

Data Sheet

Viper Foam 1.9 HFC Closed Cell

DESCRIPTION: Envirofoam™ Viper Foam 1.9 is a fast set, 365 MFC blown spray polyurethane foam (SPF) insulation designed for use in residential and commercial structures, exterior foundation or perimeter insulation, below grade applications, exterior tank/pipe insulation, etc. Envirofoam™ Viper Foam 1.9 is applied as a liquid and expands 25x in seconds to fill and seal building cavities of any shape and size. It exhibits superior thermal insulation, air-barrier, and sound attenuation properties compared to conventional insulation materials. Once fully cured Envirofoam™ Viper Foam 1.9 remains rigid maintaining significant structural strength and thermal insulation properties in adverse conditions across a wide variety of applications.

TYPICAL USES:

- Insulation foam for walls, ceilings, roof decks, crawlspaces
- Residential, commercial and industrial building insulation

FEATURES & BENEFITS:

- Low odor during application and produces no toxic vapors after application
- Seals, insulates and minimizes uncontrolled air movement into a building envelope
- Made with renewable raw materials
- Reduces energy consumption from heating and cooling

CHEMICAL PROPERTIES:

		Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-1475	1.23	1.10
Viscosity (cps)	ASTM D-2196	200 – 250	200 – 300
Mix Ratio, Parts per Volume		1	1
Cream Time @ 25°C (77°F)			3 – 5 seconds
Rise Time @ 25°C (77°F)			5 - 7 seconds
Initial Cure Time (hours)			<1
Tack Free			8 sec
Shelf Life - Unopened Containers		12 months	9 months

TYPICAL PHYSICAL PROPERTIES:

	Test	Result
Density (nominal) Per Inch:	ASTM D-1622	1.9 lb/ft
Adhesive Strength (psi)	ASTM D-1623	117.4 PSI
Compressive Strength (psi)	ASTM D-1621	21.76
Closed-Cell Content (%)	ASTM D-2856	>90
Dimensional Stability (%)	ASTM D-2126	<1Δ
R-Value	ASTM C-518	7.2/inch
Flame Spread/ Smoke Development, @ 4 inches	ASTM E-84	≤10 Flame ≤350 Smoke

PROCESS TEMPERATURE AND ENVIRONMENT CONDITIONS: Envirofoam™ Viper Foam 1.9 must be spray-applied using approved equipment. The system settings required to achieve quality spray foam application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum foam quality.

Iso (A) & Resin (B) Components	Hose Temperature	Processing Pressure	Relative Humidity
95° F - 115° F	95° F - 115° F	1160 – 1600 psi	<85%
Substrate Temperature	Substrate Moisture Content	Maximum Lift Thickness	
20° F - 120° F	<15%	4"	

PREPARATION: Envirofoam™ Viper Foam 1.9 resin (B) does not require agitation. Do not pre-heat or recirculate resin (B) as doing so will result in the “boiling off” of the HFC blowing agent which will result in poor yield and poor foam performance.

(continued)

Envirofoam™ Viper Foam 2.0 (Continued)

APPLICATION INSTRUCTIONS: Envirofoam™ Viper Foam 1.9 is installed by independent SPF contractors. It is recommended that building owners verify that the SPF insulation contractor maintains proper credentials, insurance, and licenses and is properly trained to safely install SPF insulation products.

Envirofoam™ Viper Foam 1.9 demonstrates excellent adhesion to various substrates when installed according to manufacturer specifications. Allow a minimum of 2 hours for full off-gas and cure before application of a primer, topcoat, or intumescent paint. For best results apply primer, topcoat, or intumescent coating within 72 hours of installation of foam. Envirofoam™ Viper Foam 1.9 should be installed at a maximum thickness of 4 inches per pass with a minimum of 30 minutes between passes. IT IS THE APPLICATOR'S RESPONSIBILITY TO TEST LIFT THICKNESS FOR A PARTICULAR APPLICATION PRIOR TO COMMENCING INSTALLATION TO ENSURE THAT THE PRODUCT CAN BE INSTALLED SAFELY AT THE DESIRED THICKNESS WITHOUT RISK OF CHARRING OR FIRE.

Envirofoam™ Viper Foam 1.9 should not be left exposed to sunlight, as UV light will rapidly degrade foam. Do not use near high heat or open flame.

Envirofoam™ Viper Foam 1.9 must be covered with an approved 15-minute thermal barrier when used as insulation for residential or commercial buildings. Installation must comply with all applicable building codes. Do not install Envirofoam™ Viper Foam 1.9 at a thickness exceeding 4 inches per pass and do not apply subsequent passes within 30 minutes of the previous pass.

PASS THICKNESS:

R-Value Per Inch ASTM 518 (aged) 7.2

R-Value @ 3" - R-21.6

R-Value @ 4" (ASTM 518) - R-28.8

R-Value @ 6" - R-43.2

R-Value @ 2" - R14.4

R-Value @ 3.5" (ASTM 518) - R-25.2

R-Value @ 5" - R-36

R-Value @ 7" - R-50.4

SUBSTRATES: Envirofoam™ Viper Foam 1.9 is chemically and physically compatible with all common building materials including electrical wiring, wood, metal, concrete, plastic (PVC), copper, vinyl, and glass.

HOW SUPPLIED: Net weight per set is 1006 pounds. A set of Envirofoam™ Viper Foam 1.9 consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component. Part numbers - Set: Envirofoam™ Viper Foam 1.9 , Side A: ISO A-D, Side B: Envirofoam™ Viper Foam 1.9

STORAGE: Envirofoam™ Viper Foam 1.9 should be stored between 50 – 80° F out of direct sunlight. Do not allow material to freeze.

SAFETY PRECAUTIONS: Health Considerations - Consult the Envirofoam® Safety Data Sheets (SDS)

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Envirofoam Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Envirofoam Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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Read This Before You Buy

What You Should Know About R-values

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

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Envirofoam Of America LLC
201 S Walnut Suite 304
Rochester Illinois 62563
877-362-6552
www.EnvirofoamOfAmerica.com