



Material Characteristics

NCFI-2.2SX is a two-component, HFO-blown, low-exotherm polyurethane system with a free rise density of 2.2 lb/ per ft³. It is slow-reacting and provides extended flow, making it suitable for large-volume void fills in open-access environments including large void areas, pipe abandonment, and underground tank abandonment. Its extended reaction time enables high lift applications where gradual expansion and full cavity coverage are required. This material is unique for jobs requiring UL-94 and/or USG Title 33, Chapter 1, Part 183 testing.

Applications

**Filling Large Voids
Pipe Abandonment
Underground Tank Abandonment**

Unique Advantages

**Low Exotherm
Contains No Solvents
Slow Reactivity
Excellent Flow**

Reactivity at 110°F

Cream Time	11 - 13 seconds
Gel Time	147 - 153 seconds
Tack Free Time	245 - 255 seconds
Rise Time	335 - 345 seconds

Physical Properties

Physical Properties	Test Method	Free Rise
Density	ASTM D1622	2.1 pcf
Compressive Strength	ASTM D1621	33 psi
Compressive Modulus	ASTM D1621	745 psi
Tensile Strength	ASTM D1623	55 psi
Tensile Modulus	ASTM D1623	860 psi
Water Absorption	ASTM D2842	≤0.04lbs/ft ²
Closed Cell Content		>90%
Max Service Temp		200°F
Elongation	ASTM D162	6%
Shear Strength	ASTM C273	33 psi
Shear Modulus	ASTM C273	200 psi
Flexural Strength	ASTM D790	31 psi
Flexural Modulus	ASTM D790	580 psi

Chemical Resistance

<i>Solvents...</i>	Excellent
<i>Mold and Mildew...</i>	Excellent

Performance

<i>Wet Environments...</i>	Poor
<i>Material Flow...</i>	High

Special Testing

Flammability	FMV SS-302 FAR 24.853A(III) UL-94	PASS PASS PASS
USG Title 33, Chapter 1, Part 183		PASS
Initial K-Factor		0.167
Moister Vapor Transmission		2-3 PERM•INCH

Component Properties

Component	B-24-NCFI-2.2SX	A2-000
Appearance	Transparent Liquid	Clear Brown Liquid
Brookfield Viscosity @20rpm	450 cps at 72°F	200 cps at 72°F
Specific Gravity	1.14	1.24
Weight per Gallon	9.4 lbs	10.3 lbs
Storage Temperature	50-100°F	50-100°F

Mix Ratio

<i>By weight... 100 parts A-side: 112 parts iso</i>
<i>By volume... 100 parts A-side: 100 parts iso</i>

Processing Parameters

A-side Temperatures	100 – 140°F
B-side Temperatures	100 – 140°F
Mixing Pressure	1000 psi static 800 psi dynamic

Storage and Handling

For optimum shelf life, the recommended storage temperature is 50°F to 100°F. **Do not expose A-side to lower temperatures – freezing may occur.** Avoid moisture contamination during storage, handling, and processing. After opening, pad the containers and day tanks with either nitrogen or dry air (desiccant cartridge or air dryer @ -40°F dew point). Store components at 70°F to 90°F for several days prior to use to minimize viscosity issues. Shelf life of B-side is 6 months and A-side is 2 years for factory sealed containers.

Application Cautions

Careful consideration should be given to selection and application of any NCFI Polyurethane foam system where excessive foam mass build-up can occur. Excessive polyurethane foam lift thickness will result in high internal temperatures within the injected foam, which can result in degraded foam properties, or in extreme cases, fire or spontaneous combustion. **Any flammability rating contained in this literature is not intended to reflect hazards presented by this or any other material under actual fire conditions.** Each person, firm or corporation engaged in the 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. Please consult NCFI Polyurethanes for safety considerations, polyurethane system selection and application recommendations.

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