

STURDI-WALL® SPECIFICATION

DIVISION 03 00 00 CONCRETE Section 031500 Concrete Accessories

DIVISION 05 00 00 METALS Section 055000 Metal Fabrications

DIVISION 13 00 00 SPECIAL CONSTRUCTION Section 13121 Pre-Engineered Timber Column Structure

PART 1 GENERAL

1.1 SCOPE

- A. Post frame building column consisting of a steel bracket connection between wood and concrete.

1.2 DESIGN GUIDANCE

- A. ICC-ES Evaluation Report ESR-4239 issued 03/2020 for SW6C, SW60, SW46, SW55, SW63, SW64, SW65, SW80, SW83, SW84, SW85 and SW88 models by International Code Council Evaluation Service.
- B. Sturdi-Wall® Design and Use Guide by Dimitry A. Reznik, P.E., Timber Tech Engineering, Inc.

1.3 STANDARDS

- A. Building Code Requirements for Structural Concrete by the American Concrete Institute.
- B. Steel Construction Manual by the American Institute of Steel Construction (AISC).
- C. The National Design Specification for Wood Construction (NDS) by The American Forest and Paper Association (AF&PA).
- D. ANSI\ASAE EP 559, Design Requirements and Bending Properties for Mechanically Laminated Columns.
- E. ASTM A1018 SS – Standard Specification for Heavy Gauge Structural Steel.
- F. AWS D1.1- Structural Welding Code- Steel

PART 2 PRODUCTS

2.1 STURDI-WALL[®]

- A. Manufacturer: Perma-Column[®], LLC.; Contact: 400 Carol Ann Lane Ossian, IN 46777; Telephone: (260) 622-7190; Fax: (260) 622-7192; Website: www.permacolumn.com
- B. Models:
 - 1. SW46: for a 4x6 Solid Sawn Post Column (3½"x5½")
 - 2. SW55: for a 5x5 Solid Sawn Post Column (5"x5")
 - 3. SW63: for a 3 ply, 2x6 Mechanically Laminated Column (5½" x 4½")
 - 4. SW64: for a 4 ply, 2x6 Mechanically Laminated Column (5½" x 6")
 - 5. SW65: for a 5 ply, 2x6 Mechanically Laminated Column (5½" x 7 ½")
 - 6. SW66: for a 6x6 Solid Sawn Post Column (5½" x 5½")
 - 7. SW83: for a 3 ply, 2x8 Mechanically Laminated Column (7¼" x 4½")
 - 8. SW84: for a 4 ply, 2x8 Mechanically Laminated Column (7¼" x 6")
 - 9. SW85: for a 5 ply, 2x8 Mechanically Laminated Column (7 ¼"x 7 ½")
 - 10. SW88: for an 8x8 Solid Sawn Post Column (7½"x7½")

2.2 MATERIALS

- A. Steel Bracket: A U-shaped ¼" ASTM A1018 Grade 40 steel bracket with 5/8" diameters holes for bolts, 5/16" diameter holes for screws. The bracket uses ½" SAE J429 Grade 5 bolts with hex nuts torqued to 110 foot-pounds as well as 0.242"x3" structural screws or equal.

2.3 FABRICATION

- A. The steel bracket consists of two vertical steel plates welded to a steel base plate.
- B. The wood upper portion may be preassembled to the steel bracket or assembled in the field.

2.4 HARDWARE

- A. Hardware Kits include all necessary screws and bolts to connect the wood member to the bracket:
 - 1. HW46DS for the SW46
 - 2. HW63DS for the SW63 and SW55
 - 3. HW64DS for the SW64
 - 4. HW66DS for the SW66
 - 5. HW83DS for the SW83
 - 6. HW84DS for the SW84
 - 7. HW85DS for the SW85 and SW65
 - 8. HW88DS for the SW88

PART 3 EXECUTION

3.1 INSTALLATION

- A. Columns to be erected and installed according to the Contract Documents and the Installation Manual by Perma-Column[®], LLC.
- B. Protect installed product from damage during handling, storage, and construction. Repair or replace damaged installed products.