KM-214 2.5 Series

Spray Polyurethane Foam Roofing Insulation

Description

KM-214 2.5 Series is an HFC-blown, Zero Ozone-Depleting (Zero-ODP), spray polyurethane foam (SPF) system designed for roofing applications. KM-214 2.5 Series is a 2.5 pound per cubic foot density series. This is a two part product that is available in four reactivity grades for application at various temperatures. KM-214 2.5 Series must be processed with KM-214 Part A Isocyanate to create the final product.

Uses

Spray applied roofing system.

Offers sustainability and high-performance.

Applied directly to most existing substrates for new and retrofit installations.

Provides the highest insulation values.

Acts as an air barrier, insulation and roofing system in a single application.

Packaging

500# drum

Typical Physical Properties(1)

Resin

1. **Specific Gravity @ 70°F** 1.18, **ASTM D1638**
2. **Viscosity @ 70°F (cps)** 500–800, **Brookfield**

Cured Foam

1. **Mix Ratio (volume:volume)** 1:1
2. **Density (pcf)** 2.4–2.6, **ASTM D1622**
3. **Thermal Resistance (aged)**
   k-factor (Btu in/ft² hr °F) 0.158, **ASTM C518**
   R-value (ft² hr °F/Btu in)(2) 6.3/in, **Calculated**
4. **Compressive Strength (psi)** 45±5%^, **ASTM D1621**
5. **Tensile Strength (psi)** 60–80, **ASTM D1623**
6. **Shear Strength (psi)** 40–60, **ASTM C273**
7. **Closed Cell Content (%)** >90, **ASTM D6226**
8. **Water Vapor Transmission – Permeability (perm-inch)** 0.9, **ASTM E96**
9. **Surface Burning Characteristics:**
   Flame Spread Index(3) 55, **UL 723**
   Smoke Developed Index >500, **UL 723**
   Flame Spread Value (FSV) 340, **CAN/ULC-S102**
   Smoke Developed Value (SDV) 565, **CAN/ULC-S102**

(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 throughput, 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 #70 PCD and/or GAP spray-gun configured with a #1 mix chamber
- Process temperature settings: Isocyanate 120–125°F; Resin 130–135°F; Hose 130°F
- Process pressure: 1000 psig minimum while spraying

(2) The data 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 will depend upon the climate, the type and size of your house, and the fuel use patterns and family size. If you buy too much insulation it will cost you more than what you will save on fuel. To achieve proper R-values, it is essential that this insulation be installed properly.

(3) This numerical flame spread rating does not reflect hazards presented by this or any other material under actual fire conditions. Polyurethane foam systems should not be left exposed in interior applications and must be protected by a minimum 15-minute thermal barrier or other code-compliant material as allowed by applicable building code(s) and Code Officials. Building Codes provide guidelines representing minimum requirements. Further information is available at www.iccsafe.org. Consult all Authorities Having Jurisdiction (AHJ) over an area for additional or specific requirements prior to beginning any project.

Additional Testing, Approvals & Certifications

- UL723 Listing with UL(3)
- ASTM C1029 Type III
- UL 790 Listings for Roof Assemblies – Exterior Fire Non-Combustible Decks
- Class A up to Unlimited thickness of SPF
- Up to Unlimited Incline available
- Silicone and Acrylic coating options
- Granules at 30 lbs per 100 ft² depending on configuration
- Combustible Decks
- Class B at 1 inch (min) SPF thickness
- Acrylic and Silicone coating options
- Up to 1:12 Incline available

Please contact your local Sales or Technical Representative for specific questions regarding KM-214 2.5 Series properties, approvals, or certifications.

General Information

KM-214 2.5 Series 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. KM Coatings technical service personnel should be consulted in all cases where application conditions are questionable.

KM-214 2.5 Series is available in several reactivity "grades": SAZ (Slow Arizona), S (Slow), R (Regular) and F (Fast). Some suggested ambient temperature ranges for each of the reactivity grades is included below:

KM COATINGS™

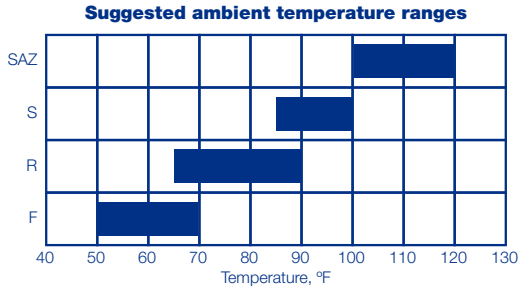
For most current product data and warranty information, visit: www.kmcoatings.us

 Edition Date: 01/18 | Doc#KM-214 2.5 Series

RCMA ROOF COATINGS MANUFACTURERS ASSOCIATION MEMBER

KM-214 2.5 Series

Spray Polyurethane Foam Roofing Insulation



Cautions & Recommendations

KM-214 2.5 Series is designed for an application rate of ½ 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).

KM-214 2.5 Series 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. KM-214 2.5 Series should NOT be installed in these types of constructions unless the structure was designed by a design professional for specific use as cold storage.

KM-214 2.5 Series 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 KM Coatings 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 KM-214 2.5 Series or any polyurethane foam.

Storage and Cleaning

KM-214 2.5 Series Series has a shelf life of approximately (3) months from the date of manufacture when stored in original, unopened containers at 50-80°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.

Limited Warranty Information

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, KM Coatings 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 KM Coatings's terms and conditions of sale. Further the descriptions, designs, data, and information furnished by KM Coatings hereunder are given gratis and KM Coatings 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.

KM Coatings

1719 West Buchanan Street,
Phoenix, Arizona 85007

Office: (602) 253-1168
Fax: (602) 258-1887
Toll Free: (800) 982-6899

Refer to 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 KM Coatings, is responsible for determining the suitability and compatibility of our products for the user's intended use.

 Edition Date: 01/18 | Doc#KM-214 2.5 Series