

Technical Bulletin #36b

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PREMIER SIPS – CONTINUOUS INSULATION SHEAR VALUE

Energy efficiency is paramount in building construction. Many local building codes are following the lead of ASHRAE and adopting requirements for continuous insulation (ci) over stud framed walls. Premier SIPS continuous insulation product is an answer to these local building code requirements.

Premier SIPS continuous insulation product consists of a layer of OSB laminated directly to an Insulfoam EPS insulation core. When the continuous insulation product is attached to the stud wall framing the OSB is held off the studs by the thickness of the EPS. This framing method varies from the typical application of OSB nailed directly to the stud framing. Questions about the racking shear capacity of this type of assembly have been raised by designers. The APA has published Technical Note 465E, APA Rated Siding Panels Over Rigid Foam Insulation Sheathing, which address this question for insulation thicknesses up to one inch.

Cyclic racking shear wall testing was conducted for applications using Insulfoam EPS insulation thickness of 1.5 inches. The assembly consisted of 7/16" Exposure 1 Oriented Strand Board (OSB) over 1.5 inches of Insulfoam EPS and nailed with 0.131 inch diameter x 3 1/4" nails driven by a pneumatic nail gun. The nails were driven through the OSB and foam and into the 2x4 studs behind. The 2x4 stud spacing was 24 inches on center. Nail spacing was 3 inches on center at the OSB edges, and 6 inches on center in the field of the OSB. The cyclic testing was conducted using the CUREE protocol according to AC 130. The average maximum load for the assembly was 557 plf. Designers can use this value with the appropriate safety factor to design walls utilizing this assembly.