



PR-855 fire stop foam

Description

PR-855 fire stop foam is a black, two-part, room temperature vulcanizing (RTV) silicone foam that cures to a free blown density ranging from 15 to 20 lbs/ft³ within a period of one to three minutes after mixing. The mixed product will expand and cure to a foamed elastomer with only a slight exotherm (approximately 35 °F internal temperature rise).

Application

PR-855 is used to block fire, smoke, fumes, and water in floor and wall penetrations, cable conduits, cable trays and vaults and other industrial, aircraft, and construction applications, where a flame resistant material is required.

Mixing

The type or degree of mixing can significantly affect the cell structure and density of the final foam product. The introduction of air during the mixing action is desirable to obtain a more uniform cell structure, maximum expansion ratio, and volume efficiency. Cartridge mixing will generally result in a density of about 20 lbs/ft³. Automatic mixing, metering, and dispensing equipment with introduction of auxiliary air into the mix, can result in foam densities as low as 15 lbs/ft³. Likewise, the expansion ratios of foam volume to liquid can vary from 2.5:1 to 4:1 depending upon the type and degree of mixing. When cured under significant confinement and restriction, foam densities packed as high as 28 to 29 lbs/ft³ can result.

Note: Once mixed in a PPG SEMKIT® cartridge, PR-855 must be quickly extruded from the cartridge to the desired location because foaming will begin in approximately 1.5 minutes after mixing at 72 °F (22 °C).

Method of application

PR-855 is supplied in PPG *Semkit* two-part disposable cartridges for easy mixing and application in the field. It is recommended to consult the PR-855 application practice before attempting to use this product.

Properly dam the penetration to keep PR-855 in place while in its liquid stage. Use fire-resistant packing materials and insulating board.

Break the PPG *Semkit* barrier seal, mix the compound inside the cartridge and apply. The material will expand, as it cures, to three times its liquid state.

Maintenance

Easy re-entry: one of the best features of PR-855 is its flexibility. When you need to make a cable change or repair, the material can be easily removed where necessary, without affecting the rest of the seal. Once the repair is made, penetration can be quickly resealed with a PPG *Semkit* cartridge of the proper size.

Cleaning of equipment

After application, should it be necessary, the surrounding area and tools should be cleaned immediately after use with an

appropriate EPA approved solvent. A solvent such as Dupont's DBE will work well for uncured material.

Storage life

The storage life of PR-855 is approximately 12 months when stored at temperatures between 50 °F (10 °C) and 90 °F (32 °C).

Surface preparation

PR-855 will adhere to most common substrates satisfactorily with the exception of polyolefins, fluorocarbons, and related surfaces.

Surfaces to which PR-855 is to be applied must be free of oil, grease, wax, rust, mill scale, laitance, dirt, and any other contamination that will inhibit cure or adhesion.

Contaminated areas must be cleaned. Where cure inhibition is questionable, it is recommended that a test be run to determine compatibility. The presence of liquid or uncured PR-855 at the interface between the surface and cured PR-855 would indicate incompatibility and inhibition of cure.

Safety precautions

Caution: During and shortly after the PR-855 foam expansion period, a small quantity of hydrogen gas is evolved from the foam product, and appropriate caution should be exercised. Keep away from sparks and flames. Adequate ventilation should be provided to prevent localized build-up of gas.

Packaging

When ordering this product, designate PR-855 PPG *Semkit* packaging.

Product number	Semco cartridge kit size	Standard packaging	Approximate foam volume in ³ (actual)
Semkit packaging			
PR855-2	2 oz.	20/case	9
PR855-6	6 oz.	20/case	25
PR855-8	8 oz.	20/case	34
PR855-20	20 oz.	12/case	97
Accessories for use with PR-855			
Product number	Product Description	Standard packaging	
SR-81	Insulating wool	10 lb/box	
S-74FR	Insulating packaging strips (1.5" x 24" x 0.5")	96/case	

Note: Volumes are based on an average density of 20 lb/cu ft. Variations in temperature at time of mixing will affect foam density and resulting volume.

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Application Properties (typical)

The application property values are typical for the material but are not intended for use in specification or acceptance inspection criteria because of variations in testing methods, conditions or configurations. All values are typical of the product at 75 °F (24 °C), 50% relative humidity unless otherwise indicated.

Color

Part A	Black
Part B	Off-white
Mixing ratio	Part A: Part B
By weight	100:100
By volume	100:100
Mixing time, seconds	30 - 60
Work life	
at 32 °F (0 °C)	13.2 minutes
at 43 °F (6 °C)	6.7 minutes
at 75 °F (24 °C)	1.5 minutes
at 100 °F (38 °C)	18 seconds
at 122 °F (50 °C)	15 seconds

Note: Work lives faster than one minute and longer than three minutes can result in less uniform cell structures, lower expansion, and high density.

Cure time at 75 °F (24 °C), hours	24	
Color	Dark gray-black	
Density		
Cured unconfined, lbs/cu ft	17	
Cured confined, lbs/cu ft	20	
Closed cell content, %	95	
Linear coefficient of thermal expansion (-13 to 302 °F) in/in/°F	1.8×10^{-4}	
Thermal conductivity, n/hr-ft ² -°F, BTU	0.52	
Flammability, (vertical burn)		
Time in flame	Average time	Average %
	flame & glow out	weight loss
15 seconds	7.2 seconds	1.3
15 seconds	15.6 seconds	13.5

Passes ASTM E119: Factory Mutual Insurance Company Report No. 26543. Passes ASTM E84 Class A: Flame spread No. 25. Passes 3 hour fire rating: UL classified, file 8146

Note: The numerical flame spread rating is not intended to reflect hazards presented by this material under actual fire conditions.

Radiation resistance

Exposure megarads	Modulus at 10% Compression, psi
0	0.63
6	0.67
22	0.92
49	2.00
124	2.32 (still resilient)

Noise reduction: a 1/8-inch thick coat of PR-855 reduces the noise level transmitted through a 50 mil thick aluminum panel to a greater extent than did 3 inches of fiberglass insulation at frequencies up to 1,000 Hz.

Service temperature -65 °F to 300 °F

Electric properties

cured 24 hours at 75 °F, thickness 125 mils)

Dielectric strength, volts mil

Dielectric constant at 100 Hz

Power factor at 100 Hz Volume resistivity, ohm-cm

Applicable standards

Health precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS is available on request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

For industrial use only. Keep away from children.

For emergency medical information call

1-800-228-5635.

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This document has been reviewed by the PPG's Aerospace Export Control Department and has been determined to contain only EAR99 controlled data.

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