



VFI[®]-714 Closed Cell Spray Foam Spray Polyurethane Foam 2.0lb Density UES ER-415

EQUIPMENT AND APPLICATION PARAMETERS:	
Preheat Temperature "A" & "B" Side	125°F
Hose Temperature "A" & "B" Side	125°F
Mixing Ratio	1 to 1 By Volume Of "A" to "B"
Application Pressures	1,000 - 1,200 PSI
Ambient & Substrate Temperature - STANDARD APPLICATION	50°F - 120°F
Ambient & Substrate Temperature - COLD TEMPERATURE APPLICATION	Consult with VFI Technical Services for Cold Temperature (Winter) Application Guidelines.
Thickness Per Pass	Up to 3" Maximum

SURFACE BURNING CHARACTERISTICS	
Flammability	ASTM E 84
Flame Spread < 10	Class I
Smoke Development < 195	At 4 Inches

PRODUCT REACTIVITY	
Product Designation	Temperature Range
Fast (20)	20°-50°F
Mid (50)	40°-65°F
Reg (80)	55°-80°F
Slow (100)	80°-100°F

PRODUCT TYPE: Volatile Free, Inc. VFI-714 Closed Cell Spray Foam is a two-component, medium density, one to one by volume spray applied polyurethane foam. To produce VFI-714 requires the use of an "A" component (ISO) and a blended "B" component (RESIN) which contains ZERO Ozone Depleting blowing agents, catalysts, polyols and fire retarding materials.

GENERAL PROPERTIES: VFI-714 is a nominal 2.0 pcf density closed cell insulating material. VFI-714 is designed for use where insulation systems require superior air barrier characteristics along with the ability to minimize moisture infiltration. VFI-714 has a 6.6 per inch R-Value while providing structural enhancement due to its rigid nature when cured. When properly installed by a trained contractor VFI-714 quickly expands to fill the cracks, crevices, gaps and voids that exist in every structure. In addition VFI-714 will conform to the curves, irregular surfaces and spaces to form a superior thermal envelope around your entire structure.

RECOMMENDED USES: VFI-714 is an insulation system designed for use in residential, commercial and industrial applications. Use in lieu of more traditional forms of insulating materials such as fiberglass, cellulose or other loose fill products. Typical areas where spray polyurethane foam is applied are; exterior walls, vented and un-vented attic assemblies, between floors, etc. Additional uses of this closed cell product are foundations, crawlspaces, HVAC ducts, fluid tanks, coolers, commercial building envelopes and as an air barrier.

THERMAL BARRIER: Current International Residential Code (IRC) and International Building Code (IBC) require that spray polyurethane foam be separated from the building interior by an approved 15-minute thermal barrier or a code approved alternative. Gypsum board at a minimum thickness of ½" is an approved 15-minute thermal barrier. The following intumescent coating when installed per manufacturer specifications are approved as a thermal barrier alternative for VFI-714: DC315™ manufactured by International Fireproof Technology, Inc.

IGNITION BARRIER: VFI-714 meets the requirements of ICC-ES AC377 and Appendix X for use in attics and crawlspaces without the use of an ignition barrier.

EQUIPMENT AND APPLICATION PARAMETERS: The values represented in the Equipment and Application Properties Chart provides initial optimum settings. Actual operating ranges will vary as ambient air; humidity, moisture and substrate temperatures vary. Extreme conditions will affect the yield, adhesion and cured physical properties of the foam. Applicator must make adjustments as conditions vary.

STORAGE: Shelf life is six (6) months from date of manufacture when stored in original unopened containers between the temperatures of 65°F to 85°F.

VFI-714 PHYSICAL PROPERTIES		
R-Value (Aged)	6.6/ Inch	ASTM C 518
Core Density	2.0 pcf	ASTM D 1622
Closed Cell Content	> 96%	ASTM D 1940
Sound Transmission Coefficient	38	ASTM E 413
Water Vapor Transmission - Permeance	1.49 Perms @ 1" .92 Perms @ 1.5"; .77 Perms @ 2"	ASTM E 96
Air Permeance	< 0.005L/sm ²	ASTM E 283
Noise Reduction Coefficient	0.10	ASTM C 423
Tensile Strength (PSI)	58	ASTM D 1623
Dimensional Stability	< .27	ASTM D 2126
Compressive Strength (PSI)	41	ASTM D 1621



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General Information

Application Guidelines

VFI-714 is suitable for application to most construction materials including: wood, masonry, concrete and metal. All surfaces to be sprayed with foam should be clean, dry and free of dew or frost. All metal to which the foam is to be applied must be free of oil, grease, etc. Three (3) inches should be the maximum thickness of each pass. Allow ten minutes between each pass to allow for cooling. Multiple layers can be applied to reach the desired thickness and R-Value.

Substrate temperature at the time of the VFI-714 application should be between 50°F to 120°F, the warmer the surface, the better the adhesion. When substrates to be sprayed are cooler than 50°F, a half inch pass should be applied to provide a thermal break. Follow with a second pass as soon as the original pass is no longer tacky to the touch. For surface temperatures in the range of 120°F to 180°F, the product to be sprayed should be 120°F or above at the time of spraying.

As with all spray polyurethane foam systems, improper application techniques should be avoided. Examples of improper techniques include, but are not limited to, excessive thickness of spray polyurethane foam, off ratio material and spraying into or under rising foam. Potential results of improperly installed spray polyurethane foam include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed foam must be removed and replaced with properly installed spray polyurethane foam. It is the responsibility of the applicator to thoroughly understand all equipment technical information and safe operating procedures that pertain to a spray polyurethane foam application.

When changing the “B” side (resin) to another type of spray polyurethane foam it is very important the supply hoses and pumps are completely drained. Mixing of dissimilar product types will have an adverse effect on the finished product.

Spray polyurethane foam insulation is combustible. High intensity heat sources such as welding or cutting torches must not be used in close proximity to any polyurethane foam.

Large masses of spray polyurethane foam should be removed to an outside safe area, cut into smaller pieces, and allowed to cool before discarding into a trash receptacle.

VFI-714 is NOT designed for use as an exterior roofing product. Please contact Volatile Free, Inc. for information on our spray polyurethane roofing systems

Equipment and Component Ratios

Polyurethane foam systems should be processed through commercially available spray equipment designed for that purpose. VFI-714 “A” side is connected to

the isocyanate pump and the VFI-714 “B” side is connected to the resin pump. The proportioning pump ratio is 1 to 1 by volume. The pre-heater initial setting should be 125°F. The initial hose temperature should be 125°F. Equipment must be capable of maintaining temperature settings.

Finished Foam Protection

The finished surface of the sprayed polyurethane foam should be protected from the adverse effects of direct exposure of ultraviolet light from the sun. This exposure will cause dusting and discoloration. Protective coatings designed for use with polyurethane foams are available from Volatile Free, Inc.

Safe Handling of Liquid Components

When removing bungs from containers use caution as contents may be under pressure. Loosen the small bung first to allow any built up gas escape before completely removing. The resin “B” component will froth at elevated temperatures. Avoid prolonged breathing of vapors. In case of chemical contact with eyes, flush with water for at least 15 minutes and get medical attention. For further information refer to the Center for Polyurethanes at www.spraypolyurethane.org.

Health and Safety

Due to the reactive nature of these components respiratory protection is mandatory. The vapors and liquid aerosols present during application and for a short period thereafter must be considered—and appropriate protective measures taken—to minimize potential risks from overexposure through inhalation, skin or eye contact. These protective measures include: adequate ventilation, safety training for installers and other workers, use of appropriate personal protective equipment and a medical surveillance program. It is imperative that the applicator read and become familiar with all available information on proper use and handling of spray polyurethane foam. Additional information is available by contacting the technical services department of Volatile Free, Inc.

Storage and Use of Chemicals

Cold chemicals can cause poor mixing, pump cavitations or other process problems due to higher viscosity at lower temperatures. Storage temperatures should be 65°F to 85°F for several days before use, and should not exceed 90°F. Do not store in direct sunlight. Keep drums tightly closed when not in use and under dry air or nitrogen pressure of 2-3 psi after they have been opened. Shelf life is six (6) months from date of manufacture when stored in original unopened containers at 65°F to 85°F. Store in a dry and well-ventilated area.

For more information, contact us today at **800-307-9218**

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