

RAY-CORE Polyurethane Panels With Integrated Studs

Expanded Polystyrene (EPS) Sandwich Panels

Structural Integrity

<p>Studs (16 or 24 inches on center) Compression 2x4 tested up to 40,000 pounds (standard 2x4 fails at 9,200 pounds) 2x4 Transverse/Wind Load - tested up to on 2x4 8,320 pounds *based on 2x4 test, 2x6 exceeds the testing capacity of their equipment OSB will be nailed to studs allowing proper overlapping of OSB</p>	<p>No studs - relies on OSB and glue for structural support Data not provided (<i>ibpanels.com</i>) will only engineering to plans Transverse/Wind Load - 6.5" tested up to 4,931 pounds (<i>ibpanels.com</i>) OSB included. Not nailed, could delaminate from foam.</p>
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R-Values ("Real" R-Values based on ASTM C 177-85 testing standard; see www.ftc.gov/bcp/rulemaking/rvalue/16cfr460.shtm#5)

<p>Highest R-Value of any SIP core material (R-7.123 per inch) 3.5"=R-24.82 @ 75°F 5.5"=R-39.29 @ 75°F 7.25"=R-51.79 @ 75°F</p> <p>Thinner walls = savings on top & bottom plates, window & door jams & headers</p>	<p>Lowest R-Value of any SIP core material (R-3.85 per inch) 4.5"=R-14.9 @ 75°F 6.5"=R-22.6 @ 75°F 8.25"= R-29.3 @ 75°F 10.25"=R-37 @ 75°F 12.25"=R-44.7 @ 75°F</p> <p>*for these R-Values see: http://www.bigskyrcontrol.com/SIPs/energy.asp Thicker walls = increased materials costs</p>
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Vapor Barrier

<p>Integrated Radiant Vapor Barrier on both sides prevents transfer of moisture *Flame resistant, .02 perm, humidity, mold and mildew resistant</p>	<p>No integrated vapor barrier</p>
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Perm Rating (A measure of the amount of water vapor (moisture) that can pass through. To be an effective vapor barrier, a material needs to have a perm rating of **1.0 or lower.**)

<p>Low Perm Rating of 1 Low moisture retention prohibits mold growth No rotting No bacterial growth</p>	<p>High Perm Rating of 3 (Retains Moisture) Promotes mold growth Contributes to rotting Allows bacterial growth Moisture deterioration delaminates OSB eliminates structural integrity</p>
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Fire Rating

<p>Class 1 fire rated - ASTM E-84 High melting point - melts at 375° F High fire resistance</p>	<p>Not class 1 fire rated Low melting point - melts at 210° F (softens at 165°F, roof can get that hot) Poor fire resistance</p>
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ICC Approval

<p>Not required - panels conform with building codes (studs 16" or 24" on center) No seismic testing required - panels conform with building codes</p>	<p>ICC number required - does not conform with building codes ICC seismic testing required to be used in Madison County</p>
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