NCFI Polyurethanes, Div. of BMC
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TECHNICAL DATA 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.

DISTINGUISHING CHARACTERISTICS:

- Eliminates Convective Air Movement in Building Assemblies
- Good Sound Barrier
- High Yields
- Good Dimensional Stability
- Meets ASTM E84 Class A
- Air Impermeable Insulation
- Low VOC per CDPH Standard version 1.2

EQUIPMENT AND COMPONENT RATIOS:

The 12-008 system, consisting of the 12-008 B Side drum and the A2-000 A Side drum, 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 pump. The proportioning pump ratio is 1:1. Recommended proportioner settings are:

Pre-heater Temperatures	130-140°F
Hose Temperature	130-140°F
Pressure Static	1200 psi
Pressure Dynamic	1000 psi

Note: These are only recommended starting points, when using a 02 mix chamber, and may need to be adjusted according to the specific proportioner, varying hose lengths, ambient and substrate temperatures, and conditions. For additional assistance contact NCFI Polyurethanes.

TYPICAL PHYSICAL PROPERTIES:

Core Density ASTM C1622	0.4 to 0.5 pcf
R-Value[1] ASTM C518	R 3.7 @ 1”
Moisture Vapor Perm ASTM E96 Desiccant Method	28 @ 1”
Air Permeance @ 75Pa ASTM E2178	0.02 L/s-m^2 @ 6.75”
Max Service Temperature	180°F
Flammability - ASTM E84	@ 4 inches Flame Spread ≤ 25 Smoke Dev ≤ 450

Note: The above values are average values obtained from laboratory experiments and should serve only as guidelines. 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.
[1]R-value tested at 90 days aging.

ATTIC AND CRAWLSPACE APPLICATION:

The 12-008 system is approved for use with the DC315 intumescent coating. In lieu of the code prescribed ignition barrier in attics and crawlspaces, the foam can be installed up to 8 inches thick on vertical surfaces and up to 14 inches thick on horizontal and overhead surfaces when covered with 7 wet mils of DC315. In lieu of the code prescribed thermal barrier covering, 12-008 can be installed up to 8 inches thick in walls and 14 inches thick on the roof/ceiling when covered with 14 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.

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STORAGE AND USE OF CHEMICALS:
The chemicals should be between 60°F and 85°F for proper processing through the spray equipment. Chemicals shipped during winter or summer months may need extra time in moderate temperature storage to stabilize back into the proper processing temperature range. Keep drums tightly closed when not in use and under dry air or nitrogen pressure of 2-3 psi after they have been opened. Avoid storage above 90°F as much as possible. Store above 35°F and 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 6 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 go to www.spraypolyurethane.org and click on the Resources tab in the Professional Contractors section.

R-Value* Chart	
Foam Thickness	R-value ($°F \cdot hr \cdot ft^2$ / Btu)
1.0”	**3.7**
3.5”	**13**
5.5”	**21**
8”	**30**
11”	**42**
14”	**53**
Note: As with all insulating materials, the R-value will vary with age and use conditions. *Based on 90 day aged testing of R-values at 1” and 3.5”	

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. It is recommended, 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 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.

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.

MOISTURE VAPOR RETARDER USE:
For applications in colder climates, building codes may require a vapor retarder on the warm side of the open cell foam. Consult the local building codes for information or contact NCFI Polyurethanes for further guidance.

OPTIMUM ADHESION TEMPERATURE OF SURFACE TO BE SPRAYED:
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.

CODE-COMPLIANT FIRE RESISTANCE:
Building codes require the spray foam be separated from the interior of buildings with an approved thermal barrier. Minimum ½ inch gypsum board or other tested and approved material may be installed as a thermal barrier. DC315 may be used in lieu of the thermal barrier. The foam can be installed up to 8 inches in walls and 14 inches in ceilings when coated with 14 wet mils of DC315. Contact NCFI for additional information.

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

- 2015 or 2018 IBC, Section 2603
- 2015 or 2018 IRC, Section R316
- Go to: polyurethane.americanchemistry.com and find the “Products, Resources, and Documents Library” tab.

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.