POLYPUF H-1 2.7

SPRAY POLYURETHANE FOAM ROOFING INSULATION

PRODUCT DESCRIPTION

PolyPUF H-1 2.7 is an HFO-blown, Zero Ozone-Depleting (Zero-ODP), spray polyurethane foam (SPF) system designed for roofing applications. PolyPUF H-1 2.7 is a 2.7 pound per cubic foot density series. This is a two part product that is available in four reactivity grades for application at various temperatures. PolyPUF H-1 2.7 must be processed with PolyPUF Part A Isocyanate to create the final product.

USES

- Spray applied roofing system.
- Applied directly to most existing substrates for new and retrofit installations.
- Acts as an air barrier, insulation and roofing system in a single application.

FEATURES AND BENEFITS

- PolyPUF H-1 2.7 is compatible with most common construction materials.
- Seamless and self-flashing, no seams or laps that are potential future leaks.
- Waterproof throughout the entire thickness of application.
- Provides the most waterproofing protection of any roofing system available.
- Easily maintained for one of the lowest life cycle cost roofing installation.
- Energy efficient, high R-value system.
- May be surfaced in a variety of colors, including highly reflective materials.

TYPICAL PHYSICAL PROPERTIES[1]

PROPERTY	METHOD	VALUE
Resin		
Specific Gravity @ 70°F	ASTM D1638	1.19
Viscosity @ 70°F (cps)	Brookfield	500
Cured Foam		
Mix Ratio (volume:volume)	1:1	
Density (pcf)	ASTM D1622	2.7
Thermal Resistance (aged) k-factor (Btu in/ft^2 hr °F) R-value (ft^2 hr °F/Btu in)[2]	 ASTM C518 Calculated	 0.15 6.7/in
Compressive Strength (psi)	ASTM D1621	46 ± 5%^
Tensile Strength (psi)	ASTM D1623	75
Closed Cell Content (%)	ASTM D6226	>95
Water Vapor Transmission – Permeability (perm-inch)	ASTM C355	1.8

(1) These physical property values are typical for this material as applied at the manufacturer's development facility under controlled conditions. SPF performance and actual physical properties will vary with differences in application (i.e. ambient conditions, process equipment and settings, material throughout, etc). As a result, these published properties should be used as guidelines solely for the purpose of evaluation. Physical property specifications should be determined from actual production material.

The above data was collected from samples prepared using the following equipment configuration:

- Gusmer® H-20/35 proportioner set at 1:1 volume ratio with 50 ft of heated delivery hose
- Gusmer® GX-7 spray-gun configured with a #1 mix module and #90 PCD and/or GAP spray-gun configured with a #1 mix chamber
- Process temperature settings: 110–120°F
- Process pressure: 1100 psi static, 950–1010 psi dynamic

PACKAGING

- 500# Drum

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GENERAL INFORMATION

PolyPUF H-1 2.7 is a spray polyurethane foam (SPF) system intended for installation by qualified contractors trained in the processing and application of SPF systems, as well as the plural-component polyurethane dispensing equipment required to do so. Contractors and applicators must comply with all applicable and appropriate storage, handling, processing and safety guidelines. Polyglass technical service personnel should be consulted in all cases where application conditions are questionable.

PolyPUF H-1 2.7 is available in three reactivity "grades": Winter (50–65°F), Regular (65–85,°F), Summer (above 85°F).

CAUTIONS AND RECOMMENDATIONS

PolyPUF H-1 2.7 is designed for an application rate of 1 inch minimum to 2 inches maximum per pass. Once installed and material has cooled it is possible to add additional applications in order to increase the overall installed thickness of SPF. Thicker installations are allowed based on large scale testing. This application procedure is in compliance with the Spray Polyurethane Foam Alliance (SPFA).

PolyPUF H-1 2.7 is NOT designed for use as an INTERIOR insulation system. For more information, please contact your sales representative.

Cold-storage structures such as coolers and freezers demand special design considerations with regard to thermal insulation and moisture-vapor drive. PolyPUF H-1 2.7 should NOT be installed in these types of constructions unless the structure was designed by a design professional for specific use as cold storage.

PolyPUF H-1 2.7 is designed for installation to most standard construction materials such as wood, wood-based products, plastics, metal and concrete. Applications can be done at approximately 50°F and warming using special cold weather application techniques. Please consult a Polyglass Representative for further information about applications using our liquid compounds.

In addition to reading and understanding the SDS, all contractors and applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems. Personnel should review the following documents published by Spray Polyurethane Foam Alliance (SPFA):

AX-171 Course 101-R Chapter 1: *Health, Safety and Environmental Aspects of Spray Polyurethane Foam and Coverings www.spraypolyurethane.org*

and the following document is available from the Center for the Polyurethanes Industries (CPI):

Model Respiratory Protection Program for Compliance with the Occupational Safety and Health Administration's Respiratory Protection Program Standard 29 C.F.R. §1910.134

As with all SPF systems, improper application techniques should be avoided. Examples of improper application techniques include, but are not limited to excessive thickness of SPF, off-ratio material and spraying into or under rising SPF. Potential results of improperly installed SPF include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed SPF must be removed and replaced with properly installed materials.

LARGE MASSES of SPF should be removed to an outside safe area, cut into smaller pieces and allowed to cool before discarding into any trash receptacle.

SPF insulation is combustible. High-intensity heat sources such as welding or cutting torches must not be used in contact with or in close proximity to PolyPUF H-1 2.7 or any polyurethane foam.

STORAGE

PolyPUF H-1 2.7 Series has a shelf life of approximately (6) months from the date of manufacture when stored in original, unopened containers at 50–75°F. As with all industrial chemicals this material should be stored in a covered, secure location and never in direct sunlight. Storage temperatures above the recommended range will shorten shelf life. Storage temperatures above the recommended range may also result in elevated headspace pressure within packages.

Processing Guide

Description and General Use

PolyPUF H-1 2.7 systems are light density spray polyurethane insulations designed to be fluid-applied to construction surfaces to effect a permanent, monolithic and dimensionally stable thermal insulation.

PolyPUF H-1 2.7 systems are a sophisticated plural component building product which should be applied only by trained and manufacturer-approved insulation experts familiar with the properties of this material.

PolyPUF H-1 2.7 systems are specifically designed as insulation for construction applications where the end use ambient temperature range will be maintained between -100°F and 225°F. When considering any other use for this product, consult Polyglass for specific application recommendations.

Substrate Preparation

For optimum results, surfaces to receive PolyPUF H-1 2.7 should be clean and dry, free of dirt, oil, solvent, grease, loose particles, peeling coating and other foreign matter. Untreated ferrometallic substrates should be sandblasted in accordance with SSPC-SP6. Sandblasted surfaces should be primed immediately with an approved primer.

Galvanized and stainless steel surfaces should be treated with an appropriate wash primer prior to the application of PolyPUF H-1 2.7.

Porous substrates such as wood and concrete may not require priming if surfaces are clean and dry with less than 10% moisture content. FOR BEST RESULTS ON SURFACES WHERE MOISTURE CONTENT CANNOT BE DETERMINED OR CONTROLLED, PRIMING IS RECOMMENDED. Consult Polyglass for specific application requirements.

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Substrate Temperature

PolyPUF H-1 2.7 systems may be applied to surfaces with temperatures as low as 50° in most instances. Please consult with Polyglass technical representatives for certain requirements.

Ambient Air Temperature		
Winter	Regular	Summer
50–65°F	65–85°F	85°F +

POLYGLASS TECHNICAL SERVICE PERSONNEL SHOULD BE CONSULTED IN ALL CASES WHERE APPLICATION CONDITIONS ARE MARGINAL.

Equipment

Proportioning equipment shall be manufactured by Gusmer, Graco or Glas-Craft. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be heated airless type, capable of maintaining 120°F to 140°F mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions.

Spraying

PolyPUF H-1 2.7 systems should be deposited in uniform passes ranging from ½" to 1 ½". Pass thicknesses will vary as a function of substrate temperature, ambient air temperature and machine output. PolyPUF H-1 2.7 systems bond best to them¬selves when the previous pass is still warm (above 70°F). PolyPUF H-1 2.7 performs best when coated the same day of application, however it may be left exposed for up to 24 hours. If PolyPUF H-1 2.7 is exposed for a period greater than 24 hours, please contact Polyglass for recommendations.

CLIMATIC CONDITIONS: No spraying should be done when moisture is present in the form of rain, dew or relative humidity greater than 80%, or when there is wind more than 15 m.p.h.

Protective Coating

PolyPUF H-1 2.7, when applied to exterior weathering surfaces, must be top coated with an approved elastomeric coating. All coatings shall be applied in accordance with Polyglass instructions.

Fire and Thermal Barrier

PolyPUF H-1 2.7 polyurethane insulation systems are combustible under many fire conditions. A fire and thermal protection have a UL rated 15-minute finish rating should be used to cover all PolyPUF H-1 2.7 systems used on interior wall or ceiling applications.

Special Note

Particular attention must be paid to coating selection In applications where a vapor drive may be present. Consult Polyglass technical service personnel for specific system recommendations.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to industrial and commercial customers. Customer assumes full responsibility for quality control, testing and determination of suitability of products for its intended application or use. We warrant that our products will meet our written liquid component specifications. We make no other warranty of any kind, either express or implied, by fact or law, including any warranty of merchantability or fitness for a particular purpose. Our total liability and customers' exclusive remedy for all proven claims is replacement of nonconforming product and in no event shall we be liable for any other damages.

While descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, they are provided for guidance only. Because many factors may affect processing or application/use, Polyglass recommends that the reader make tests to determine the suitability of a product for a particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be sued without infringing the intellectual property rights of others. In no case shall the descriptions, information, data or designs provided be considered a part of Polyglass's terms and conditions of sale. Further the descriptions, designs, data, and information furnished by Polyglass hereunder are given gratis and Polyglass assumes no obligation or liability for the description, designs, data or information given or results obtained, all such being given and accepted at the reader's risk.

Warning: These products can be used to prepare a variety of polyurethane products. Polyurethanes are organic materials and must be considered combustible.

Refer to safety data sheet (SDS) for specific data and handling of our products.

All data furnished refers to standard production using manufacturing testing tolerances. The product user, and not Polyglass, is responsible for determining the suitability and compatibility of our products for the user's intended use.

MANUFACTURING FACILITIES

- Fernley, NV
- Hazleton, PA
- Phoenix, AZ
- Waco, TX
- Winter Haven, FL

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For the most current product data and warranty information, visit www.polyglass.us

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