



Structural Insulation Panels

Structural insulation panel (SIP) is a product that fuses a foam core, like expanded polystyrene, between two outer skins of oriented strand board (OSB) to create a super-strong construction panel.

SIPs are used to construct exterior walls, roofs, ceilings and floors. Homes and buildings constructed from SIPs offer superior insulation qualities, exceptional strength, fast installation and a host of benefits to the environment.

These panels are available in a range of core thicknesses and densities. Additionally, they may employ wood and/or metal skins for increased durability and easy maintenance.

The Benefits of Using SIPs

Superior Insulation: The foam core of a SIP provides higher insulation values than many other insulation materials used in traditional stud-wall construction. Because SIPs have fewer gaps - and because studs do not interrupt the insulation - homes insulated with SIPs have proven to be less drafty.

Also, because SIPs are comprised of solid insulation, they act as a barrier to sound better than homes made from traditional construction methods.

Owners of homes using SIPs may qualify for the EPA's Energy Star Home designation, given to homes that benefit the environment through reduced energy usage. Homes that are given this designation may qualify for lower-interest mortgages or other benefits.

Exceptional Strength: Since the finished panels are an integrated building product, literally acting as a structural component, they are able to withstand and even surpass typical loads caused by winds, snow and seismic activity. There have been many documented instances of houses constructed with SIPs having fared severe weather conditions with minimal damage.

Fast Construction and Finishing: SIPs are joined together quickly and easily. An experienced three-person crew can complete the panel erection of a standard 2,000-square-foot home in as little as one day and completely "dry-in" the SIPs in as little as three days.



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Because windows, door openings and roof gables can be precut within the SIPs at the point of manufacture, precision measuring and cutting at the job site are significantly reduced.

SIPs also make inside finish work easier to complete. Drywall goes up fast by affixing it to the interior OSB panel. Cabinets also are installed quickly since they can be bolted directly into the OSB panel and electrical distribution is easily accomplished by running electrical wire through horizontal and vertical chases that run inside of each panel.

Environmental Benefits: According to the Structural Insulated Panel Association (SIPA), SIPs offer several benefits to the environment. Because SIPs effectively replace conventional stud-wall construction, fewer mature forest products need to be harvested. Because SIPs offer superior insulation qualities, heating and electric bills are reduced and the result is that fewer fossil fuels need to be burned.

Applications of SIPs

SIPs are available in a host of shapes and sizes and can be used to construct a variety of different residential and commercial buildings. SIPs applications include the following:

- Timber- and Metal-Frame Buildings
- Cathedral Ceilings
- Custom Applications

Cost Effectiveness of SIPs

When choosing between a home using SIPs versus a traditional construction method, quality is the chief reason Tri State Foam SIPs are chosen. In current market conditions, the costs of SIPs and traditionally constructed homes are comparable.

Because of the efficiencies and ease of building a SIP home, the overall cost of building one is very competitive with more traditional construction. The added strength, quiet and insulation values that a SIP home offers is a valued benefit.

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