

3/4" USG STRUCTO-CRETE® BRAND STRUCTURAL PANELS RECOMMENDED FASTENERS

**FASTENING
3/4" USG STRUCTO-CRETE® BRAND
STRUCTURAL PANELS TO FRAMING**

This information applies to 3/4" USG STRUCTO-CRETE® Brand Structural Panels (formerly known as USG Structural Panel Concrete Subfloor), 3/4" USG STRUCTO-CRETE® Brand Structural Roof Deck Panels (also known as USG Structural Panel Concrete Roof Deck), and 3/4" USG STRUCTO-CRETE® Brand Structural Xtra Strength Panels (also known as USG Structural Panel Concrete Foundation Wall).

Properly fastening 3/4" USG STRUCTO-CRETE® Brand Structural Panels to cold-formed steel (CFS), hot-rolled steel (HRS), or wood framing is key to ensuring long-term performance as a structural component. Recommended fasteners are required to attain the load capacities as listed in code reports and have been reviewed to ensure that they meet the required pull-out, pull-through, slip performance, and 1,000 hours corrosion resistance. Corrosion resistance is critical because of the panel pH, and when coupled with moisture exposure (including high humidity), may deteriorate a standard fastener.

		Lighter ← → Heavier										
		Cold-Formed Steel						Hot-Rolled Steel			Lumber	
		33 mil	43 mil	54 mil	68 mil	97 mil	118 mil	1/8"	1/4"	1/2"	SPF	
Brand	Part Number	20 ga	18 ga	16 ga	14 ga	12 ga	10 ga	A36	A36	A36	0.42 SG	
Grabber	CM10178JBWRG	1" (Min. End Distance)										
Grabber	CGH8158LG		1"	1/2"								
Simpson	CBSDQ158S			1/2"								
Grabber	CC12250LRG							1"	3/4"			
Simpson	TBG1260S								3/4"			
Muro	RSM645WFL-GY								3/4"			
Aerosmith	5324HPG							1"				
DeWalt	50458-PWR							1"				
Hilti	X-U 32 MX							1"				
Grabber	C8200L2M										5/8"	
Senco	GL24AABF										1/2"	
Framing Flange Size		2-5/8"		1-5/8"			2-5/8"	2-5/8"	2-1/8"	2-5/8"	1-7/8"	1-5/8"

Notes:

Minimum Edge Distance: Is shown in the **gray** application bar for each fastener (may vary by framing thickness) and represents the minimum distance from the Edge (square cut) that a fastener may be inserted. See **e** in illustration on next page.

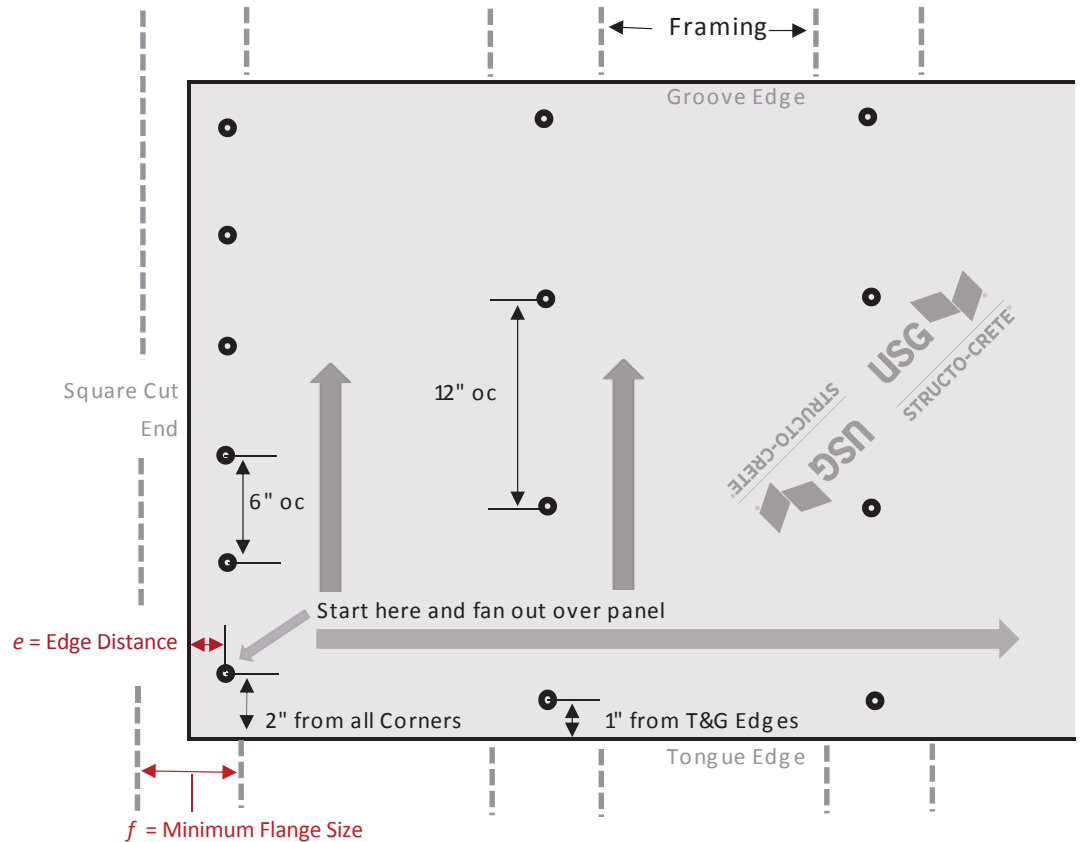
Framing Flange Size: The minimum recommended flange size to allow for proper fastener insertion. See **f** in illustration on next page. Utilizing framing with at least the minimum flange size is key to attaining the minimum framing bearing required for panel Ends. Refer to [3/4" USG STRUCTO-CRETE® Brand Structural Panels Subfloor Installation Guide \(SCP14\)](#) for more information.

Fasteners: Any length of a recommended fastener may be used provided a minimum of three full threads penetrate the steel framing. Do not use a larger diameter fastener unless specified by the structural engineer of record. Fasteners listed are screws except for Senco (nails), Aerosmith, DeWalt, and Hilti (pins). 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 dimensions may be utilized when approved by the structural engineer of record.

**FASTENING
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CONT.**

Framing: The gauge, size and type of framing is determined by the engineer, architect or design professional of record. CFS shall comply with AISI-General, with a min. C60 coating. 33 mil (20 ga) CFS framing is for gravity loads only.

General Note: In accordance with [PER-13067](#) (Subfloor) and [PER-14076](#) (Roof Deck), the minimum fastener schedule is max. 6 in. (153 mm) o.c. on the perimeter and max. 12 in. (305 mm) o.c. in the field of the panels. Refer to [PER-15092](#) for 3/4" USG STRUCTO-CRETE® Brand Structural Xtra Strength Panels fastener schedules. Refer to the appropriate PER and the specific project specifications for complete fastener schedule details.



Fastener Quantities: This is intended to be a starting point for fastener estimating only. USG recommends that a calculation be made for each project layout to determine the appropriate number of fasteners required and that an excess of at least 10% be added to the calculated quantity for the project.

**FASTENING OTHER MATERIALS TO
3/4" USG STRUCTO-CRETE® BRAND
STRUCTURAL PANELS**

4' (122 cm) x 8' (244 cm) Panel Size	Average Number of Fasteners	
	Per Square Ft.	Per 1,000 Square Ft.
Blocked	1.50	1,500
Un-Blocked	1.25	1,250

Fastening non-load bearing walls, interior doors, fixtures, cabinets, etc. to installed 3/4" USG STRUCTO-CRETE® Brand Structural Panels can be broken into two categories: Withdrawal Load and Shear Load. Fastening options are listed with each and these apply to fastening only through the panel and not into the framing. Fastening through the panel into the framing may be accomplished using the appropriate length of recommended fastener from the *Fastening 3/4" USG STRUCTO-CRETE® Brand Structural Panels to Framing* table, or the fastener(s) recommended by the manufacturer of the item being installed.

**FASTENING OTHER MATERIALS TO
3/4" USG STRUCTO-CRETE® BRAND
STRUCTURAL PANELS
CONT.**

Made in Delavan, WI, USA

PRODUCT INFORMATION

See 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 swallowed, inhaled, or skin irritation occurs get medical attention. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Wash contaminated clothing before reuse. 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

KEEP OUT OF REACH OF CHILDREN.

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NOTICE

We shall not be liable for any special, incidental or consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from the date it was or reasonably should have been discovered. For full terms, conditions, and warranty information, please see the appropriate manufacturers' website and documentation.

SAFETY FIRST!

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read SDS and literature before specification and installation.

Withdrawal Load: Cabinets, chairs, furniture, signage, railings, roof vents, access panels, or other materials that must resist upward movement loading, and cannot be secured through the panel into the framing members.

Brand	Part Number	Description
TOGGLER® Anchor System	BC 3/8" - 16	3/8" SNAPTOGGLE®
TOGGLER® Anchor System	BD 1/2" - 13	1/2" SNAPTOGGLE®
SFS intec Group	TPR-L-6	1/4"x3" Peel Rivet

Notes:

See [PER-13067](#) (Subfloor) and [PER-14076](#) (Roof Deck) for nominal withdrawal capacities and additional fastener details.

Peel Rivet length to be selected based on thickness of material being secured. Applicable sizes range from 3" (76 mm) to 10" (254 mm) in length.

SNAPTOGGLE® and Peel Rivet shall be located a minimum of 2" from T&G intersection.

Shear Load: Non-load bearing walls that will not be subject to any axial loading, that will not be used as shear walls, and are only required to resist mild impact lateral loads (a person leaning on the wall) can be fastened directly to 3/4" USG STRUCTO-CRETE® Brand Structural Panels without going through the supporting framing.

Brand	Part Number	Description (20 ga EQ)	Allowable Load (lb)	
			18 mil (20 ga)	30 mil
Ramset® TRAKFAST™ Standard	FPP012	1/2" Plated Steel Pin	100	165
Ramset® TRAKFAST™ Standard	FPP034B	3/4" Black Steel Pin	117	209

Note:

Allowable shear load per tested fastener.

FASTENING ROOFING MATERIALS TO USG STRUCTO-CRETE® BRAND STRUCTURAL ROOF DECK PANELS

Shingles: Standard asphalt roofing shingles may be fastened through water barrier (roofing felt, etc.) directly to 3/4" STRUCTO-CRETE® Brand Structural Roof Deck Panels using GRIP-RITE® [GRCR3DGAL](#) - 1-1/4" x 0.120 shank, electro-galvanized, collated roofing nails (or similar).

All other roofing system components must be adhesively attached, secured through the panel using Peel Rivets or through the panel into the supporting framing using appropriate corrosion resistant fasteners.

See [AER-17108](#) (Roof Deck & Balcony/Walking Deck Assemblies) for system specifics and additional information.

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United States Gypsum Company
550 W Adams Street
Chicago, IL 60661

**3/4" STRUCTO-CRETE® Brand
Structural Panels MSRP based
upon full truckload delivered
to jobsite:**
Subfloor: \$5.10/sf
Roof Deck: \$6.00/sf
Xtra Strength: \$6.00/sf

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