



Spray Foam with Flexible Seal Technology

Product Data Sheet



Physical Properties

Properties	Test Method	Results
Freeze-Thaw Stability (Part A)	24 hour cycles	> 5 cycles
Tack-free Time	Dry to touch	Within 10 minutes
Pressure Build	AAMA 812	< 0.1 psi
Water Vapor Permeance	ASTM E 96 (dry cup) ASTM E 96 (wet cup)	40 perm 110 perm
Dimensional Stability	ASTM D 2126	max 1.0% linear change at -40°F, ambient RH after 2 weeks max 2.0% linear change at 100°F, 97% RH after 2 weeks
Durability ¹	ASTM C 719	> 10 cycles; no cohesive failure or cracking
Flame Spread ²	ASTM E 84	10
Smoke Developed ²	ASTM E 84	20
Leakage Rate	ASTM E 283	< 0.01 cfm/ft. ² at 1.57 psf (75 Pa) and 6.24 psf (300 Pa) pressure

1. Modified - water soak and 60° bend not applicable to this application.

2. The surface burning characteristics of the Energy Complete™ Spray Foam were derived from products tested in accordance with ASTM E84. This standard is used solely to measure and describe properties of products in response to heat and flame under controlled laboratory conditions, and should not be used to describe or approve the fire hazard of materials under actual fire conditions. However, the results of these tests may be used as elements of a fire risk assessment that takes into account all of the factors pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating. The sample size was two full length 1" diameter beads.

Description

The EnergyComplete™ Spray Foam with Flexible Seal Technology is a two-part, non-allergenic, high performance latex-based foam used to seal cracks and penetrations through a building envelope and from floor to floor in a building. These two components are to be used in the EnergyComplete™ Sprayer, which has been specifically designed for this foam.

The liquids are pumped from the pails into the sprayer reactor and then into the spray gun, where the two liquids mix and start to react. After the foam leaves the gun and hits the target, it begins to expand. After about 20 minutes (depending on temperature and relative humidity), the foam is tack free and insulation can be installed. This product is installed by Owens Corning certified installers.

Uses

Air leakage (infiltration and exfiltration) can account for 30 percent or more of a home's heating and cooling costs and contribute to problems

with moisture, noise, dust, and the entry of pollutants.¹ EnergyComplete™ Spray Foam can be used in a wide range of air sealing applications. The product can be installed in any common form of wood-framed construction. It is intended to fill in gaps that occur in the building envelope from joints and penetrations.

Features and Benefits

Reduced Air Infiltration

The EnergyComplete™ Spray Foam with Flexible Seal Technology will dramatically reduce the amount of air infiltration by sealing the joints and penetrations in the building envelope. It is this infiltration of air that wastes energy. Use of the EnergyComplete™ system in the home can reduce the heating and cooling energy consumption by up to one-third. Reduced air leakage also affects thermal comfort by reducing the feeling of draftiness and humidity-related sensations, where moist air that

infiltrates in the summer makes a person feel warmer and dry air that infiltrates in the winter makes a person feel cooler.

Reduced Risk of Moisture

One cause of moisture damage in wall cavities is moisture-laden air that infiltrates/exfiltrates through the walls. When that moisture-laden air encounters a surface where the temperature is cool enough, the water can condense and, in some conditions, accumulate. The EnergyComplete™ system significantly reduces the air infiltration, thereby reducing the chances that this condition can occur.

Long Term Performance

The EnergyComplete™ Spray Foam maintains its flexibility, air sealant properties, and adhesion to common building material substrates over time, as demonstrated through accelerated aging tests designed to represent typical wood frame



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movement and climatic changes throughout the United States over a fifty-year period. The EnergyComplete™ Spray Foam also maintains an air seal after being subjected to the pressure from 3-second gust hurricane wind speeds of up to 150 mph. The EnergyComplete™ Spray Foam adheres and is non-corrosive to typical materials found in residential construction such as wood, cardboard, PVC, ABS, copper, steel, galvanized steel, concrete, masonry block, and expanded polystyrene.

Easy Installation

The EnergyComplete™ Spray Foam is easy to handle and install. It has a number of designed-in features that provide a consistent sealing application, time after time, from installer to installer:

1. It hits a broader target due to the fact that it is sprayed (i.e., precision to find and selectively seal a crack is not required)
2. It flows, penetrates and expands, filling small cracks without the need to manually squeeze the sealant into the crack, as with caulk
3. The air that is entrained into the spray action provides a self-cleaning feature to the wood surface that is receiving the foam—effectively blowing sawdust and debris away from the surface being sealed, thereby ensuring a solid and long-lasting bond between the sealant and the wood
4. Allows sealing in hard-to-reach places, like the band joint.

Easy Handling

Both Part A and Part B come in 4 gallon buckets for easy transport to, and handling on the job site.

Safe

The EnergyComplete™ Spray Foam is safe to install and DOES NOT require a chemical mask or fresh air ventilation suit, and other trades can work in the house while the spray foam is being applied. Insulators can install fiberglass in the walls shortly after the foam is applied. Owens Corning recommends that installers use chemical gloves, goggles or a face shield, a long sleeved shirt, and a dust mask, if the installation site is dusty. Additionally, unlike polyurethane spray foam, there is no need to quarantine the work area. Other trades are welcome to work in and around the home during the installation of the EnergyComplete™ Spray Foam.

Design Considerations

This product is intended to seal gaps within a building's thermal envelope. Small gaps (anything up to $\frac{3}{8}$ ") can be filled entirely with the EnergyComplete™ Spray Foam. Medium-sized gaps (between $\frac{3}{8}$ " and 3") should be stuffed with fiber glass insulation and then the EnergyComplete™ Spray Foam may be sprayed overtop to seal. Large gaps (greater than 3") should be fixed with rigid, nonporous sheathing material such as OSB or expanded polystyrene (FOAMULAR® insulation) and then the perimeter of the patch may be sprayed with the EnergyComplete™ Spray Foam.

This product is not intended to serve as insulation for the whole house. However, it does have an R-value of 3.2 and can be used behind electrical boxes as insulation. Providing an air barrier with the EnergyComplete™ Spray Foam product in conjunction with proper insulation such as fiberglass, can result in enhanced thermal performance and comfort for the building occupants.

EnergyComplete™ Spray Foam installed too close to light fixtures may affect the luminaire's performance. Do not install insulation on top of or within 3" of recessed light fixtures unless the fixtures are approved for such use. This is a requirement of the National Electrical Code. Do not install the EnergyComplete™ Spray Foam within 3" of a heat source.

This product does NOT replace the need for a drainage plane on the exterior of the building (e.g., housewrap).

It is important to be aware that local codes may require a fire stop material to fill these holes. The EnergyComplete™ Spray Foam with Flexible Seal Technology spray foam is not a fire stop product.

Since there is potential for a house treated with the EnergyComplete™ Spray Foam to have extremely high air tightness, Owens Corning strongly recommends that a whole-house mechanical ventilation system be installed. Refer to the Tech Bulletin on Ventilation of



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EnergyComplete™ Homes for general information. Refer to ASHRAE Standard 62.2-2007 and Manual J for specific sizing requirements.

Installation

Inside Wall Cavities

The EnergyComplete™ Spray Foam should be applied to the top and bottom of each wall cavity where the exterior sheathing meets the framing members. In addition to this, the foam should be applied along vertical framing members behind which there is a joint in the exterior sheathing.

Top Plate

The EnergyComplete™ Spray Foam product should be applied to the face of the top plate and by doing so fill in the gap between the two framing members. The pliable foam will also act as a gasket when the drywall is installed, which seals the wall cavity from the unconditioned attic space on the top floor of a building. This top plate treatment should be done on all exterior walls and the interior partition walls on the top floor. The pliable foam should not pose a problem to the installation of drywall.

Bottom Plate

The EnergyComplete™ Spray Foam should be sprayed along the intersection between the bottom plate framing member and the subfloor. This should be done on all exterior walls.

Wiring/Plumbing/Duct

Penetrations

The EnergyComplete™ Spray Foam product should be applied around electrical wires, plumbing pipes, ductwork or any other penetrations between floors on exterior and interior walls.

Around Windows and Doors

The EnergyComplete™ Spray Foam is a low rise foam that has an extremely low expansion force. It will not cause door or window frames to warp. In addition, EnergyComplete™ Spray Foam remains flexible when cured, and will not transfer structural load to wall penetration systems.

Basement Band Joist and Exterior Penetrations

Any joints in the rim joist of the house should also be treated with the EnergyComplete™ Spray Foam product. This includes treating the interface between the concrete/masonry wall and the sill plate where there may already be a foam gasket, as well as the joints at the bottom of the rim joist with the sill plate and top of the rim joist with the sub-floor. Any penetrations to the exterior of the house should also be sealed with the EnergyComplete™ Spray Foam provided the risk of contact with bulk water is small.

Notes

1. Air Sealing, Office of Building Technology, State and Community Programs, Energy Efficiency and Renewable Energy, US Department of Energy. No. DOE/GO10099-767,1999.

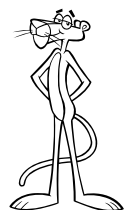


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