

7. USG approves the use of pneumatic or gas-power-driven pin fasteners to attach Securock Glass-Mat Sheathing to cold-formed steel framing, provided the pin manufacturer has evaluated Securock with the pin fastener in accordance with ICC-ES AC259 Acceptance Criteria, and where permitted by local codes.

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DIVISION: 05—METALS
Section: 05090—Metal Fasteners

REPORT HOLDER:
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EVALUATION SUBJECT:
GYP-FAST™ FASTENERS USED TO ATTACH GYPSUM SHEATHING TO METAL STUDS

1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2006 International Building Code® (IBC)
- 2006 International Residential Code® (IRC)
- 1997 Uniform Building Code™ (UBC)

Properties evaluated:
Structural

2.0 USES
The GYP-FAST™ fasteners are used to attach gypsum sheathing to the exterior side of light-framed, cold-formed steel framing members for curtain wall applications. The fasteners may be used to attach gypsum sheathing to steel studs in structures regulated by the IRC, provided an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION
3.1 GYP-FAST Fasteners:
The fasteners are formed from coils of mill-certified steel coils. The steel complies as ASTM A 510, UNS G 10300 steel, heat-treated to a Rockwell C hardness of 45 to 50, or ASTM A 510, UNS G 10600 steel, heat-treated to a Rockwell C hardness of 44 to 48. Minimum tensile strength is 210 ksi (1447 MPa). The fastener is zinc-plated with a polymer finish, and has a tapered point with an annular thread and helical grooves on the shank. The fastener is 1 1/2 inches (38.1 mm) long, has a 0.140-inch (3.6 mm) knurled diameter [0.120 inch (3 mm) shank diameter], and has a 0.32-inch-diameter (8.1 mm) bugle head. The fasteners are available in 150-count collated coils.

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3.2 Exterior Gypsum Sheathing:
Exterior gypsum sheathing must be one of the materials listed in Table 1. The minimum thickness is 1/2 inch (12.7 mm).

3.3 Steel Framing:
Steel framing members must comply with the applicable code and have the minimum uncoated base-metal thicknesses noted in Table 1. In addition, framing members must be manufactured from steel with a minimum yield strength of 33 ksi (228 MPa).

4.0 DESIGN AND INSTALLATION
4.1 Design:
Framing and sheathing spacing, fastener placement, and fastener (outward) transverse location must be in accordance with the applicable code.

4.2 Installation:
The GYP-FAST™ fasteners must be installed using pneumatic tools or fuel-applied tools. The fasteners must be driven flush with the gypsum sheathing. The fasteners must not be over-driven.

5.0 CONDITIONS OF LISTING
The GYP-FAST™ fasteners are listed with, or are suitable alternative to, the following conditions:
5.1 The fasteners are used in accordance with the applicable code.
5.2 Calculations demonstrating that the fasteners meet the requirements of the applicable code.
5.3 Weather protection over the sheathing in accordance with the applicable code.



Product Evaluation Report

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Compliance
1/2" USG SECUROCK™ Glass-Mat Sheathing:

- Meet or exceed the requirements of ASTM C 1177, *Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing*.
- Meet or exceed the requirements of gypsum sheathing in accordance with the 2006 International Residential Code® and the 2006 International Building Code®.
- Non-combustible core when tested in accordance with ASTM E 136, and defined in 2006 International Building Code® Section 703.4.2.
- Surface Burning Characteristics - Flame Spread 0 / Smoke Development 0 when tested in accordance with ASTM E 84.
- Exceeds 15 psi flatwise tensile bond capacity required for a resiliently attached EIFS when tested in accordance with ASTM C 297.
- Meets the requirements of a thermal barrier as defined by 2006 International Building Code® Section 2603.4.

General Product Usage and Limitations

1. These products shall be installed in accordance with ASTM C 1280 *Standard Specification for Application of Gypsum Sheathing, GA-253 Application of Gypsum Sheathing*, and the requirements of USG Product Literature.
2. These products shall not be used as a nail base. Mechanical attachment of exterior claddings must be made directly to the framing.
3. Securock™ can be installed on wood or steel framing. The maximum spacing for framing members is 24-in. o.c. The framing strength, fastener holding capacities of framing or fastener length is outside the scope of this Product Evaluation Report.
4. Fasteners shall be driven flush with the panel surface without countersinking or being deep enough to break the glass mat.
5. These products may be applied with long dimensions parallel or perpendicular to framing members except where limited by specific requirements. Sheathing orientation and fastener spacing may be governed by local code, or by the requirements of shear, wind or fire-resistance-rated construction. Consult local codes and site-specific construction documents for specific requirements and limitations for every application.
6. These products shall remain in their original unopened packaging at the side and stored in an enclosed shelter providing protection from physical damage and exposure to the elements until used. Prevent these products from exposure to cascading water.
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Physical Properties per ASTM C1177		
	1/2" Securock™ Glass-mat Sheathing	5/8" Securock™ Glass-mat Sheathing
Flexural Strength (ASTM C473-06)		
Minimum Breaking Load		
Edge Perpendicular	107 lbf	147 lbf
Edge Parallel	80 lbf	100 lbf
Hardness (lbf)		
Core Test	15 min	15 min
End Test	15 min	15 min
Edge Test	15 min	15 min
Nail Pull Resistance	80 min	90 min
Water Absorption (% by weight)	10% max	10% max
Surface Burning	0/0	0/0

