

ThermoFoam OC-500 - TDS

ThermoFoam OC-500
Spray Foam Insulation
Thermal & Moisture Protection



Product Description:

ThermoFoam OC-500 spray foam insulation is a spray-applied, two component, open cell polyurethane foam insulation system. The product is formed by the reaction of patent pending resin blend and polymeric methylene diphenyl diisocyanate. The resin blend is comprised of Polyols, additives, fire retardants and blowing agents.

The spray applied nature of ThermoFoam OC-500 spray foam allows the material to flow into voids and seal cracks, expanding to form a seamless thermal envelope. Additional characteristics include high yield, high R-value (resistance to heat flow), high renewable content and excellent fire resistance. ThermoFoam OC-500 is available in two densities.

Product Uses:

Walls Attics Ceilings
Crawlspaces* Ducts Interior Applications

- Ventilated in low humidity environments

ASTM E-84:

ThermoFoam OC-500 spray foam is an ASTM E-84 (NFPA 255, UL723) class 1 (class A) spray foam insulation.

Flame Spread Index <25 Smoke Developed Index <450 Thickness 4 inches

These numerical flame spread values are not a true reflection on how this or any material will perform in actual fire conditions.

Thermal Barriers:

ThermoFoam OC-500 spray foam must be separated from the interior of the building (occupied space) by an approved 15 minute thermal barrier such as ½" inch gypsum board or other equivalent material. Exceptions for the thermal

barrier are allowed; for example, foam plastic in attics and crawlspaces with limited access. Consult local building codes for requirements and restrictions.

International Code Council AC377 – Appendix X:

Demand an insulation product that has passed ICC-ES Acceptance Criteria 377 (Spray foam insulation),

Appendix X. The ICC developed a sound, vetted and justified protocol for life safety when utilizing foam plastics in attics and crawlspaces. Spray polyurethane foam is a cellular plastic and will burn and flash-over (like wood) in some fire situations. You should insist on a spray foam that has passed Appendix X. Whether the foam is covered or uncovered, Appendix X is the benchmark for life safety. ThermoFoam OC-500 meets the requirements of Appendix X without a costly, burdensome additional ignition barrier or coating.

Chemical Attributes:

Component Viscosity (25°C) Density

Isocyanate 200 cps 10.3 lbs/gal

Resin 600 cps 10.3 lbs/gal

Storage & Shelf Life:

ThermoFoam OC-500 spray foam components have an optimal shelf life of 6 months when stored in unopened containers at temperature between 50 – 70°F. Excessively high temperatures may reduce optimal shelf life. Store material at 60 – 70°F for 48 hours prior to application.

Property	Test Method	ThermoFoam OC-500 0.5
Apparent Density	ASTM D-1622	0.5 lbs/ft ³ (nominal)
R-value (aged)	ASTM C-518 (75°F mean)	3.7 R/in *
Compressive Strength	ASTM D-1621	< 5 lbs/in ²
Closed Cell Content	ASTM D-6226	< 90% (vol.)
Fungi Resistance	ASTM G-21	Zero rating
Air Permeance	ASTM E-283	< 0.002 L/s-m ²
Water Vapor Permeance	ASTM E-96	~20 perm-in

Renewable Content	ASTM D-6866	17%
Dimensional Stability, -40°F	ASTM D-2126	< 3% Change
Dimensional Stability, +200°F	ASTM D-2126	< 3% Change
Dimensional Stability, +158°F & 100%RH	ASTM D-2126	< 3% Change
Ignition Barrier	ICC AC377 Appendix X	Pass no coating

Thermal Barrier:

Calculated from 4-inch thick sample

NFPA 286

Pass DC315 18 mils wft Pass TPR2 20 mils wft

Environmental Considerations:

For best results, ThermoFoam OC-500 should be applied when ambient conditions are between 40°F and 120°F with relative humidity less than 80%. When ambient conditions are below 40°F it is necessary to warm and dry the building or substrates.

Substrate Preparation:

All surfaces must be clean and dry, free of dirt, oil, solvents, grease and loose particles for optimal adhesion. ThermoFoam OC-500 spray foam bonds tenaciously to most clean substrates. Moisture content of wood products should be < 18% and concrete must age at least 28 days before application of ThermoFoam OC-500 spray foam can occur. Consult SES Foam for specific recommendations on primers or substrates.

Service Temperature:

ThermoFoam OC-500 spray foam insulation is designed to be used in ambient temperatures from -40°F and 200°F. It is strongly recommended that test sprays be conducted before installation for use in extreme temperatures.

Mixing and Heating:

It is critical to mix the ThermoFoam OC-500 resin component very thoroughly before and during application. Graco helical screw type mixers are the minimum recommended type. The isocyanate and resin components should be heated to

105°F before application. For specific recommendations, please contact SES Foam LLC.

Material Change-over:

When changing spray foam systems it is necessary to flush water through the resin transfer pump, hose and proportioner. **NEVER flush water through the isocyanate assembly.** Incompatibility issues may ensue if proper flushing is not done. Please consult SES Foam Technical Personnel for specific recommendations.

DO NOT MIX OTHER MANUFACTURERS RESIN OR ISOCYANATE COMPONENTS WITH THERMOFOAM OC-500 – SIGNIFICANT PROCESSING ISSUES MAY OCCUR.

Processing Parameters:

ThermoFoam OC-500 spray foam is designed to be applied by trained contractors using high pressure, plural component spray proportioners. The spray proportioner must be able to maintain the designed temperature and pressure for ThermoFoam OC-500 spray foam products:

A/B/Hose Temperature 120 - 140°F A/B Dynamic Pressure 1000 - 1500 lbs/in²
Optimal spray settings will vary with proportioner, hose dimensions, gun configuration and ambient conditions. It is critical for sprayers to understand the limitations associated with their equipment.

Safety and Handling Information:

It is critical to read and become familiar with the Material Safety Datasheets prior to working with ThermoFoam OC-500 spray foam liquid components. During application respiratory protection is required for the applicator and bystanders or helpers. For more information consult Material Safety datasheets, www.sesfoam.com, or www.spraypolyurethane.org

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