

Part A – Hi-Chem<sup>™</sup> 21-70 Iso – Part # 60060  
 Part B – Hi-Chem<sup>™</sup> 21-70 Resin – Part # 60070

**DESCRIPTION:** Hi-Chem<sup>™</sup> is a two-component, 100% solids (no VOCs, no solvents), exothermic, rapid curing, elastomeric polyurethane lining system specifically designed for excellent chemical resistance.

**TYPICAL USES:**

- Durable protective lining with excellent chemical resistance for applications such as:
  - primary and secondary containment
  - chemical processing equipment, tank lining and wet wells
  - water and wastewater
  - immersion service
- Spray-on application creates a monolithic, seamless lining which conforms to any shape and size.
- Stable from -5° F to 170° F (-20.6° to 76.7° C)

**FEATURES & BENEFITS:**

- Excellent corrosion resistance
- Excellent chemical resistance
- Dense chemical structure imparts high impermeability

<b>CHEMICAL PROPERTIES:</b>	<b>Standard Test</b>	<b>Isocyanate (A)</b>	<b>Resin (B)</b>
Specific Gravity (grams/cc)	ASTM D-792	1.2	1.05
Viscosity, CPS at 77°F (25°C)		100	900
Solids by Volume/Weight		100%	100%
Volatile Organic Compounds, calculated		0 lbs/gal	0 lbs/gal
Mix Ratio, Parts per volume		1	2
Mix Ratio, parts per weight		60	100
Gel Time, seconds at 77°F (25°C)		30 – 35	
Tack-free, seconds		90 – 100	
Theoretical Coverage (dft)		1600 sqft/gal at 1 mil thick	
Base Color		amber/dark brown	off-white
Shelf Life - Unopened Containers		12 months	12 months

<b>TYPICAL PHYSICAL PROPERTIES:</b>	<b>Test</b>	<b>Result</b>
Hardness (Shore D)	ASTM D-2240	70±3
Tensile Strength (psi)*	ASTM D-412	3500 – 3700
Tear Resistance (pli)** Die C	ASTM D-624	350 – 400
Elongation (%)*	ASTM D-412	10 – 15
Impact Resistance, 100 mil thickness sample (in-lbs)	Gardner Tester	160
Taber Abrasion Resistance (mg of loss/1000 cycles) CS17 Wheel; 1000 grams weight	ASTM D-4060	53
Dielectric Strength (volts/mil)	ASTM D-149	300
Volume Resistancy (ohm/inches)	ASTM D-257	6 X 10 (12)
Dielectric Constant (MHz)	ASTM D-150	5.4
Dissipation Factor (MHz)	ASTM D-150	0.058
Cathodic Disbonding	ASTM G-8	Pass

\*Properties were checked of Hi-Chem lining, 1/8" (125 mils), (3.18 mm) thick stock.

**DRY FILM THICKNESS RANGE:** Varies based on application, typically used at 80 mils (2 mm) to 160 mils (4 mm)

**HI-CHEM™ 21-70 (continued):**

**NOT RECOMMENDED FOR:**

- Sustained temperatures below -5° F (-20.6° C) or above 170° F (76.7° C)
- Concrete substrates subject to high impact
- Application to high density polyethylene or thermo plastics

**CHEMICAL RESISTANCE:** Hi-Chem has excellent resistance to a variety of commercial and industrial chemicals. Examples of some of the chemicals it can withstand are listed below. For further information and a more comprehensive list, please refer to our Chemical Resistance Chart found on our website or speak to a Rhino Linings® representative.

Properties were checked of Hi-Chem polyurethane lining, 1/8" (125 mils), (3.18 mm) thick stock at 75° F (24°C). Results may vary at elevated temperatures.

Acetic Acid to 10%	Hydrochloric Acid to 15%	Salts
Ammonia to 5%	Hydrogen Peroxide to 10%	Salt solutions
Bleach	Nitric Acid to 10%	Sodium Hydroxide to 50%
Caustic Soda Lye to 50%	Oils	Sodium Hypochlorite to 13%
Cleansing chemicals	Phosphoric Acid to 50%	Sulfuric Acid to 50%
Disinfecting chemicals	Potash Lye to 20%	

**SUBSTRATES:** Concrete, fiberglass, metals, wood and geotextiles

**COLOR OPTIONS:** Limited color range available

**SAFETY PRECAUTIONS: Health Considerations: Consult the Rhino Linings® Safety Data Sheets (SDS)**

This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

**For Your Protection:** The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors. Because of numerous factors affecting results, **Rhino Linings Corporation makes no warranty of any kind, express or implied**, other than that the material conforms to its applicable current Standard Specifications. Rhino Linings Corporation hereby disclaims any and all other warranties, including but not limited to those of merchantability or fitness for a particular purpose. No statements made herein may be construed as a representation or warranty. The liability of Rhino Linings Corporation for any claims arising from or sounding in breach of warranty, negligence, strict liability, or otherwise shall be limited to the purchase price of the material.

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