

NCFI SPRAY FOAM SYSTEM 10-011

DESCRIPTION:

NCFI 10-011 is a two component, HFC-245fa blown, all PMDI based spray polyurethane foam system designed for use as a self-adhering, seamless, high insulating, spray applied rigid polyurethane foam roofing system. NCFI 10-011 will be available in multiple speeds for use in varying temperature conditions. NCFI 10-011 has been formulated to spray at 2.8 pcf depending on lift thickness, and may be used in applications of the EnduraTech™ roofing systems.

DISTINGUISHING CHARACTERISTICS:

- Excellent Cure and Overlap Adhesion
- High Yields
- High Closed Cell Content
- Good Dimensional Stability

TYPICAL PHYSICAL PROPERTIES:

Core Density	2.8 pcf
Compressive Strength	54 psi
Tensile Strength	60 lbf/ft ²
Moisture Vapor Transmission	0.92 perm-in
Closed Cell Content	>93%
R Value	6.3 @ 1" 9.8 @ 1.5" 13.4 @ 2" 27.4 @ 4"
Maximum Service Temperature	180°F
Flammability, ASTM E-84	<u>2 inch</u> Flame Spread <75

Note: The above values are average values obtained from a laboratory and should serve only as a guide.

APPROVALS:

This product is classified to UL Standards and requirements by Underwriters Laboratories Inc. when used in accordance with UL's *Roofing Materials and System Directory* and/or UL's *Fire Resistance Directory*. Wind uplift resistance rated at 160-165 psf (depending on construction).



This product is Approved by Factory Mutual Research Corporation subject to the conditions of Approval as a spray foam roof insulation system for use in Class 1 roof construction as described in the current edition of the FMRC *Approval Guide*. Windstorm rated 1-60 to 1-180 (depending on construction).



For proper use of this NCFI roofing material refer to the NCFI Application Information and any of the following codes or guides:

- International Building Code (IBC) Section 2603
- API Bulletin AX 151: *Guidelines for the Responsible disposal of Waste and Containers from Polyurethane Processing*
- API Bulletin AX 205: *Working with MDI and Polymeric MDI: What You Should Know*
- API Bulletin AX 236: *Six Steps for Fire Safety During Construction*

Polyurethane products manufactured or produced from this liquid system may present a serious fire hazard if improperly used or allowed to remain exposed or unprotected. The character and magnitude of any such hazard will depend on a broad range of factors, which are controlled and influenced by the manufacturing and production process, by the mode of application or installation and by the function and usage of the particular product. **Any flammability rating contained in this literature is not intended to reflect hazards presented by this or any other material under actual fire conditions. These ratings are used solely to measure and describe the product's response to heat and flame under controlled laboratory conditions.** Each person, firm or corporation engaged in the manufacture, production, application, installation or use of any polyurethane product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage, and utilize all appropriate precautionary and safety measures.

NCFI 10-011 APPLICATION INFORMATION

EQUIPMENT AND COMPONENT RATIOS:

It is preferred that this system be processed with Graco Polyurethane Spray Equipment. NCFI 10-011R is connected to the resin pumps with NCFI 10-011A being connected to the isocyanate pumps. The proportioning pump ratio is 1 to 1. Dispensing temperature should be set at 130°F for automatically controlled machinery to give a good pattern. For additional assistance contact NCFI.

PROPER TEMPERATURE AND OPTIMUM FOAM REACTIVITY:

Below are the recommended air temperatures with the proper version of 10-011 for roof work.

<u>50°F to 60°F</u>	<u>60°F & above</u>	<u>75°F & above</u>
Fast	Regular	Slow

Care in selecting the proper reactivity version of 10-011 is needed for the combination of adequate curing on the overlap edges and reasonable texture of the foam surface. For temperatures below 50°F contact NCFI for specific recommendations.

STORAGE AND USE OF CHEMICALS:

Keep temperature of chemicals above 70°F for several days before use. Cold chemicals can cause poor mixing, pump cavitation or other process problems due to higher viscosity at lower temperatures. Storage temperature should not exceed 90°F. Do not store in direct sunlight. Keep drums tightly closed when not in use. The R side drum must be kept under dry air or nitrogen pressure of 2-3 psi after opening and during use. The shelf life of NCFI 10-011 is six months.

SAFE HANDLING OF LIQUID COMPONENTS:

Use caution in removing bungs from the container. Loosen the small bung first and let any built up gas escape before completely removing. 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 "MDI-Based Polyurethane Foam Systems: Guidelines for Safe Handling and Disposal" publication AX-119 published by Alliance For The Polyurethanes Industry 1300 Wilson Blvd, Suite 800, Arlington, VA 22209.

FOR ANY QUESTIONS REGARDING THE ABOVE RECOMMENDATIONS CONTACT NCFI

The information on our data sheets is to assist customers in determining whether our products are suitable for their applications. The customers must satisfy themselves as to the suitability for specific cases. NCFI Polyurethanes warrants only that the material shall meet its specifications; this warranty is in lieu of all other written or unwritten, expressed or implied warranties and NCFI Polyurethanes expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere strictly to any recommended procedures shall relieve NCFI Polyurethanes of all liability with respect to the material or the use thereof.

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PREPARATION OF SURFACE TO BE SPRAYED:

All surfaces to be sprayed should be clean, dry, and free of dew or frost. All metal to which foam is to be applied must be free of oil, grease, etc. Primers should be used where necessary. Please refer to NCFI's "Special Bulletin on Recommended Procedures for Applying NCFI Spray Foam Systems on Exterior Roof Surfaces."

PROPER TEMPERATURE FOR OPTIMUM ADHESION:

When the surface temperature will have a service temperature between 120°F and 180°F (#6 oil and resin tanks), the surface to be sprayed should be 120°F or above at the time of spraying. For temperatures over 180°F please contact NCFI for specific recommendations.

WEATHER PROTECTION OF FINISHED FOAM:

The finished surface of sprayed polyurethane foam should be protected from adverse effects of ultraviolet rays of direct sunlight, which can cause dusting and discoloration. Protective coatings designed for use with polyurethane foam are available.

VAPOR BARRIER PROTECTION ON COLD STORAGE WORK:

When sprayed polyurethane foam is used on exterior roofs of freezer or cooler buildings, the exterior coating on the foam should be a vapor barrier. This is because of severe vapor drive from hot roof to cold interior.

PREDICTION OF FIRE HAZARD IN CONSTRUCTION:

NCFI 10-011 is designed for use as an exterior roof membrane. NCFI 10-011 is not designed for interior use. NCFI has many other systems designed for interior use; however, where any foam is sprayed in building interiors its exposed surface should be protected from fire hazard by ½" Portland cement plaster or ½" gypsum board or equivalent per applicable building code.