NCFI Polyurethanes
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TECHNICAL DATA SHEET

24-003 SLOW
Geotechnical Foam System

NCFI 24-003 SLOW is a hydrophobic, two-component, Polymeric MDI-based, pour-in-place urethane foam system designed for concrete jacking and cavity filling in wet environments. NCFI 24-003 has low component viscosities making the system suitable for mechanical mix machines, high pressure (over 600 psi) impingement mixing machines or hand mixing. It has been specially formulated for exceptional flow and to be minimally affected by application in wet environments.

Typical Properties of Components

Component	R-24-003	A-24-003
Appearance	Transparent black liquid	Transparent brown liquid
Brookfield Viscosity @ 30 rpm	500 cps at 72°F	200 cps at 72°F
Specific Gravity	1.07	1.24
Storage Temperature	50°F – 100°F	50°F – 110°F

Mix Ratio

By weight……100 parts poly : 116 parts iso
By volume……100 parts poly : 100 parts iso

Typical Properties of Hand-Mixed System at 72°F and thru HPIM equipment

	at 72°F	at 120°F thru equipment
Cream Time	42 seconds	13 seconds
Tack Free Time	90 seconds	23 seconds
Rise Time	150 seconds	25 seconds
Free Rise Core Density	4 pcf	3 – 4 pcf

Process Parameters

Iso Temperature	100°F to 130°F
Poly Temperature	100°F to 130°F
Mixing Pressure	Minimum 800 static, 600 dynamic psi, 1000/800 preferred

Typical Foam Physical Properties

In-Place Density (ASTM D-1622)			5 - 6 pcf
Compressive Strength (ASTM D-1621), parallel to rise			80 - 100 psi
Tensile Strength (ASTM D-1623), parallel to rise			100 – 120 psi
Closed cell content			> 94%
Water Absorption (ASTM D-2842)			$\leq$ 0.04 lbs/ft^2
Dimensional stability, % volume change (ASTM D-2126)			
	Heat age at 158°F	**Freezer at -20°F**	**Humid age at 100%RH & 120°F**
28 day aging	-1.5%	-0.1%	-1.0%
Resistance to Solvents			Excellent
Resistance to Mold and Mildew			Excellent
Maximum service temperature			200°F

Storage and Handling

Store the poly from 50°F to 100°F. Avoid moisture contamination during storage, handling, and processing. For both components, pad containers and day tanks with either nitrogen or dry air (desiccant cartridge or air dryer @ -40°F dew point). For optimum shelf life, the recommended storage temperature for iso is 50°F to 110°F. Do not expose iso to lower temperatures – freezing may occur. Shelf life is 6 months for factory sealed containers. To insure handling safety, consult the Safety Data Sheets associated with this product.

Application Cautions

Careful consideration should be given to selection and application of any NCFI Polyurethane foam system, including injection under concrete slabs and/or into void areas (cavities), where excessive foam mass build-up can occur. Excessive polyurethane foam lift thickness will result in high internal temperatures within the injected foam. These high temperatures can result in degraded foam properties, or in extreme cases, spontaneous combustion. Single lift thickness should be limited to a maximum of 6 inches, allowing at least 15 minutes before an additional lift. Please consult NCFI Polyurethanes for safety considerations, polyurethane system selection and application recommendations.

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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