



TECHNICAL DATA SHEET

E-84 Fire-Rated Fast-Rise Polyurethane Foam Formula

Applies to Product ID# TF600FR and TF200FR Portable Spray Foam Insulation Systems By Commercial Thermal Solutions, INC. Rev 01/10

Approvals and Standards

ASTM E-84 Class 1 Approval
Flame Spread: = 25
Smoke Developed: = 200
(3rd party test report HPVA, T-11261)

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

Tiger Foam conforms to international guidelines for protection of the ozone layer and with respect to the Montreal Protocol of 1987 and other environmental guidelines.

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

Applications

Spray foam onto any dry, clean surface in any direction; even to the underside of a floor or roof deck. This product will adhere to practically any substrate except Teflon®, oily surfaces, or seals. It is especially critical where flame-retardant specifications require E-84 Class 1 foam. Protect surfaces not to be foamed. Always read all safety data sheets and operating instructions including use of proper personal protective equipment prior to use.

Product Description

Tiger Foam E-84 Class 1 Fire-Rated foam insulation is a multipurpose, two-part, closed-cell polyurethane formula specifically manufactured for fire retardancy. 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 5-8 times the dispensed volume, depending on ambient conditions. The foam will cure to a semi-rigid, closed-cell foam. Optimum application temperature of the chemicals in the tanks is 75° F (24° C) to 85° F (34° C) and may be sprayed onto colder or warmer substrates, with slight effects on the foam's characteristics. Cured foam is resistant to heat and cold -200° F to +200° F (-129° C to +93° C). It is also resistant to any 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.

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: 1.75 lbs/ft³ (28 kg/m³)

ASTM D-1622

K-Factor (per inch): (ft²)(h)(°F) = BTU inch 0.162 (0.023 W/m·K)

ASTM C-518 - aged 28 day value

R-Value (Metric RSI in parentheses): 6.2-7.4 per inch—depends on the external factors such as temperature and humidity during application and curing (RSI = 1.09/in, 0.043/mm)

Air Barrier Properties: ASTM E-283

@ 1.57 psf (75 Pa) <0.025 cfm/ft² (<0.0125 L/s/m²), extrapolated

@ 6.24 psf (300 Pa) <0.01 cfm/ft² (<0.05 L/s/m²)

Perm Rating: ASTM E-96 method A

@ 1" (2.54 cm) = 1.67 (100 ng/(m²·Pa·s))

@ 3" (7.62 cm) = 1.0057 (72.1 ng/(m²·Pa·s))

Tensile Strength: ASTM D1623

Parallel @ 7% = 29psi (200 kPa)

Compressive Strength: ASTM D-1621

Parallel @ 10% - 23psi (158 kPa)

Perpendicular @ 10% - 16 psi (110 kPa)

Closed Cell Content = Greater than 90% ASTM D-2BS6

Tack Free/Expansion Time: 30-60 seconds

Cutable: 2-5 minutes

Sandable: 1 hour

Paintable: 5 minutes

Fully Cured: 1 hour

Theoretical Yield:

TF600FR = 600 board feet expanded 1" = 50 cu. ft. (1.42 m³)

TF200FR = 200 board feet expanded 1" = 16 cu. ft. (.45 m³)

Expands approximately 8:1 from liquid state

*Yields are based on theoretical calculations, for comparative purposes, and will vary depending on ambient conditions and particular application.

Tank Specifications:

DOT—39 Approved Cylinder

TF600FR: 62 lbs per tank, 115 lbs per kit

H: 26" (66.04 cm)

W: 17" (43.2 cm)

TF200FR: 21 lbs per tank, 42 lbs per kit

H: 18" (45.7 cm)

W: 12" (30.5 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 a cool, dry area. Do not expose to open flame or temperatures above 120° F (49° C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Tiger Foam Slow-Rise Formula is reusable as long as it is stored in a warm place, nozzle tip is changed, and product is shaken before using.

Warning: Use only in well-ventilated area or 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.

