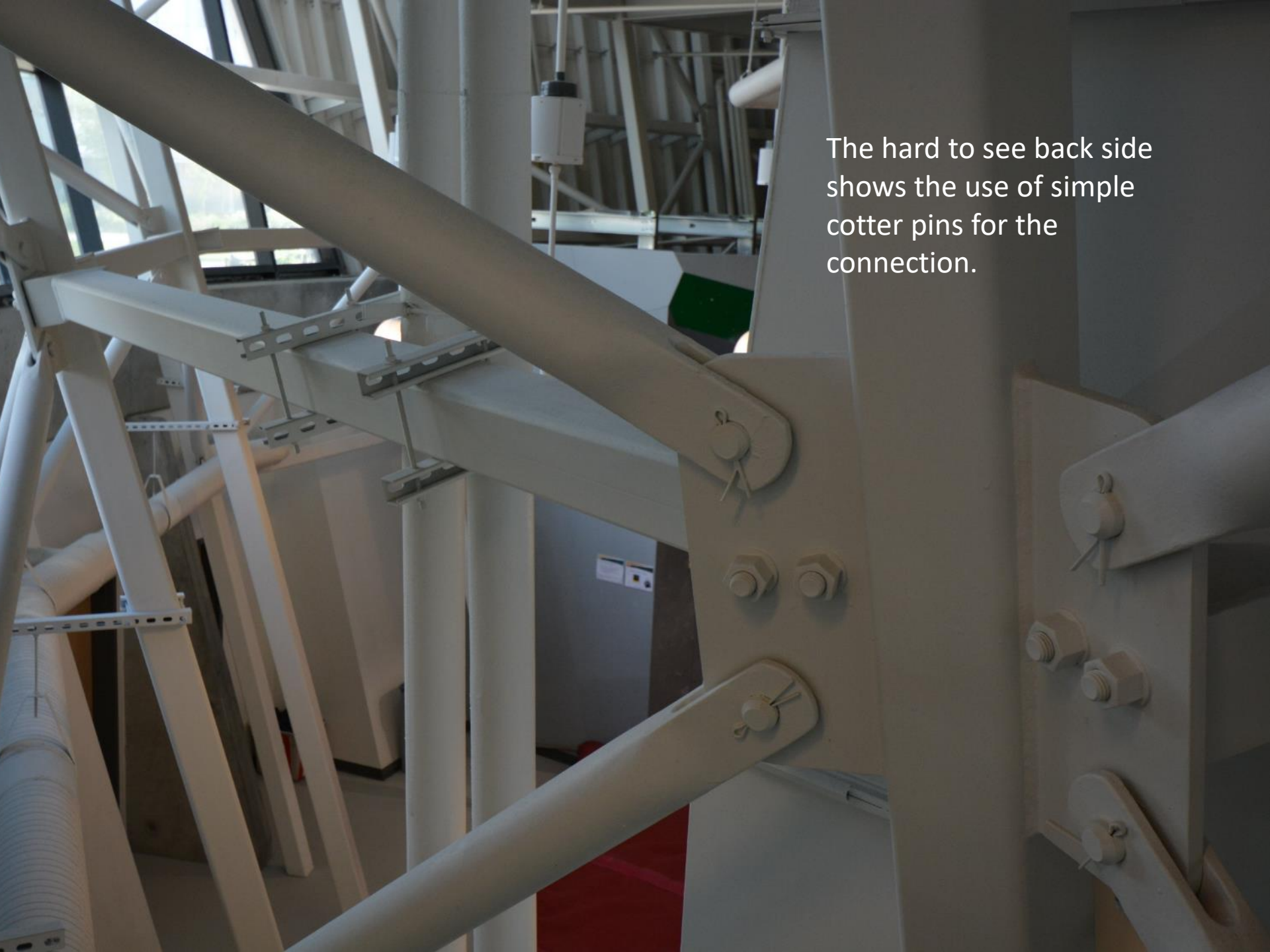


PAWS Centre, University of Alberta, Edmonton



UNIVERSITY OF
ALBERTA





The hard to see back side shows the use of simple cotter pins for the connection.



University of Alberta Pedestrian Bridge, Edmonton







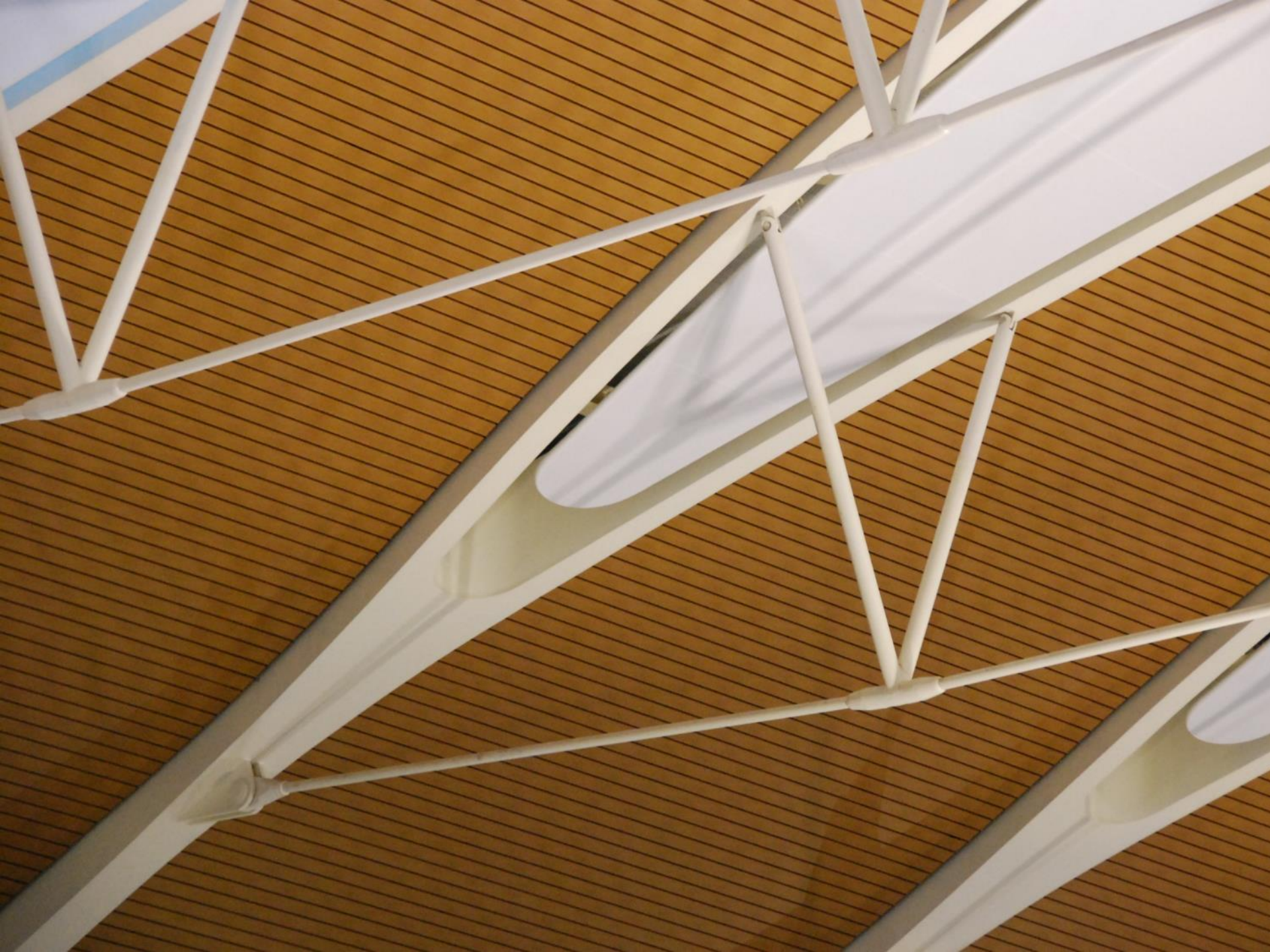
Shanghai Airport, China

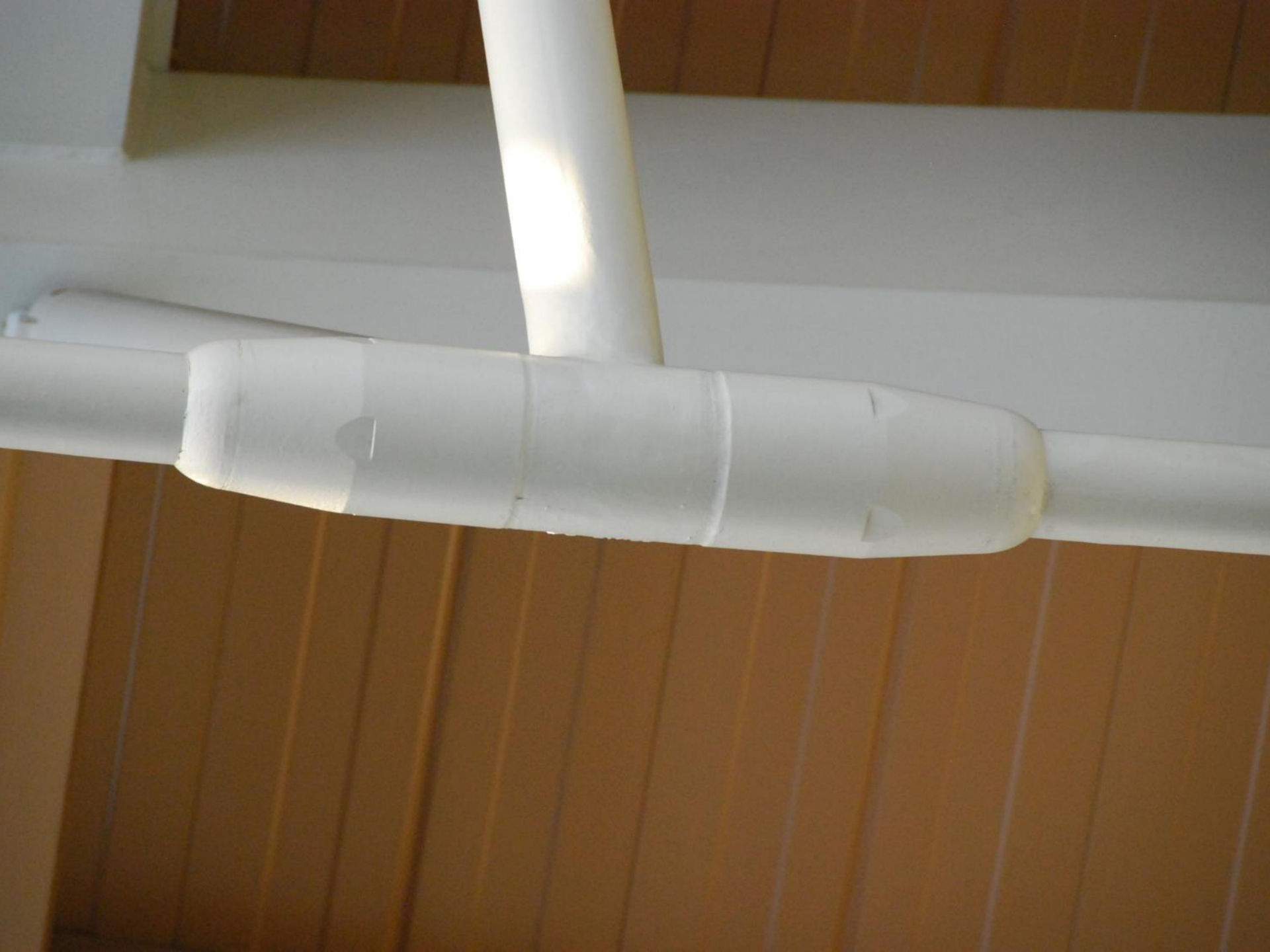














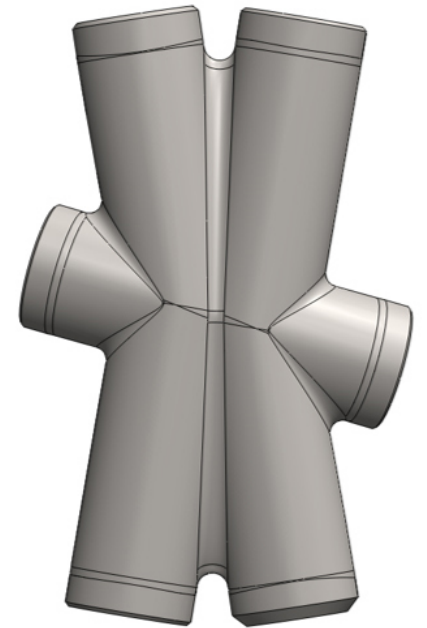
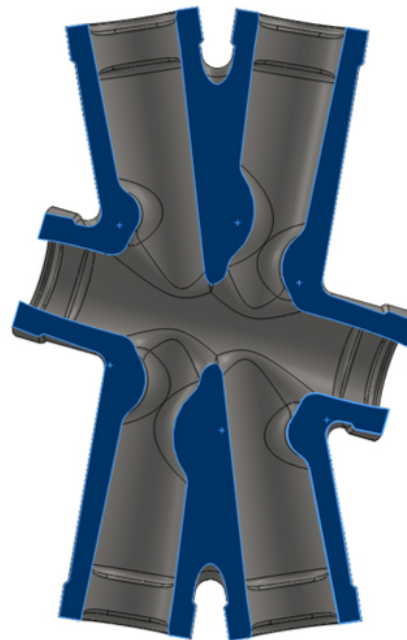
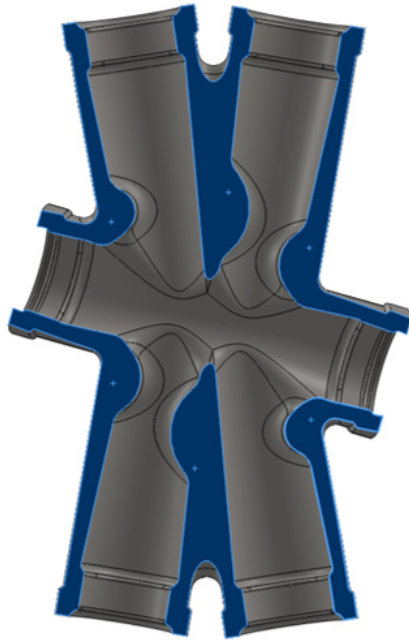
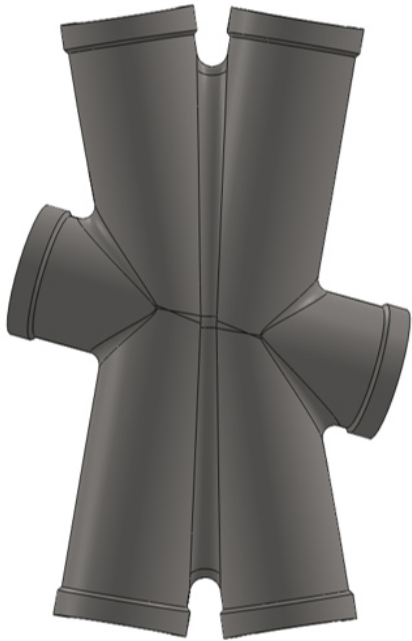
The Leaf at Diversity Gardens, Winnipeg, Manitoba





Typical Node
HSS wall < 25mm

Heavy Node
HSS wall < 30mm



As-Cast

Machined









EMERGENCIA
Ramal 7700
ALARMES
3 TORRES GABINETES
3 TORRES GABINETES
3 TORRES GABINETES
3 TORRES GABINETES
3 TORRES GABINETES

MANGUEIRA

Cabine
ajustagem 01

APARELHOS
PNEUMÁTICOS

PB63

PF614

PD913

PH053

80
OU 351
OU 353





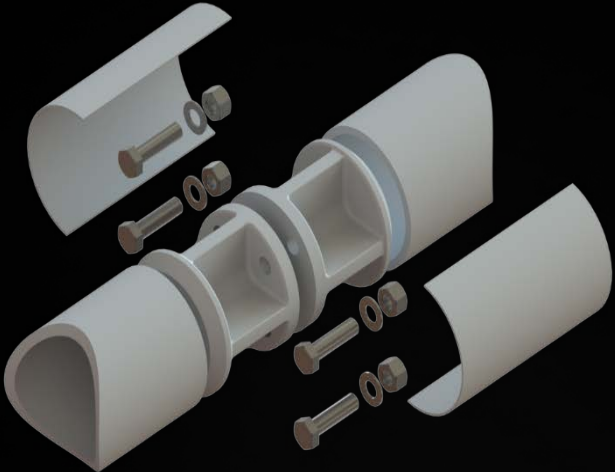
The project called for this to be AESS2... which allows for welded connections but precludes any grinding.



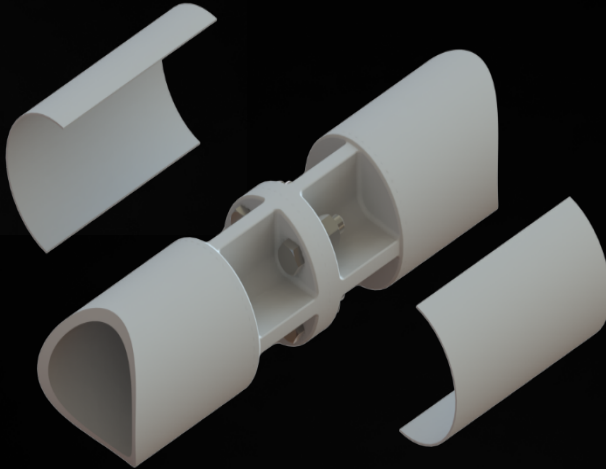
CastConnex had suggested the use of their Diablo Connector to make discreet or hidden connections between the nodes and the HSS tubes.



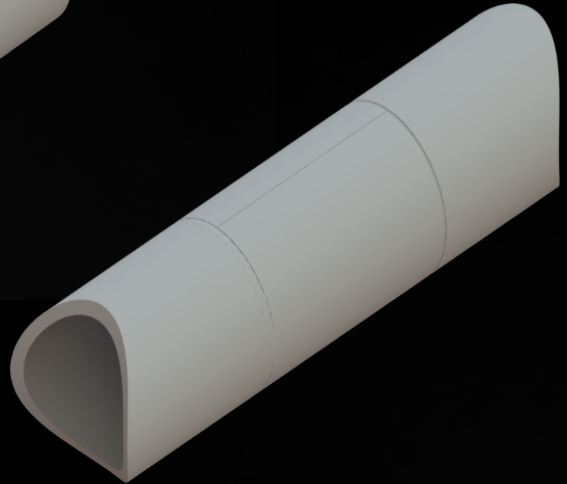
This product can result in a discreet connection if the cover plate option is not used.



1

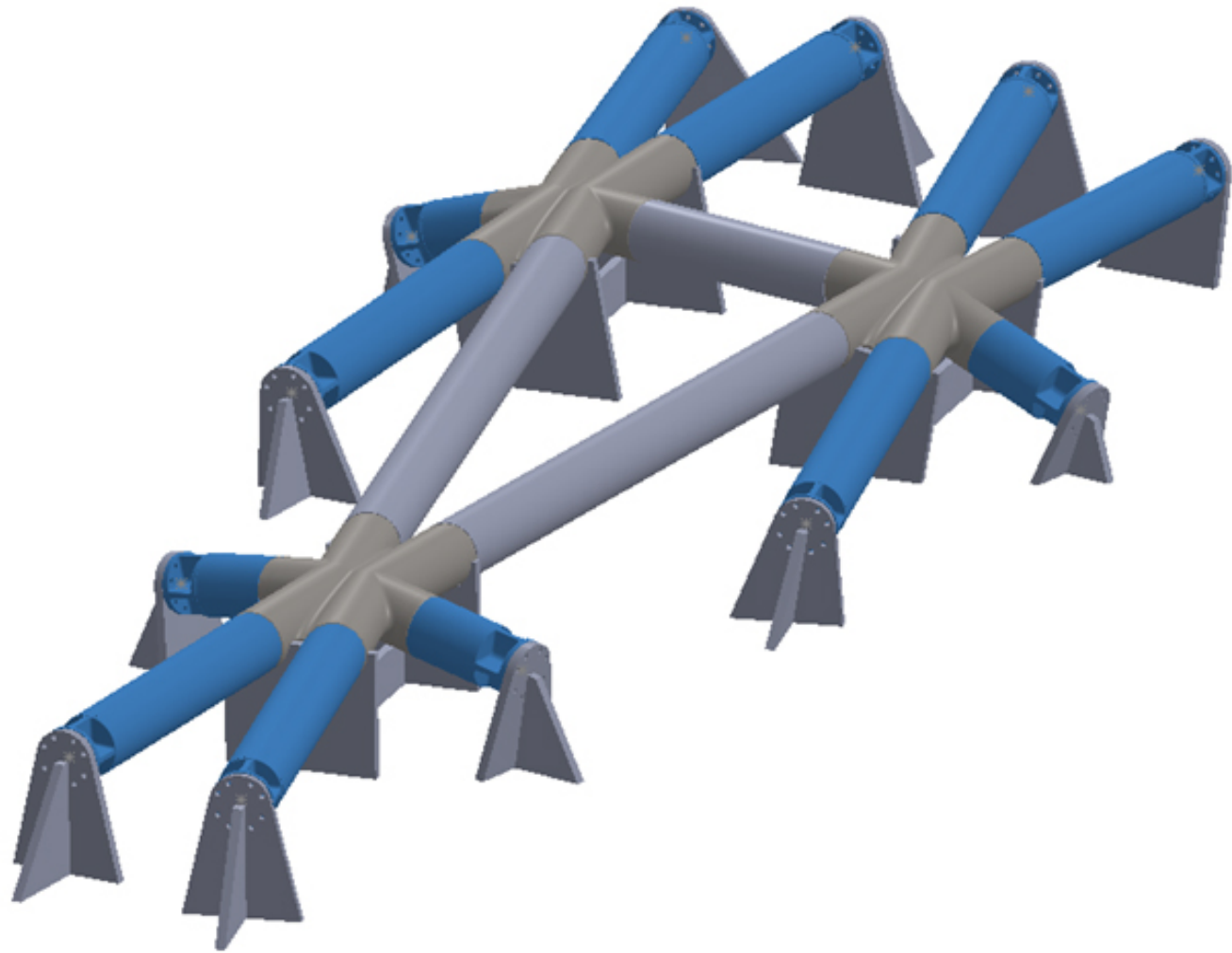


2



3



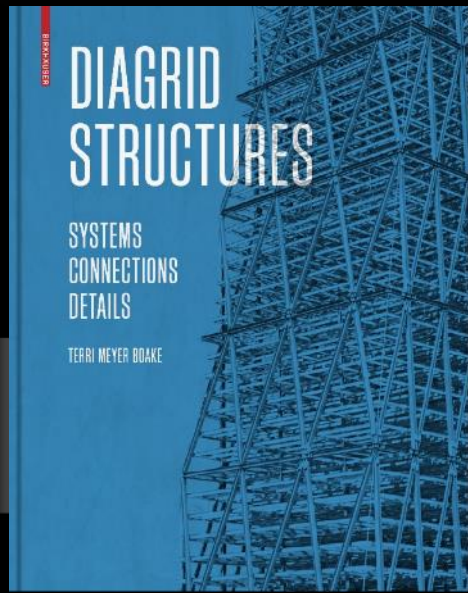




*Understanding
Steel Design*

— AN ARCHITECTURAL
DESIGN MANUAL —

by Terri Meyer Boake
with Drawings by Vincent Hul

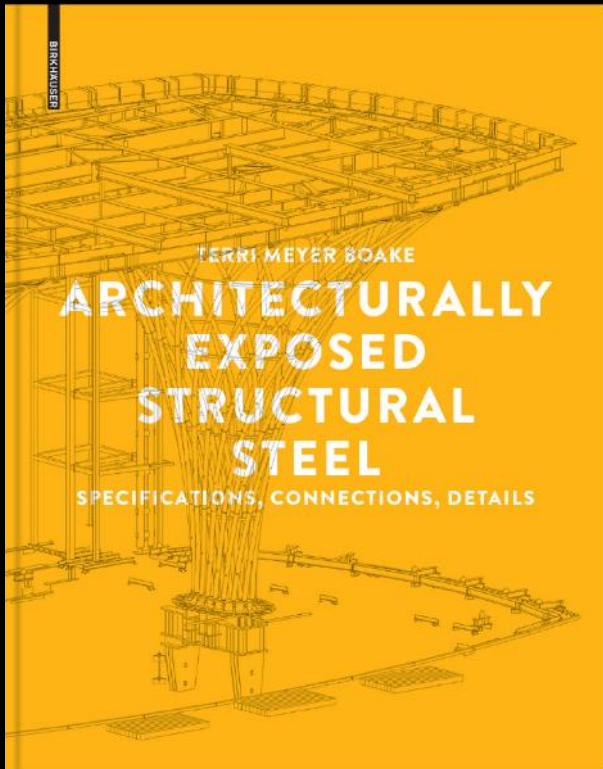


**DIAGRID
STRUCTURES**

SYSTEMS
CONNECTIONS
DETAILS

TERRI MEYER BOAKE

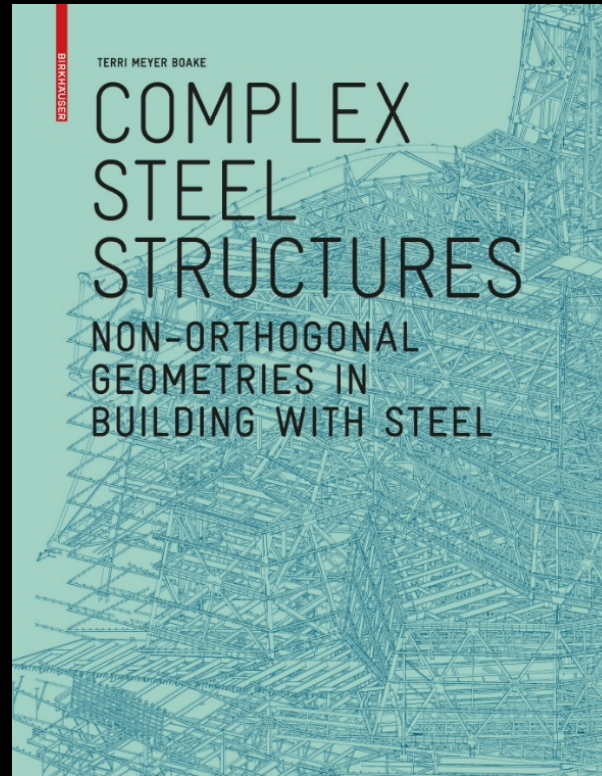
STEEL



TERRI MEYER BOAKE

**ARCHITECTURALLY
EXPOSED
STRUCTURAL
STEEL**

SPECIFICATIONS, CONNECTIONS, DETAILS



TERRI MEYER BOAKE

**COMPLEX
STEEL
STRUCTURES**

NON-ORTHOGONAL
GEOMETRIES IN
BUILDING WITH STEEL