

## 27-004 Low Density Rigid Foam System

### Technical Data Sheet

NCFI 27-004 is a two-component, HFC blown, all PMDI based rigid pour foam designed for flotation applications requiring a high degree of flow.

### Typical Properties of Components

Component	R-27-004	A-27-004
Appearance	Transparent amber liquid	Transparent brown liquid
Brookfield Viscosity @ 50 rpm	450 cps at 72°F	200 cps at 72°F
Specific Gravity	1.09	1.24
Storage Temperature	40°F – 90°F	40°F – 90°F

### Mix Ratio

By weight.....100 parts poly : 112 parts iso  
By volume.....100 parts poly : 100 parts iso

### Typical Properties of Mixed System at 72°F

	Regular	Slow
Cream Time	34 seconds	45 seconds
Gel Time	180 seconds	225 seconds
Rise Time	290 seconds	375 seconds
Free Rise Core Density	2.0 pcf	2.0 pcf

### Process Parameters

Iso Temperature	75°F to 85°F
Poly Temperature	70°F to 95°F
Mold Temperature	95°F to 125°F
Demold Time	7 to 9 minutes*

\* Demold time is dependent on shot size, and material and mold temperatures. NCFI recommends using a high-quality, properly applied wax or silicone release agent to prevent cured material from sticking to mold surfaces.

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### Typical Physical Properties

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<b>Molded Density (ASTM D1622)</b>	3.0 lb/ft <sup>3</sup>	
<b>Free Rise Density (ASTM D1622)</b>		2.0 lb/ft <sup>3</sup>
<b>Compressive Strength (ASTM D1621)</b>	34 psi	26 psi
<b>Aged k-factor (ASTM C518)</b>	0.21 BTU· in/(hr·ft <sup>2</sup> ·°F)	0.21 BTU· in/(hr·ft <sup>2</sup> ·°F)
<b>Closed Cell Content (NCFI TM-300)</b>	> 94%	> 92%
<b>Water Absorption (ASTM D2842)</b>	≤ 0.10 lbs/ft <sup>2</sup>	≤ 0.10 lbs/ft <sup>2</sup>
<b>Moisture Vapor Transmission (ASTM E96)</b>	2 – 4 perm·in	2 – 4 perm·in
<b>Resistance to Solvents</b>	Excellent	Excellent
<b>Resistance to Mold &amp; Mildew</b>	Excellent	Excellent
<b>Maximum Service Temperature</b>	180°F	180°F
<b>USCG Title 33, Chapter 1, Part 183</b>	Pass	Pass
<b>Flammability</b>	Pass UL-94 HBF	Pass UL-94 HBF

### Other Properties

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Meets what were the requirements of the superceded Military Specification 21929 B.  
(Mil Spec 21929 B was superceded by 21929 C in 1991.)

### Storage and Handling

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Avoid entraining air during mixing. Store the poly from 65°F to 85°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 60°F to 90°F. Do not expose iso to lower temperatures – freezing may occur. Shelf life is 6 months for factory sealed containers.

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