



Rev 01/11

TECHNICAL DATA SHEET

Slow-Rise Polyurethane Foam Formula

Applies to Product ID# TF600SR and TF200SR Portable Spray Foam Insulation Systems by Commercial Thermal Solutions, Inc.

Approvals and Standards

Meets or exceeds the Coast Guard specification requirements for flotation in Title 33 code of the Federal Regulations, paragraph 183.114 and meets the requirements of DIN 4102-1 for a B2 building material and is designed within the international guidelines for protection of the ozone layer, and with respect to the Montreal Protocol, 1987, and other environmental guidelines.

ODP (Ozone Depletion Potential): Contains non-ozone-depleting, non-flammable HFC Propellant.

VOC Content: Contains no VOC's, according to currently accepted definitions.

Applications

Tiger Foam Slow Rise can be dispensed into a dry cavity to insulate, fill, and seal various size voids, provide buoyancy, dampen sound, or reduce vibration. It is specifically designed to spray into molds or cavities and formulated not to damage drywall if standard building practices are followed for attachment to studs, drywall is 3/8" or thicker, and the manufacturer's directions are followed. Tiger Foam Slow-Rise Formula adheres to almost all building materials with the exception of surfaces such as polyethylene, Teflon®, silicone, oils, greases, mold release agents, or similar materials. Substrate must be clean, dry, firm, and free of loose particles. Protect surfaces not to be foamed. Foam is safe for internal wiring and around electrical boxes.

Product Description

Tiger Foam Slow-Rise Cavity Fill Formula is a multi-purpose, two-part closed-cell polyurethane formula specifically designed for low pressure and delayed foaming action. The packaging, delivery system, and components were designed to be user- and environmentally friendly. These systems are both portable and disposable. They are completely self-contained to provide flexibility in end-use performance. Details at our website: www.tigerfoam.com

Properties

Two-part foam systems will begin to expand immediately upon chemical reaction of the "A" component (a polymeric isocyanate) and "B" component (a polyol blended with proprietary additive ratios) chemicals to a volume that is 3-5 times the dispensed volume, depending on ambient conditions and cavity size. The foam will cure to semi-rigid, closed-cell foam. Optimum application temperature of the chemicals in the tanks is 75° F (24° C) to 85° F (34° C). Cured foam is resistant to heat and cold -200° F to +200° F (-129° C to +93° C). It is also resistant to negative effects of aging. It is not resistant to UV light and must be painted, coated, or covered if exposed to direct sunlight after application.

Cured polyurethane foam is chemically inert and non-reactive in approved applications, and will not harm electrical wire insulations, Romex®, rubber, PVC, polyethylene (i.e., PEX) or other plastic. It is approved for use around wires, plumbing penetrations, etc., and contains no formaldehyde. Tiger Foam creates a tight seal that insulates and protects against dust, air infiltration, pests, and sound.

Preparation For Use

Protect surfaces not to be foamed. For mold filling applications, clamping or bracing of the mold is generally required to provide uniform support against foaming pressure. Extent of this clamping should be determined based on application and desired results. For best results, heat the mold substrate to 80 - 100°F (27 - 37°C), as this will improve the adhesion and "flowability" (filling characteristics) of the dispensed foam. Optimum chemical temperature is 75 - 85 °F (24 - 29°C). See the "Product Storage" section for important temperature information.

Special Features

Cleanable tips (use Acetone)

Metered spray gun

Tiger Foam systems do not require outside electrical or mechanical power source.

Technical Data (Metric data shown in parentheses)

Density: ASTM D-1622

2.0 lbs/ft³ (32 kg/m³) – based on average, in-place density

K-Factor (per inch): ASTM C-518 - aged 28 day value

0.168 BTU-inch / (ft²)(hr)(°F) (.024 W/m·K)

R-Value (aged): 5.9 per inch (RSI = 1.04/in, 0.41/cm)

Tensile Strength: ASTM D-1623

Parallel = 42psi (290 kPa)

Perpendicular = 28psi (193 kPa)

Compressive Strength: ASTM D-1621

Parallel @ 10%= 14psi (97kPa)

Perpendicular @ 10% = 15psi (103 kPa)

Closed Cell Content ASTM D-2856= Approximately 90%

Dimensional Stability: ASTM D-2126

Heat Age: (+ 158° F / 70°C; 28 days) -4.5%

Humid Age: (+ 158° F / 70° C, 100% RH) -1.0%

Cold Age: (-4° F / -20° C) -0.3%

Tack Free/Expansion Time: 60-90 seconds

Cutttable: 5-10 minutes

Fully cured within several hours

Fire Rating: DIN 4102-1 B2

Theoretical Yield at 1”:

TF600SR = 516 board feet or 43 cu. ft. (1.24 m³)

TF200SR = 162.5 board feet or 13 cu. ft. (.37 m³)

*Yields are based on theoretical calculations, (or comparative purposes, and will vary depending on ambient conditions and particular application. For calculating actual yield, it is recommended to reduce this theoretical yield by 10-12% to allow for these variations.

Tank Specifications:

DOT—39 Approved Cylinder

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TF600SR: 58 lbs per tank, 116 lbs per kit

Box Dimensions:

H: 18" (45.7 cm)

W: 13" (33 cm)

L: 13" (33 cm)

TF200SR: 21 lbs per tank, 42 lbs per kit

Box Dimensions:

H: 16" (40.6 cm)

W: 9" (22.9 cm)

L: 16" (40.6 cm)

*Filled tank weights are approximate for estimation purposes only. Actual gross weight is formulation specific and may be slightly higher or lower.

Product Storage: Store in dry area below 120° F (49°). Optimal storage temperature is 60° F - 80° F (15° C to 26° C). Do not expose to open flame or temperatures above 120° F (49° C). Excessive heat or cold can cause premature aging of components resulting in a shorter shelf life. Tiger Foam is reusable as long as it is stored in a warm place, nozzle tip is changed, and product is shaken before using.

Cold Weather: For best results, the foam chemical temperature must be between 75°F-85°F (24°-29°C). Warm kits for a minimum of 1 day at room temperature. In extreme cold conditions during shipment or storage are encountered, warm tanks for several days at room temperature and shake well, prior to warming chemical for spray application.

Warning: Use only in well-ventilated area with certified respiratory protection. Wear gloves, eye protection, and protective clothing during application. Read all instructions and safety information (MSDS) prior to use. The product contains NO FORMALDEHYDE. Cured foam is non-toxic.

KEEP OUT OF REACH OF CHILDREN

Always read all operating, application, and safety instructions before using any products from Tiger Foam. Use in conformance with all local, state, and federal regulations and safety requirements. Failure to strictly adhere to any recommended procedures and reasonable safety precautions shall release Tiger Foam from all liability with respect to the materials or use thereof.

Note: Physical properties shown are typical and serve only as a guide for engineering design.

Results are obtained from specimens under ideal laboratory conditions and may vary upon use, temperature, and ambient conditions. Right to change physical properties as a result of technical progress is reserved. This information supersedes all previously published data. Yields shown are based on theoretical calculations and will vary depending on ambient conditions and particular application. Read all product directions and safety information before use. Consult local building codes for specific requirements regarding the use of cellular plastics or urethane products in construction.

Limited Warranty: The Manufacturer warrants only that the product shall meet its specifications: this warranty is in lieu of all written or unwritten, expressed, or implied warranties and the Manufacturer expressly disclaims any warranty of merchantability, or fitness for a particular purpose. The buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence, or other claim shall be limited to the replacement of the material. Failure to strictly adhere to any recommended procedures shall release the Manufacturer from all liability with respect to the materials or use thereof. User of this product must determine suitability for any particular purpose, including, but not limited to, structural requirements, performance specifications, and application requirements.