

# Residential Wall Insulation:

## Little Product... BIG Benefits!

Spray Polyurethane Foam (SPF) insulation is rigid, lightweight, flexible, wind resistant, and effective in extreme temperatures and weather conditions. SPF insulation has the highest R-value per square inch of any commercially available insulation material.

## Total Comfort Control, Not Just R-Value

The building envelope is a system of construction components which protect against the uncontrolled movement of: heat, air, and moisture.

The true performance of your building envelope can not be measured with the R-value of the insulation alone, but must also consider air movement, moisture control, health, safety, durability, comfort, and energy efficiency.

This is true whether your building is commercial, residential, or multifamily: SPF addresses all these needs in both new construction and improvements to existing structures.

## Six Mechanisms of Heat Loss Through a Wall or Ceiling That Are Bad for Your Home and Your Health

1. Conduction
2. Radiation
3. Convection Currents
4. Infiltration (Wind Pressure)
5. Intrusion (Wind Wash)
6. Moisture Accumulation (Humidity, Dew, and Frost)

## Did you know?

- Air infiltration can increase energy costs in buildings 10 to 40%.
- SPF reduces air infiltration allowing insulation to be more effective and reducing the demands on HVAC equipment.
- SPF reduces moisture infiltration by reducing air leakage.
- SPF adds structural strength to walls and ceilings.
- SPF reduces sound transfer into buildings. Most sound from outside the building is carried into the building through cracks and air leaks. SPF by stopping the air infiltration also helps keep sound out.
- SPF minimizes dew point problems and condensation.
- SPF resists heat transfers through air infiltration regardless of flow direction.
- SPF provides reliable R-values under the most extreme conditions, dependable and durable protection against heat loss or gain.
- SPF minimizes thermal bridging, which can cause higher energy usage and cost.
- SPF out-performs conventional insulation materials because they trap still dry air and if that air moves or becomes wet, the thermal resistance can drop by 50%.
- According to ASHRAE, a 3% void area in a wall cavity represents a 15% reduction in wall R-value.