



ThermoSeal 1600
Product Specification

Product Name

ThermoSeal 1600 is the registered trademark of SprayFoamPolymers.com for its 1.6lb high density, closed cell foam insulation.

Product Description

ThermoSeal 1600 is a semi-rigid, water blown, 1.6lb high density polyurethane foam insulation system which simultaneously insulates and air-seals your building structure. ThermoSeal 1600 is designed to make homes more energy efficient, quieter, healthier and more comfortable. ThermoSeal 1600 is applied as a liquid spray which expands approximately 30 times its initial mass and cures within seconds into a semi-rigid mass. ThermoSeal 1600 fills all building cavities completely sealing all cracks, crevices, and voids where air loss and infiltration are most common.

Technical Data

Thermal Performance

Thermal resistance R/in.
ASTM C518: R5.95hr.ft² °F/BTU

Average insulation contribution in stud wall:
2"x4"=R23 2"x6"=R36

ThermoSeal 1600 provides greater R value performance than other equivalent R value insulation materials which are air permeable such as fiberglass. ThermoSeal 1600 does not lose R value due to wind, ageing, convection, air infiltration or moisture. An R value fact sheet is available upon request.

Air Permeance/Air Barrier

ThermoSeal 1600 fills any shape cavity including all voids, cracks, and crevices adhering to multiple substrates such as wood, metal, and concrete creating a system with very little air permeance. With ThermoSeal 1600 no additional interior or exterior air infiltration protection is required.

ASTM E283 Air Leakage
Zero (0) ft³/s.ft² @ 75Pa (25mph wind)
Sustained Wind Load

Sustained Wind Load
60 minutes@1000 Pa (90mph wind)
TBD

Gust Wind Load Test
@3000 Pa (160 mph wind)
TBD

ThermoSeal 1600 qualifies as an air barrier as defined by ICC.

Water Vapor Permeance

ThermoSeal 1600 is minimally water vapor permeable at 2". For situations requiring a vapor barrier the use of low vapor permeable paint on the interior of drywall is an option or use >2" of ThermoSeal 1600 or use ThermoSeal 2000.

Water Vapor Transmission Properties:
ASTM E96 data
.8 @ 2"

Water Absorption

ThermoSeal 1600 is water repellent, will not wick, and does not exhibit capillary properties. Water cannot be forced into the foam under pressure because of its high degree of closed cell content

Acoustical Properties

Performance in a 2"x 6" wood stud wall.
ASTM E413 STC Sound Transmission
TBD

ASTM E 90
Hz. Freq. 125 250 500 1000 2000 4000
Trans. Loss TBD

ASTM C 423
NRC Noise Reduction Coefficient = .70
Hz. Freq. 125 250 500 1000 2000 4000
Absorption .TBD

Actual performance will likely be superior to the above results based on ThermoSeal's ability to control air permeation.

Burn Characteristics

ThermoSeal 1600 is a Class I insulation and shall be separated from its inhabitants by a 15 minute approved thermal barrier. ThermoSeal 1600 shows less flame propagation than some Kraft faced fiberglass insulation and may be left exposed in attics and crawl spaces. ThermoSeal 1600 might be consumed by flame but will not sustain flame upon removal of the flame source. ThermoSeal 1600 will not melt or drip. ThermoSeal 1600 must be installed in accordance with all applicable building codes.

ASTM E84 Surface Burning Properties
Flame Spread @2" <= 25
Smoke Developed @ 2" <= 450
Class 1 rating
Fuel Contribution none
ASTM 2863 Oxygen Index 25%

Compressive and Tensile Strength

ThermoSeal 1600 has favorable compressive and Tensile strength properties for light density foam.

ASTM D1623 Tensile Strength 58 psi
ASTM D1621 Compressive Strength 18 psi

Closed Cell Content

ThermoSeal 1600 is considered closed cell foam insulation:

ASTM D2856 >=90%

Testing results are pending 3rd party independent testing and certification from Intertek. **DISCLAIMER:** Information contained herein is, true and accurate, but all recommendations or suggestions are made without guarantee. Spray Foam Polymers, LLC (SFP) products are intended for sale to industrial and commercial customers. Since SFP exercises no control over its customers appreciation or use of the product manufactured by SFP and since materials used with the products may vary, it is understood that SFP can warrant only that our products will meet our written specifications. Nothing herein shall constitute any warranty of merchantability or fitness, nor is protection from any law or patent to be inferred. Our products must be installed in accordance with all applicable building codes and a building inspector's approval should be requested prior to installation. All patent rights are reserved. SFP requests that customers inspect and test our products before use, and satisfy themselves as to contents and suitability. The exclusive remedy for all proven claims is replacement of our materials and in no event shall SFP be liable for any consequential, incidental, indirect, or special damages resulting in any manner from the furnishing of the material.

Viscosity & Weights

| | |
|----------------------|--------|
| ASTM D2196 Viscosity | |
| A Side ISO @ 25°C | 250±20 |
| B Side Resin @ 25°C | 475±50 |

| | |
|--------------------------|---------|
| ASTM D1475 Weight/Gallon | |
| A Side ISO @ 77°F | 10.2lbs |
| B Side Resin @ 77°F | 9.8lbs |

Mixing Ratio By Volume

ThermoSeal 1600 is a standard 1:1 mix product. Off ratio installation can produce slightly heavier odors and foam characteristics and should be removed and replaced. Typically a heavier A ratio will produce a crunchier foam result, and a heavier B Side ratio will produce a spongier result with higher odor.

Electrical Wiring

ThermoSeal 1600 is chemically compatible with all 14/3, 12/2 and other similarly coated electrical wirings. For knob and tube wiring please seek the approval of your local building inspector.

Bacterial and Fungal Evaluation

ThermoSeal 1600 is not a source of food for mold, insects or rodents. It has no nutritional value. ThermoSeal 1600 reduces the introduction of moisture, food, and mold spores into the building envelope significantly more than traditional insulation such as fiberglass, cellulose and other non-sealants which do not provide an air barrier.

Environment/ Health/ Safety

ThermoSeal 1600 contains no CFC's HCFC's, formaldehyde, or volatile organic compounds. Following installation there will be a 24-48 hour occupancy window before the odors, emissions and gasses have dissipated to a habitable level for individuals highly sensitive to the materials installed.

ThermoSeal 1600 is approved for exterior use.

ThermoSeal 1600 is not to be installed within 2" of heat emitting surfaces where heat dissipated exceeds 185°F.

Suggested Preparation & Agitation

ThermoSeal 1600 will perform best when gradually climate controlled to 77°F the night before application. 30 minutes of medium agitation before use will result in best results and highest yield. While 5 to 10 minutes recirculation at temperatures less than 100 degrees Fahrenheit is suggested, recirculation of ThermoSeal 1600 to rapidly heat the product over 100 degrees Fahrenheit is not suggested and may result in a decrease in catalyst count and product yield. We suggest starting with a temperature of 135°F and a working pressure of 1100 psi.

Product Availability

Contact Spray Foam Polymers at 1.800.853.1577 for sales and availability options.

Packaging

Products are shipped in 55 gallon open top steel drums. At the customers request the products may be shipped in 55 gallons open top semi-clear plastic resin drums.

Product Storage

Component A- 550 lbs of Isocyanate stored in a 55 gallon container outlined above. Component 'A' must be protected from freezing or deemed useless.

Component B- 500 lbs of ThermoSeal 1600 proprietary formulated resin Component 'B' must be stored between 50°F and 80°F never exceeding either extreme. Component 'B' may separate during storage if subjected to extreme temperatures and should be mixed before use.

Both components temperatures should ideally be at 75°F prior to mixing and use.

WARRANTY

When installed properly by a Spray Foam Polymers authorized representative who has completed all training offered by SFP, SFP warrants that the product will meet all product specifications outlined in this specification document.



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