

Building Envelope Theory

The last 50 years have brought about changes to the way we build, insulate, and operate buildings. Major changes include:

- Wider use of thermal insulation.
- Tighter building enclosures.
- Introduction of forced-air heating and cooling systems.
- Increased need for proper ventilation of buildings.
- Reduction in the number (amount) and function of active chimneys.

A building envelope is the combination of the foundation, wall, and roof assemblies all working together to provide a comfortable and safe environment in a building. It also preserves the structural integrity of the building. In order to do this, the building envelope has to:

- Hold up the building
- Keep out rain
- Keep out groundwater
- Keep out wind
- Keep out moisture vapor
- Keep out soil gas, like radon
- Remove moisture vapor from the inside
- Keep in heat during the winter
- Keep out heat during the summer.

SIP Supply produces the highest quality structural insulated panel in the marketplace at this time. Utilizing the insulation properties of polyurethane as the inner core, our framed and foamed in place assembly allows for the tightest seals and quality control. Our technology used in the manufacturing process allows for mass production of panels. Due to our volume buying power and production, we are able to deliver panels at or below the competition.

The building envelope works in conjunction with the heating, cooling, and ventilation systems to perform several major functions:

- Controls the comfort level inside by managing temperature and relative humidity.
- Reduces heating and air conditioning cost.
- Prevents problems such as pipe freeze-ups.
- Prevents insect and vermin infestation of the building.
- Prevents condensation inside of the building's foundation, walls, and roof assemblies.

"Worldwide Supplier of Structural Insulated Panels" SIP Supply, LLC / CommercialSIPs.com

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