

Part A – HardLine® 21-55 Iso – Part # 60126

Part B – HardLine® 21-55-120 Resin – Part # 60148

**DESCRIPTION:** HardLine® is a two-component, 100% solids, no VOCs (no solvents), exothermic, slow gelling, elastomeric polyurethane lining system. Lining thickness varies based on application, typically minimum of 1/16" (62.5 mils; 1.6 mm) up to unlimited thickness.

**TYPICAL USES:**

- Excellent general purpose industrial lining for applications such as:
  - Material delivery systems where a seamless flexible system is essential.
  - Floor and wall protection in industries such as food processing, food storage, veterinary, production area and laboratories.
  - Secondary containment-as a monolithic, impermeable lining for industrial plant, agriculture, and petro-chemical applications
- Spray-on application creates a monolithic, seamless lining which conforms to any shape and size.
- Elastomeric properties allow for application to surfaces subject to: vibration, expansion, contraction, movement, flexing, abrasion and impact.
- Bonds to virtually all substrates of any dimension, including metals, woods, concrete and fiberglass
- Can withstand vehicle forklift traffic and heavy loads with proper thickness build
- Reduces noise from vibration and impact
- Stable from -40° F (-40° C) to 175° F (79.4° C)

**FEATURES & BENEFITS:**

- High tensile strength and tear strength properties
- Very good abrasion and impact resistance
- Good chemical resistance
- Excellent corrosion resistance
- Good noise reduction

<b>CHEMICAL PROPERTIES:</b>	<b>Test</b>	<b>Isocyanate</b>	<b>Resin</b>
Specific Gravity (grams/cc)	ASTM D-792	1.23	1.03
Viscosity, CPS at 77°F (25°C)		300 – 400	500 – 700
Weight per Gallon		10.3	8.6
Mix Ratio, Parts per Volume		1	2
Mix Ratio, Parts per Weight		60	100
Gel Time, Seconds at 80°F (26°C)		90 – 120	
Solids by Volume/Weight*		100%	100%
Volatile Organic Compounds		0 lbs/gal	0 lbs/gal
Shelf Life - Unopened Containers		12 months	6 months
Base Color		amber/dark brown color	opaque

\*Gel based on 100 gram mass.

<b>TYPICAL PHYSICAL PROPERTIES:</b>	<b>Test</b>	<b>Result</b>
Hardness (Shore D)	ASTM D-2240	55±5
Tensile Strength (psi)*	ASTM D-412	2100 – 2200
Elongation (%)*	ASTM D-412	50 – 80
Flexural Modulus (psi)	ASTM D-790	2400 – 2800
Taber Abrasion Resistance (mg of loss/1000 cycles) CS17 Wheel; 1000 grams weight	ASTM D-4060	25 – 30
Tear Resistance (pli)* Die C	ASTM D-624	200 – 250
Ross Flex (% crack growth per 50,000 cycles)	ASTM FIA-308	0

**HARDLINE® 21-55-120****TYPICAL PHYSICAL PROPERTIES** *(continued):*

	Result	Test
Water Absorption (%)	ASTM D-570	≤1.6
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 A

\*Properties were checked of HardLine® polyurethane lining, 1/8" (125 mils), (3.18 mm) thick stock.

**PROCESSING CHARACTERISTICS:** The system settings required to achieve quality spray sealant application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum lining quality.

Equipment Used	Process Pressure	Spray Gun	Mix Module
RhinoPro Classic	2000 – 2500 psi (static)	Fusion - Air Purge or Mechanical Purge	AR2929 or greater

Process Temperatures: (Hose heat cannot drop below the lowest set temperature)

Iso Temperature (A)	Resin Temperature (B)	Hoses - High Pressure	Substrate Surface
140° – 150°F (60° – 66°C)	150° – 160°F (66° – 71°C)	140° – 150°F (60° – 66°C)	60° – 110°F (15° – 43°C)

**DRY FILM THICKNESS RANGE:** Varies based on application, typically minimum of 1/16" (62.5 mils; 1.6 mm) up to unlimited thickness.

**NOT RECOMMENDED FOR:**

- Sustained temperatures below -40° F (-40° C) or above 175° F (79.4° C).
- Application to high density polyethylene or thermo plastics.

**CHEMICAL RESISTANCE:** Good resistance to many commercial and industrial chemicals such as acids, alkalies, oils and cleaning chemicals. For specific applications and information, please consult our chemical resistance chart available on our website or speak to a Rhino Linings® representative.

**SUBSTRATES:** Metals, wood, concrete, fiberglass and geotextiles.

**COLOR OPTIONS:** Standard colors - black. Custom dark colors are available by special order.

**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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