



Product Name

ThermoSeal 500 is the registered trademark of SprayFoamPolymers.com for its .5lb light density, open cell foam insulation.

Product Description

ThermoSeal 500 is a semi-rigid, totally water blown, .5lb light density polyurethane foam insulation system which simultaneously insulates and air-seals your building structure. ThermoSeal 500 is designed to make homes more energy efficient, quieter, healthier and more comfortable. ThermoSeal 500 is applied as a liquid spray which expands approximately 100 times its initial mass and cures within seconds into a semi-rigid mass. ThermoSeal 500 fills all building cavities completely sealing all cracks, crevices, and voids where air loss and infiltration are most common. If needed, excess material is easily trimmed off leaving a surface ready for drywall.

Technical Data

Thermal Performance

Thermal resistance R/in.

ASTM C518: R3.9 at 1 inch

Average insulation contribution in stud wall:

2"x4"=R13.6 2"x6"=R21.45

ThermoSeal 500 provides greater R value performance than other equivalent R value insulation materials which are air permeable such as fiberglass. ThermoSeal 500 does not lose R value due to wind, aging, convection, air infiltration or moisture. An R value fact sheet is available upon request.

Air Permeance/Air Barrier

ThermoSeal 500 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 500 no additional interior or exterior air infiltration protection is required.

ASTM E283 Air Leakage
.00015 ft³/s.ft² @ 75Pa (25mph wind)

Sustained Wind Load
60 minutes@1000 Pa (90mph wind)
No Damage

Gust Wind Load Test
@3000 Pa (160 mph wind)
No Damage

Water Vapor Permeance

ThermoSeal 500 is water vapor permeable and will allow structural moisture to escape. For situations requiring a vapor barrier the use of low vapor permeable paint on the interior of drywall is an option.

Water Vapor Transmission Properties:
ASTM E96 data
5.51perms @ 3.5"

Water Absorption

ThermoSeal 500 is water repellent, will not wick, and does not exhibit capillary properties. Water may be forced into the foam under pressure because of its open cell structure, and will self drain by gravity rather than travel horizontally or vertically as in closed celled foams. Once the foam has dried its thermal performance is at full performance.

Acoustical Properties

Performance in a 2"x 6" wood stud wall.

ASTM E413 STC Sound Transmission Class 51

ASTM E 90
Hz. Freq. 125 250 500 1000 2000 4000
Trans. Loss 18 29 34 45 46 49

ASTM C 423
NRC Noise Reduction Coefficient = .75
Hz. Freq. 125 250 500 1000 2000 4000
Absorption .23 .52 .87 .71 .77 .75

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

Burn Characteristics

ThermoSeal 500 is a Class I insulation and shall be separated from its inhabitants by a 15 minute approved thermal barrier. ThermoSeal 500 shows less flame propagation than some Kraft faced fiberglass insulation and may be left exposed in attics and crawl spaces. ThermoSeal 500 might be consumed by flame but will not sustain flame upon removal of the flame source. ThermoSeal 500 will not melt or drip. ThermoSeal 500 must be installed in accordance with all applicable building codes.

ASTM E84 Surface Burning Properties

Flame Spread @ 6" <= 25
Smoke Developed @ 6" <= 250
Class 1 rating
Fuel Contribution none
ASTM 2863 Oxygen Index 25%

Compressive and Tensile Strength

ThermoSeal 500 has favorable compressive and Tensile strength properties for light density foam.

ASTM D1623 Tensile Strength 3.2 psi
ASTM D1621 Compressive Strength 5.1psi

E84, E96, E283 tests results were conducted by Intertek a 3rd party testing laboratory. **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.

Open Cell Content

ThermoSeal 500 is considered an open cell foam insulation:
ASTM D2856 >=92%

Viscosity & Weights

ASTM D2196 Viscosity
A Side ISO @ 25°C 250±20
B Side Resin @ 25°C 350±50

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

Mixing Ratio By Volume

ThermoSeal 500 is a standard 1:1 mix product. Slightly off ratio can produce slightly heavier odors and foam characteristics. Typically a heavier A ratio will produce a crunchier foam result, and a heavier B Side ratio will produce a spongier result.

Electrical Wiring

ThermoSeal 500 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 500 is not a source of food for mold, insects or rodents. It has no nutritional value. ThermoSeal 500 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 500 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 500 is not intended for exterior use or is not to be installed within 2" of heat emitting surfaces where heat dissipated exceeds 185°F.

Suggested Preparation & Agitation

ThermoSeal 500 will perform best when gradually climate controlled to 77°F the night before application. 30 minutes of medium agitation before use and light agitation during use will result in best results and highest yield. Recirculation of ThermoSeal 500 to rapidly heat the product is not suggested and may result in a decrease in catalyst count and product yield. We suggest starting with a temperature of 125°F and a working pressure of 1000 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 500 proprietary formulated resin Component 'B' must be stored between 50°F and 90°F never exceeding either extreme. Component 'B' separates during storage and must be thoroughly mixed before use.

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

WARRANTY

When installed properly be 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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