

Material Characteristics

NCFI-5RH is a 5lb per ft³, hydrophobic / hydro-insensitive, MDI-based, water-blown polyurethane with moderate reactivity, formulated for exceptional spread and lifting capacity. Developed for concrete lifting and industrial/heavy-commercial use, it is intended for conditions where there are higher-than-typical loads, delivering high compressive strength and maintaining physical properties in wet or saturated conditions.

Applications

**Bridge Approaches and Departures
Highways and Streets
Airport Runways and Taxiways
Concrete Slab Lifting
Joint Matching
Void Filling
Deep Soil Injection**



NSF/ANSI/CAN 61 - 5".
*Upon Request

Unique Advantages

**Hydrophobic / Hydro-Insensitive
Contains No Solvents
Strengthens Loose Soil
Water Blown System**

Reactivity at 110°F

| | |
|-----------------------|---------------------------------|
| Cream Time | 7 seconds |
| Gel Time | 13 seconds |
| Tack Free Time | 18 seconds |
| Rise Time | 27 seconds |
| Cure Time | 95% @ 30min. Full cure at 24hrs |

Chemical Resistance

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

Performance

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|----------------------------|------------------|
| <i>Wet Environments...</i> | Excellent |
| <i>Lifting Capacity...</i> | Excellent |

Physical Properties

| Physical Properties | Test Method | Free Rise | Restrained |
|----------------------|-------------|--------------------------|--------------------------|
| Density | ASTM D1622 | 5.0 pcf | 6 - 7 pcf |
| Compressive Strength | ASTM D1621 | 112 psi | 115 - 130 psi |
| Compressive Modulus | ASTM D1621 | 2200 psi | 2350 psi |
| Tensile Strength | ASTM D1623 | 128 psi | 130 - 145 psi |
| Tensile Modulus | ASTM D1623 | 2900 psi | 3100 psi |
| Water Absorption | ASTM D2842 | ≤0.04lbs/ft ² | ≤0.04lbs/ft ² |
| Closed Cell Content | | >94% | >94% |
| Max Service Temp | | 200°F | 200°F |
| Elongation | ASTM D1623 | 7% | |
| Shear Strength | ASTM C273 | 72 psi | 80 - 90psi |
| Shear Modulus | ASTM C273 | 800 psi | 950 psi |

Special Testing

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| NYDOT Hydro-Insensitivity test, GTP-9 | >97% density retention >94% comp strength retention |
|--|--|

| | | | |
|---|--------------------------|-------------------------|---|
| Dimensional Stability, % volume change, 28 days aging (ASTM D-2126) | Heat age at 158°F | Freezer at -20°F | Humid age at 100% RH & 120°F |
| | -1.4% | -0.1% | -1.0% |

Component Properties

| Component | B-NCFI-5RH | A2-000 |
|------------------------------------|--------------------|--------------------|
| Appearance | Transparent Liquid | Clear Brown Liquid |
| Brookfield Viscosity @20rpm | 750 cps at 72°F | 200 cps at 72°F |
| Specific Gravity | 1.053 | 1.24 |
| Weight per Gallon | 8.79 lbs | 10.3 lbs |
| Storage Temperature | 50-100°F | 50-100°F |

Mix Ratio

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|--|
| <i>By weight... 116 parts A-side: 100 parts B-side</i> |
| <i>By volume... 100 parts A-side: 100 parts B-side</i> |

Processing Parameters

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|----------------------------|------------------------------------|
| A-side Temperatures | 100 – 120°F |
| B-side Temperatures | 100 – 120°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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