

PART NUMBERS:

60221 Hardline® HP Ultra Isocyanate
 60289 Hardline® HP Ultra Resin Black

DESCRIPTION:

Hardline® HP Ultra is a one to one volume ratio, two-component, exothermic, rapid curing, elastomeric hybrid polyurea lining system. Lining thickness can vary from a minimum of 1/16" (62.5 mils; 1.5mm) for non-load bearing or abrasion-resistant linings up to unlimited thickness. It can be sprayed up to 98% humidity and a dew point temperature difference of 15° or more with no blistering. Hardline HP Ultra is easy on spray equipment with no fast gelling at the spray gun tip.

FEATURES and BENEFITS:

- Robust application window with ability to spray at low temperatures and high humidity
- High tensile and tear strength properties
- Superior abrasion, slip, and corrosion resistance
- Good impact absorption
- Noise reduction from vibration and impact
- Provides excellent weather and chemical resistance
- Easy to texture
- Stable from -40°F (-40°C) to 175°F (79.4°C)

TYPICAL USES:

- Excellent protective lining for abrasion, impact and corrosion resistance
- Spray-on application creates a monolithic, seamless lining which conforms to any shape and size
- Reduces noise from vibration and impact
- Withstands light vehicular and foot traffic
- Elastomeric properties allow for application to surfaces subject to vibration, expansion, contraction, movement, flexing, abrasion, and impact
- Aggressive non-slip performance can be achieved with aggregate integrated into lining

CHEMICAL PROPERTIES:	TEST	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-792	1.16	1.09
Viscosity, cps		500-800	600-1000
Mix Ratio, Parts Per Volume		1	1
Gel Time, Seconds		3	---
Tack Free, Seconds		4	---
Cure Time (95-99%)		4 Hours	---
Theoretical Coverage		1600 sqft/gal @ 1 mil	
Odor		Mild	Sweet
Freezing Point		40°F	N/A
Base Color		Amber/Brown	Black
Shelf Life-Unopened Containers		12 months	12 months

*Properties were tested at 77°F (25°C)

TYPICAL PHYSICAL PROPERTIES:	Test	Result
Hardness (Shore D)	ASTM-2240	55 +/-5
Tensile Strength (psi)	ASTM D-412	2400-2900
Elongation (%)	ASTM D-412	175-225
Tear Resistance (pli) Die C	ASTM D-624	400-500
Pull-Off Strength (psi)	ASTM D-4541	1200-1800

***Values obtained from powder-coated metal. Higher values can be achieved dependent on surface preparation.

PROCESSING PARAMETERS:

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

SPRAY SYSTEM:

Equipment	Spray Gun	Process Pressure, psi (static)
Graco Reactor E-XP1; E-XP2	Fusion - Air or Mechanical Purge	2000-2500

PROCESS TEMPERATURES:

Isocyanate Component	Resin Component	Hoses
150-160°F (65-71°C)	140-150°F (60-65°C)	140-160°F (60°-71°C)

LIMITATIONS:

Not recommended for sustained temperatures below -40°F (-40°C) or above 175°F (79.4° C).
Not recommended for application to high density polyethylene or thermo plastics.

CHEMICAL RESISTANCE:

Good resistance to many routine chemicals such as: weak acids, weak alkalies, oils, and cleaning agents. For specific applications and/or information, consult with a Rhino Linings® representative.

THICKNESS RANGE:

Varies based on application. Thickness can vary from a minimum of 1/16" (62.5 mils; 1.5mm) to unlimited thickness.

SUBSTRATES:

Metals, wood, concrete, fiberglass, and geotextiles.

COLOR OPTIONS:

Standard color black only. No custom color options are available.

HOW SUPPLIED:

Net weight per set is 910 pounds (412.7 kg). A set of Hardline HP Ultra consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component.

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 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 end users and processors.

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Contact Rhino Linings Technical Support at 858-450-0411 for additional questions.

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