



**NCFI Polyurethanes**  
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# Technical Data Sheet

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## NCFI POUR SYSTEM 24-031

### DESCRIPTION:

NCFI 24-031 is a two component, HFC-245fa blown, all PMDI based, nominal 6.0 pcf density, pour-in-place polyurethane foam system. NCFI 24-031 has been designed for void filling and low pressure concrete jacking applications which require a higher compressive strength than attainable with lower density foams. The component viscosities make NCFI 24-031 suitable for mechanical mixing machines, high-pressure (over 600 psi) impingement mixing machines or hand mixing.

### DISTINGUISHING CHARACTERISTICS:

- Excellent Flow
- Excellent Strength to Weight Ratio
- Low Viscosity for Easy Processing
- Non-friable Core

### TYPICAL RESIN PROPERTIES:

	<u>24-031 R</u>	<u>24-031 A</u>
Viscosity @ 72°F	1825 cps	200 cps
Lbs./Gallon	9.4 lbs.	10.2 lbs.
Appearance	transparent, amber liquid	transparent, brown liquid
Shelf Life	6 months	6 months

### MIX RATIO:

	<u>24-031 R</u>	<u>24-031 A</u>
By Weight	100 parts	107 parts
By Volume	100 parts	100 parts

### TYPICAL REACTION PROPERTIES:

	Hand Mix @ 72°F
Mix Time	30 seconds
Cream Time	58 seconds
Gel Time	155 seconds
Tack Free Time	225 seconds
Rise Time	270 seconds
Demold Time	40 minutes
Density (FRC)	6.0 pcf

### TYPICAL PHYSICAL PROPERTIES:

	<u>Free Rise</u>	<u>Molded</u>
Density	6 pcf	10 pcf
Compressive Strength ASTM D 1622	120 psi	240 psi
Tensile Strength ASTM D 1621	130 psi	220 psi
Water Absorption, ASTM D 1623	≤0.06 lbs/ft <sup>2</sup>	
Closed Cell Content	>95%	
Resistance to Solvents	Excellent	
Resistance to Mold and Mildew	Excellent	
Maximum Service Temperature	200°F	

\*The above values are average values obtained from laboratory experiments and should serve only as guidelines.

## NCFI 24-031 APPLICATION INFORMATION

### EQUIPMENT AND COMPONENT RATIOS:

NCFI 24-031 should be mixed by pour machines designed to mix urethane chemicals. It is recommended that this system be processed with either HPIM machines or low-pressure equipment with mechanical mix heads, both with the capability of controlling component temperatures to 70°F - 90°F. NCFI 24-031 **R** is connected to the **resin/polyol** pumps with NCFI 24-031 **A** being connected to the **isocyanate** pumps.

### MOLDING RECOMMENDATION:

To obtain optimum yield, consistent part quality and quick demold times, the mold temperature must be 80°F or higher. Recommended temperature is 100°F. Heating molds with radiant or convection heat sources should be accomplished without producing 'hot spots'. Molds may be constructed of fiberglass, aluminum, epoxy or other thermal conductive material. Mold surfaces must be coated with a suitable release agent and dried before molding. Follow the recommendations of the mold release supplier. The mold design should offer adequate clamping pressure and allow trapped air to escape through vent holes in the top or the parting lines of the mold.

### STORAGE AND USE OF CHEMICALS:

Keep temperature of chemicals at 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. Prolonged exposure to temperatures below 40°F can cause the 'A' component to freeze. Do not store in direct sunlight. Keep drums tightly closed when not in use and under nitrogen pressure of 2 - 3 psi after they have been opened.

### 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.

### Caution:

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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