



NCFI Polyurethanes, Div. of BMC  
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## TECHNICAL DATA and FACT SHEET

### NCFI SPRAY FOAM SYSTEM 12-008

#### DESCRIPTION:

NCFI 12-008 is a two component, one-to-one by volume, no-mix, self-adhering, seamless spray applied open cell polyurethane insulation system. This NCFI system has been formulated with water as the blowing agent and does not contain CFC, HCFC, HFC or formaldehyde. NCFI 12-008 is suitable for use in Type I to V construction for the NCFI Sealite™ insulation system.

#### DISTINGUISHING CHARACTERISTICS:

- Eliminates Convective Air Movement in Building Assemblies
- Good Sound Barrier
- High Yields
- Good Dimensional Stability
- Meets ASTM E-84 Class A
- Air Impermeable Insulation @ 5 ½ inches

#### CODE-COMPLIANT FIRE RESISTANCE:

Building codes require the spray foam insulation be separated from the interior of buildings with an approved thermal barrier. Gypsum wallboard minimum 1/2" thick or other approved material may be installed as the thermal barrier. When a thermal barrier is installed, the foam thickness is not limited. DC315 intumescent coating may be used in lieu of the thermal barrier. The foam can be installed up to 8" in walls and 14" in ceiling/roof assemblies when coated with 14 wet mils of DC315.

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

- ICC, 2015 and 2018 International Building Code, Section 2603
- ICC, 2015 or 2018 International Residential Code, Section R316
- CPI Fire Safety Guidelines for Use of Rigid Polyurethane and Polyisocyanurate Foam Insulation in Building Construction  
[www.americanchemistry.com](http://www.americanchemistry.com)

#### TYPICAL PHYSICAL PROPERTIES:

Core Density ASTM C 1622	0.4 - 0.5 pcf
R-Value <sup>1</sup> ASTM C 518	R 3.7 @ 1"
Moisture Vapor Perm ASTM E96 Procedure A	28 @ 1"
Air Permeance @75Pa	≤ 0.02 L/s·m <sup>2</sup> @5.5"
Maximum Service Temperature	180°F
Flammability - ASTM E-84	@ 4 inches Flame Spread ≤ 25 Smoke Dev ≤ 450

Note: The above values are average values obtained from laboratory experiments and should serve only as guide lines. Free rise core density should not be confused with overall density. Overall densities are always higher than free rise core densities and take into account skin formation, thickness of application, environmental conditions, etc.

<sup>1</sup>R - values tested at 30 days aging

#### ATTIC AND CRAWLSPACE APPLICATION:

For application in limited access attics and crawlspaces, building codes require the spray foam be covered with a barrier from ignition. The DC315 intumescent coating may be used in lieu of the code prescribed ignition barrier. The 12-008 foam can be installed up to 8" in walls and 14" in ceiling/roof/floor assemblies when coated with 7 wet mils of DC315.

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 SPRAY FOAM SYSTEM 12-008

## STORAGE AND USE OF CHEMICALS:

Storage temperature should not exceed 85°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. Cool storage of the resin extends shelf life. Exposure to temperatures above 85°F will shorten the expected shelf life. Store above 35°F, keep temperature of chemicals near 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. The shelf life of NCFI 12-008 is six months.

## SAFE HANDLING OF LIQUID COMPONENTS:

Wear chemically resistant gloves and safety glasses when working with the foam chemicals. Avoid chemicals direct contact with skin. 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 the Center for the Polyurethanes Industry 1300 Wilson Blvd, Suite 800, Arlington, VA 22209.

## EQUIPMENT AND COMPONENT RATIOS:

The 12-008 system, consisting of an A and B component, is formulated for spraying with a two component pump specifically designed for spray foam systems. The B drum is connected to the resin pump and the A drum is connected to the isocyanate pumps. The proportioning pump ratio is 1:1. The recommended dispensing temperature should be set between 130°F-140°F for automatically controlled machinery to give a good spray pattern. Operating pressure should be 1200 psi static /1000 psi dynamic and a maximum 02 and smaller mixing chambers.

## SUBSTRATE SURFACE PREPARATION:

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.

## MOISTURE VAPOR RETARDER USE:

For applications in colder climates, building codes require a vapor retarder be installed on the warm side the application of open cell foam. Consult the local building codes for information.

## SPECIAL HANDLING NOTICE

Care should be taken to avoid the introduction of any other chemical system (such as closed cell spray foams) into the B side drum of 12-008. We strongly recommend, at a minimum, the use of a dedicated stainless steel transfer pump for this material to avoid the possibility of cross contamination. User should expect that there will be a degree of waste in spraying out the changeover between closed cell to open cell foams. Under no circumstances should the user bleed out spray lines of these incompatible foams back into the drum.

## OPTIUM SUBSTRATE TEMPERATURE:

On general work where the surface to be sprayed will remain at ambient temperature or cooler, the surface should be between 50°F and 120°F. In this range the warmer the surface the better the adhesion. Minimum pass thickness for proper cures must be no less than 3 inches. In some cases the surface may require a primer. When surfaces are cooler, the spray applicator should spray a test area approximately 20 square feet and check for proper adhesion and cell structure. If both are satisfactory, then the spray application may continue.

Fact Sheet R* Values	
Foam Thickness	R Value (°F·hr·ft <sup>2</sup> / Btu)
1.0"	3.7
3.5"	13
5.5"	20
8"	29
11"	40
14"	51

Note: As with all insulating materials, the R value will vary with age and use conditions. \*Based on 30 day aged testing of R values at 1" and 3.5"

\*\*Contact NCFI regarding any questions related to the spray foam systems or the information on this data sheet.

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 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 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 of all liability with respect to the material or the use thereof.