



## HSS Reference Guide No. 3: HSS Column and Chord Splice Connections

### Design Manuals/Design Guides

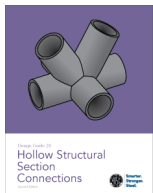
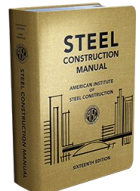


#### STI HSS Design Manual, Volume 4: Truss and Bracing Connections

- Section 4-1.11 BOLTED TRUSS SPLICES, p. 4-1.71, details and design considerations for truss chord or column bolted splice connections.
- Section 4-1.11.E BOLTED SPLICE EXAMPLES, p. 4-1.78, examples for HSS Tension Splices using Gusset Plates.
- Section 4-1.11.F END PLATE EXAMPLES, p. 4-1.96, examples for HSS Tension Splices using End Plates.
- Section 4-1.13 WELDED TRUSS SPLICES, p. 4-1.115, details and design considerations for truss chord or column welded splice connections.

#### AISC 360-22 Specification and 16<sup>th</sup> Ed. Steel Construction Manual

- Specification 360-22, Section J10 and K for limit states to consider
- 16<sup>th</sup> Ed. Steel Construction Manual, Part 14, "COLUMN SPLICES", p. 14-12
  - Table 14-3, Cases X, XI, and XII



#### AISC Design Guide 24: Hollow Structural Section Connections (Second Edition)

By Jeffrey A. Packer and Kimberley Olson, 2024  
Chapter 7, TENSION AND COMPRESSION CONNECTIONS  
Chapter 9, HSS-TO-HSS TRUSS CONNECTIONS

#### Companion to the AISC 16<sup>th</sup> Ed. Steel Construction Manual, Volume 1: Design Examples, Version 16.0

- Example K.10 Rectangular HSS Strut End Plate

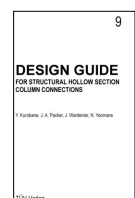


#### CIDECT Design Guide 3 for Rectangular Hollow Section (RHS) Joints Under Predominantly Static Loading

By J.A. Packer, J. Wardenier, X.-L. Zhao, G.J. van der Vegte, Y. Kurobane, 2004  
Chapter 8, Bolted Joints

#### CIDECT Design Guide 9 for Structural Hollow Section Column Connections

By Y. Kurobane, J.A. Packer, J. Wardenier, N. Yeomans, 2004  
Chapter 11, Column Splices



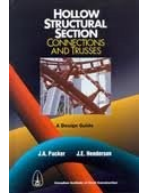
## Hollow Structural Section Connections and Trusses, A Design Guide

By Jeffrey A. Packer and J.E. Henderson, 1997

Chapter 7, Bolted HSS Connections

Chapter 8.2, Welding and Inspection

Chapter 13, Standard Truss Examples



# Articles



## STI Articles:

- [HSS Splices](#)

By Jeffrey A. Packer, 2016

- [HSS Column Splices](#)

By Mike Manor, 2018

- [Round HSS End-Plate Connections Under Axial Tension Loading](#)

By Jeffrey A. Packer, 2023

- [Round HSS Bolted End-Plate Connections Under Bending Moment](#)

By Jeffrey A. Packer, 2023

- [Hidden Bolted HSS Splices](#)

By Jeffrey A. Packer, 2018

- [New Concepts for Bolted HSS Column Splices](#)

By Jeffrey A. Packer, 2022

- [Novel Bolted HSS Splice Connection](#)

By Jeffrey A. Packer, 2013

- [Welding of Hollow Structural Sections](#)

By Jeffrey A. Packer, 2012

- [Design of Fillet Welds to Rectangular HSS](#)

By Jeffrey A. Packer, 2015

- [Design of Fillet Welds to Rectangular HSS](#)

By Jeffrey A. Packer, 2015

- [Expert Tips for Cost-Effective HSS Specification and Fabrication](#)

By Mike Manor and Cathleen Jacinto, 2023, includes section on HSS Column Splices & Welding

- [Full Capacity Welds: CJP vs. Fillet vs. Fillet-Reinforced PJP](#)

By Jeffrey A. Packer, 2024

## Modern Steel Construction Article: The Splice is Right

By Sylvie Boulanger, Carol Drucker, Lawrence F. Kruth, Duane K. Miller, Terri Meyer Boake, 2016



## Structure Article: Know Your HSS Welds

By Mike Manor and Cathleen Jacinto, 2024



# STI Interviews

- **Expert Reactions to the Directionality Increase for Fillet Welds to HSS**

Interview with Jeffrey A. Packer, 2020

- **Meeting in the Middle: Understanding the Sales and Engineering Sides of Bolted HSS Column Splices**

Interview with Brad Fletcher

- **All About the New Cast Steel Insert From Bull Moose Tube**

Interview with Mark Abernathy

- **Insights from a Steel Fabricator: Overcoming Fabrication Challenges through Communication, Technology, and Experience**

Interview with Jesse Bessmer, Metal Works, offers insight from a fabricator on CJP column splices

## Recorded Webinars

### **STI Webinar on Demand: HSS Splices**

Kim Olson, 2020



### **STI Webinar on Demand: How to Splice Your Slice or Plate It**

Beth Suminski, 2024

### **STI Webinar on Demand: HSS Connections: Splices, Bases & Braces**

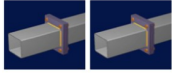
By Kim Olson, 2016



### **AISC NASCC Proceeding: The Splice is Right**

By Carol Drucker, Sylvie Boulanger, Larry Kruth, Duane Miller, Terri Meyer Boake, 2016

# Software/Design Tools



EP BS Rectangular EP BS Rectangular Moment



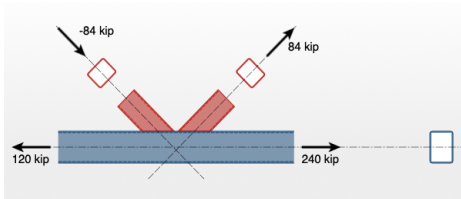
EP BS Rounded EP CS Rectangular EP CS Rounded

## Bentley RAM Connection

HSS Beam and Column/Chord Splices: Bolted End Plate Connection for square, rect., and round HSS

## IDEA StatiCa

Offers finite element analysis for virtually any type of splice connection.

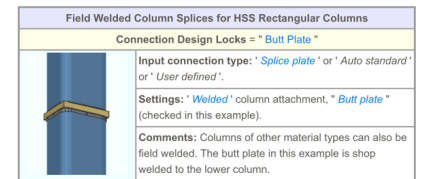


## STI HSS Connex

HSS Truss Chord Splice: Bolted End Tee Connection for square, rectangular, and round HSS under compression and tension loading. Select Plate-to-HSS Connection type and Cap Plate connections.

## SDS2

HSS Column Splice: Field Welded Connection for Square/Rectangular HSS



# Research Papers

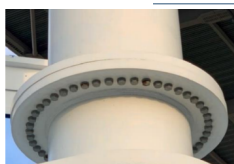


## AISC Engineering Journal Vol. 40, pp. 15-24: Design Recommendations for Bolted Rectangular HSS Flange-Plate Connections in Axial Tension

By S. Willibald, Jeffrey A. Packer, and R.S. Puthli, 2003, Quarter 1

## AISC Engineering Journal Vol. 54, pp. 141-154: Yield Line Approaches for Design of End Plate Tension Connections for Square and Rectangular HSS Members Using End Plate Tensile Strength

By William A. Thornton, 2017, Quarter 3

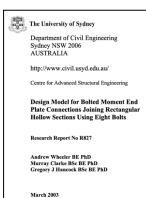


## ASCE Journal of Structural Engineering: Bolted CHS Flange-Plate Connections Under Bending

By Augusto Fidalgo and Jeffrey A. Packer, 2023

## Journal of Constructional Steel Research: Evaluation of Bolted CHS Flange-Plate connections Under Axial Tension

By Augusto Fidalgo and Jeffrey A. Packer, 2022



## University of Sydney Department of Civil Engineering Research Report No. 827: Design Model for Bolted Moment End Plate Connections Joining Rectangular Hollow Sections Using Eight Bolts

By Andrew Wheeler, Murray Clarke, Gregory J. Hancock, 2003