

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

Part B – HardLine® 21-55 Resin – Part # 60146

DESCRIPTION: HardLine® is a 2:1 ratio, two-component, 100% solids, no VOCs (no solvents), exothermic, rapid curing, 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 petrochemical 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 to 175° F (-40° to 79.4° C)

FEATURES & BENEFITS:

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

| CHEMICAL PROPERTIES: | Standard Test | Isocyanate (A) | Resin (B) |
|-----------------------------------|----------------------|------------------------------|------------------|
| Specific Gravity (grams/cc) | ASTM D-792 | 1.23 | 1.03 |
| Viscosity, CPS at 77°F (25°C) | | 300 – 400 | 500 – 700 |
| Solids by Volume/Weight | | 100% | 100% |
| Volatile Organic Compounds | | 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) | | 12 – 15 | |
| Tack Free, Seconds at 77°F (25°C) | | 15 – 25 | |
| Theoretical Coverage (dft) | | 1600 sqft/gal at 1 mil thick | |
| Shelf Life - Unopened Containers | | 12 months | 12 months |
| Base Color | | amber/dark brown | opaque |

| TYPICAL PHYSICAL PROPERTIES: | Test | Result |
|---|-------------|---------------|
| 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 |
| Water Absorption (%) - 24 hours | ASTM D-570 | ≤1.6% |
| Dielectric Strength (volts/mil) | ASTM D-149 | 300 |
| Volume Resistancy (ohm/inches) | ASTM D-257 | 6 X 10 (12) |

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

| | Test | Result |
|---------------------------|------------|--------|
| 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 HardLine lining, 1/8" (125 mils), (3.18 mm) thick stock.

PROCESSING CHARACTERISTICS:

| Equipment | Process Pressure | Spray Gun | Mix Module |
|-----------------------------|------------------|--|------------|
| RhinoPro HP-21 Classic; Max | 2000 – 2500 psi | Fusion - Air Purge or Mechanical Purge | AR 2232 |

Process Temperatures

| Iso (A) Temperature | Resin (B) Temperature | Hoses - High Pressure |
|----------------------------|----------------------------|----------------------------|
| 140° – 150°F (60° – 66°C)* | 150° – 160°F (66° – 71°C)* | 140° – 150°F (60° – 66°C)* |

*Hose heat cannot drop below the lowest set temperature.

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.

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