# Insulspan SIPs PIB 220

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# Insulspan R-Plus SIP System Energy Efficiency with EnerSpan Insulation

INSULSPAN®
STRUCTURAL INSULATING PANEL SYSTEM
Better building ideas from PFB™

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# Product Information Bulletin

## Insulspan® R-Plus SIP System
## Energy Efficiency with EnerSpan® Insulation

The ***Insulspan® R-Plus SIP* System** is an energy efficient structural insulating panel (SIP) system consisting of an ***EnerSpan®*** insulation core with oriented strand board (OSB) structurally laminated to the interior and exterior faces. ***EnerSpan*** insulation is an expanded polystyrene (EPS) insulation with a silver-grey colour manufactured using Neopor® F5300 Plus provided by BASF. Neopor F5300 Plus is a graphite-enhanced expandable polystyrene (GPS) raw material that reduces radiation heat transfer resulting in EPS insulation with a higher thermal resistance compared to standard white EPS insulation.

| SIP Total Thickness | | Thickness EPS Core & OSB | | Thermal Resistance | | Thermal Transmittance | | SIP Weight | |
|---|---|---|---|---|---|---|---|---|---|
| Inches | mm | Inches | mm | $\frac{ft^2 \cdot h \cdot ^oF}{BTU}$ | $\frac{m^2 \cdot ^oC}{W}$ | $\frac{BTU}{ft^2 \cdot h \cdot ^oF}$ | $\frac{W}{m^2 \cdot ^oC}$ | $lb/ft^2$ | $kg/m^2$ |
| 4 1/2 | 114 | 7/16<br>3 5/8<br>7/16 | 11<br>92<br>11 | 18.3 | 3.22 | 0.055 | 0.311 | 3.3 | 16.1 |
| 6 1/2 | 165 | 7/16<br>5 5/8<br>7/16 | 11<br>143<br>11 | 27.7 | 4.87 | 0.036 | 0.205 | 3.5 | 17.1 |
| 8 1/4 | 210 | 7/16<br>7 3/8<br>7/16 | 11<br>187<br>11 | 35.9 | 6.32 | 0.028 | 0.158 | 3.7 | 18.0 |
| 10 1/4 | 260 | 7/16<br>9 3/8<br>7/16 | 11<br>238<br>11 | 45.3 | 7.98 | 0.022 | 0.125 | 3.9 | 19.0 |
| 12 1/4 | 311 | 7/16<br>11 3/8<br>7/16 | 11<br>289<br>11 | 54.7 | 9.63 | 0.018 | 0.104 | 4.1 | 20.0 |

**Note:** The values for ***thermal resistance (R/RSI-value)*** and ***thermal transmittance (U-factor)*** in the table above are for the ***Insulspan R-Plus SIP*** only at a mean temperature of 75 °F (24 °C). The values do not include panel framing/connection material, exterior cladding, interior finish materials or interior and exterior air films.

***Insulspan R-Plus SIP*** wall and roof assemblies require fewer framing members than conventional wood frame construction resulting in energy efficient building construction with ***higher overall thermal resistance*** (***lower overall thermal transmittance)***. In addition, air leakage is one of the biggest sources of energy loss in most buildings. Air leakage rate and overall thermal resistance (or thermal transmittances) are measures used to determine the energy efficiency of building construction. Significantly ***lower air leakage rates*** are achievable for energy efficient buildings constructed using the ***Insulspan R-Plus SIP System***.

***The combined higher overall R/RSI-value and lower air leakage characteristic for building assemblies built with the Insulspan R-Plus SIP System result in significant long-term energy cost savings versus other construction methods such as wood frame construction.***

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