

What are Structural Insulated Panels?

An Advanced Panel Products structural insulated panel (SIP) is made from a thick layer of polyurethane foam sandwiched between two layers of metal, Oriented Strand Board (OSB), plywood or fiber-cement. The result is an engineered panel that provides structural framing, insulation, and exterior sheathing in a solid, one-piece component.

The use of continuous lamination machines, which automate forming and cutting according to dimensions downloaded from digital floorplans, allows panels to arrive precut to the jobsite. The panels can then be rapidly assembled by workers without extensive training. This allows builders to quickly construct an exterior building envelope that is strong, airtight, and energy efficient.

The basic design concept our panels is elegant in its simplicity, and offers several advantages for constructing walls and roofs. Bonding the foam core to the stiff outer skins creates a web-and-flange structural strength (along the same principal as an I-beam) across the length and breadth of the panel. With the capacity to handle axial, bending, racking, and shear loads, properly designed and assembled SIPs not only replace conventional framing, but will withstand high wind, and seismic forces.

Insulation capacity is another advantage conferred by Advanced Panel Products. Our panels provide better overall air tightness and practical thermal performance than conventionally framed walls. Panel systems offer a dense, uniform and continuous air barrier with few thermal bridges, and no opportunity for internal convection.