

# USG STRUCTURAL PANEL RECOMMENDED FASTENERS

Fastening USG Structural Concrete Panels, also known as USG Structo-Crete™ Panels, properly to wood, cold-formed or hot-rolled steel framing is key to ensuring their long-term performance as a structural component. The recommended fasteners meet several criteria to insure they have adequate pull-out, pull-through, and slip performance. Furthermore, these fasteners meet or exceed 1000 hours corrosion resistance requirement when tested in accordance with ASTM B117. High corrosion resistance is critical because of the panel pH, and when coupled with any moisture exposure, including high humidity, this may deteriorate a non-corrosion resistant fastener.

Framing Type <sup>1</sup>	Min. End Distance <sup>4</sup>	Min. Flange Width	Fastener Manufacturer	Part Number	Fastener Description <sup>5,6,7</sup>
<b>54-97 mil (16-12 ga) CFS<sup>2</sup></b>	1/2" [13mm]	1-5/8" [41mm]	Grabber Construction Products, Inc.	CGH8158LG	#8 x 1-5/8" Winged Flat Wafer Head Self-Drilling Screw
			Simpson Strong-Tie Company, Inc.	CBSDQI58S	#8 x 1-5/8" Winged Self-Drilling Screw
<b>33<sup>3</sup>-43 mil (20<sup>3</sup>-18 ga) CFS</b>	1" [25mm]	2-5/8" [67mm]	Grabber Construction Products, Inc.	CGH8158LG	#8 x 1-5/8" Winged Flat Wafer Head Self-Drilling Screw
<b>SPF Lumber</b>	5/8" [16mm]	1-7/8" [48mm]	Grabber Construction Products, Inc.	C8200L2M	#8 x 2" Flat Head Type 17 Nibs, GrabberGard
			Simpson Strong-Tie Company, Inc.	WSNTLG2S	#8 x 2" Flat Head Twin Threads Nibs
	1/2" [13mm]	1-5/8" [41mm]	SENCO Brands, Inc.	GL24AABF	8d Ring Shank Nails
<b>118 mil (10 ga) CFS &amp; 1/4" A36 A36 HRS</b>	3/4" [19mm]	1-7/8" [48mm]	Simpson Strong-Tie Company, Inc.	TBG1260S	#12 x 2-3/8" Flat Head, Strong-Drive® TB Wood-to-Steel Screw
			Muro North America, Inc.	RSM645WFL-GY	M6.0 x 45 mm Winged Self-Drilling Screw

#### Table Notes:

- CFS = cold-formed structural steel; HRS = hot-rolled structural steel; Lumber = specific gravity 0.42 or greater. Gauge/thickness of steel, fastener min. end distance, and joist min. flange width is identified for each fastener. Project specific framing gauge, size and type is determined by the engineer, architect or design professional of record.
- Cold-formed steel shall comply with AISI-General, with a minimum 54 mils or .0538-inch base metal thickness (No.16 gauge) and a minimum C60 galvanized coating.
- 33 mil (structural 20 ga) is for gravity loads only.
- Represents the minimum distance from the end (square cut) of the panel a fastener may be inserted.
- Fastener pull-through is 581 lbs. (264 kg) and is the minimum average ultimate tested capacity for all tabulated fasteners.
- The engineer or designer of record shall apply an appropriate safety factor (ASD) or resistance factor (LRFD).
- Any length of the approved fasteners may be used provided a minimum of 3 full threads penetrate the steel framing.
- SENCO 8d ring shank nails are manufactured with a length of 2-3/8 in., head diameter of 0.266 in. and a shank diameter of 0.113 in. Equivalent 8d ring shank nails meeting these dimensional requirements may be utilized when approved by the engineer or designer of record.

**A qualified architect or engineer should review and approve calculations, framing, and fastener spacing for all projects.**

#### **PRODUCT INFORMATION**

See [usg.com](http://usg.com) for the most up-to-date product information.

#### **DANGER**

The following are warnings when installing the panels. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Use only in a well-ventilated area, wear a NIOSH/MSHA approved respirator. Wear protective gloves/protective clothing/eye protection. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Immediately call a poison center/doctor. If on skin: wash with plenty of water. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. If skin irritation or rash occurs, or otherwise exposed or concerned: get medical attention. Store locked up. Dispose of in accordance with local, state, and federal regulations. For more information call Product Safety: 800 507-8899 or see the SDS at [usg.com](http://usg.com).

**KEEP OUT OF REACH OF CHILDREN.**

#### **TRADEMARKS**

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#### **Notes:**

- In accordance with code reports: [PER-13067](#) for Subfloor, [PER-14076](#) for Roof Deck, [PER-15092](#) for Foundation Wall, and [ESR-1792](#) for Subfloor.
- Use only fasteners recommended by USG and are corrosion resistant for use with USG Structural Panels to insure the system being installed will perform as expected as a structural component of your project.
- Install using the recommended spacing and distance from the ends (square cut) and edges (tongue & groove) of the panel.
- Do not use a larger diameter fastener unless specified by the design professional of record for the project.

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#### **Tips:**

- Use a stand-up screw gun for ease of installation.
- Allow the gun and screw to do the work – don't force it.
- Change drive bits regularly.
- Fasteners should be set flush with the surface of the panel.
- Insert fasteners as close to vertical as possible.
- Do not use hex head screws on surfaces where USG Structural Panels will be applied to prevent panel damage. Use pan heads or similar.
- Clean stand-up gun head regularly with clean, dry air. No oil, graphite or other lubricants.

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[usg.com/structural](http://usg.com/structural)

Manufactured by  
United States Gypsum Company  
550 West Adams Street  
Chicago, IL 60661

**MSRP based upon full truckload delivered to jobsite:**

**Subfloor: \$4.50/sf**

**Roof Deck: \$5.40/sf**

**Foundation Wall SD: \$4.90/sf**

**Foundation Wall XD: \$7.50/sf**

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