



Technical Data Sheet

Rhino **HYBRID** **11-50**

Product Number:

Part A – Rhino Hybrid™ HP 11-50 Isocyanate – Part # 60297-1
 Part B – Rhino Hybrid™ HP 11-50 Black Resin – Part # 60251-1
 Part B – Rhino Hybrid™ HP 11-50 Clear Resin – Part # 60250-1

Product Description:

Rhino Hybrid™ HP 11-50 is a one to one volume ratio, two-component, 100% solids (no VOCs, no solvents), exothermic, rapid curing, elastomeric hybrid polyurea lining system. The lining thickness varies based on application, typically minimum of 1/16" (62.5 mils; 1.6 mm) up to unlimited thickness. It can be sprayed up to 98% humidity and a dew point temperature difference of 15° F (-9.4° C) or more with no blistering. Rhino Hybrid HP is easy on spray equipment with no fast gelling at the spray gun tip.

Features & Benefits

- Robust Application Window With Ability to Spray at Low Temperatures and High Humidity
- High Tensile Strength and Tear Strength Properties
- Very Good Abrasion and Impact Resistance
- Good Chemical Resistance
- Excellent Corrosion Resistance
- Good Noise Reduction
- Easy to Texture

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
- Reduces Noise From Vibration and Impact
- Spray-On Application Creates a Monolithic, Seamless Lining That Conforms to Any Shape and Size
- Bonds to Virtually All Substrates of Any Dimension, Including Metals, Wood, Concrete, and Fiberglass
- Can Withstand Vehicle Forklift Traffic and Heavy Loads With Proper Thickness Build
- Stable From -40°F (-40°C) to 175°F (79.4°C)
- Elastomeric Properties Allow for Application to Surfaces Subject to Vibration, Expansion, Contraction, Movement, Flexing, Abrasion, and Impact

Chemical Properties	Standard Test	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-792	1.08-1.18	1.06-1.16
Viscosity, cps	—	700 ± 100	900 ± 100
Solids by Volume/Weight	—	100%	100%
Volatile Organic Compounds, calculated	—	0 lbs/gal	0 lbs/gal
Mix Ratio, parts per volume	—	1	1
Mix Ratio, parts per weight	—	109	100
Gel Time, seconds*	—	—	3-5
Tack Free, seconds*	—	—	4-7
Recoat, max	—	4 hrs	—
95-99% Cure Time	—	24 hrs	—
Theoretical Coverage	—	1600 sqft/gal at 1 mil	—
Odor	—	Mild	Amine
Freezing Point	—	40°F	N/A
Base Color	—	Amber/Brown	—
Shelf Life – Unopened Containers	—	12 Months	12 Months

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

Rhino Hybrid 11-50 (continued)

Typical Physical Properties

Typical Physical Properties	Test	Result
Slip-Resistance	NFPA 1901 15.7.4	Pass
Hardness (Shore D)	ASTM D-2240	50 ± 5
Tensile Strength (psi)**	ASTM D-412	2000 ± 250
Secant Modulus at 100% Elongation	ASTM D-412	1850
Tear Resistance (pli)** Die C	ASTM D-624	450 ± 75
Elongation (%)†	ASTM D-412	120 ± 50
Impact Resistance, lbs	ASTM D-256	160
Density (lb/ft ³)	ASTM D-1622	69 - 70
Compressive Strength (psi)	ASTM D-695	800
Taber Abrasion Resistance (mg of loss/1000 cycles, H18 Wheel, 1000 g weight)	ASTM D-4060	90
Mandrel Bend, 180°, 1" Mandrel	ASTM D-552	Pass
Coefficient of Friction on Steel – Static	ASTM D-1894	0.6
Coefficient of Friction on Steel – Kinetic	ASTM D-1894	0.55
Water Absorption (%)	ASTM D-570	≤1.6
Cathodic Disbonding	ASTM G-8	Pass
Weathering – Initial (60° Gloss / Colorfastness)	ASTM D523	91 / 0
Weathering – 3600 Hours (60° Gloss / Colorfastness)	ASTM D523	10 / 8
Flammability	FMVSS 302	Pass

**Properties were checked on Rhino Hybrid Linings, 1/16" (62 mils; 1.6 mm) thick stock. †Properties were tested at 77°F (25°C).

Mixing Instructions

New resin product drums have a removable ring top. Remove the top and, using a jiffy mixer and a corded ½" electric drill motor or air-driven drill motor, mix the drum thoroughly until the solids on the bottom of the drum are mixed in – this could take several minutes. Replace the lid and, using the air agitator, mix the drum for one hour.

Processing Characteristics

Test samples were sprayed using the following equipment. The system settings required to achieve quality spray application will vary depending on environmental and substrate conditions; the parameters below will help ensure optimum lining quality.

Equipment Used	Spray Gun	Process Pressure, psi (static)
Graco Reactor E-XP1	E-XP2 AR2929 or AR3737 Mix Chamber	200 - 2500

Process Temperatures:		
Iso Component	Resin Component	Hoses
150° - 160°F	150° - 160°F	150° - 160°F

Dry Film Thickness Range:

Varies based on application, typically a minimum of 1/16" (62.5 mil; 1.5 mm) up to unlimited thickness.

Not Recommended For:

- Sustained Temperatures Below -40°F (-40°C) or Above 250°F (121°C)
- Application to High-Density Polyethylene or Thermoplastics

Chemical Resistance:

Rhino Hybrid HP 11-50 provides good resistance to many commercial and industrial chemicals such as acids, alkalis, oils, and cleaning chemicals. For specific applications and information, please consult a Rhino Linings representative.

Substrates:

Metals, wood, concrete, fiberglass, most epoxy or polyurethane painted substrates, and geotextiles.

Color Options:

Standard color is black. Custom colors are available by special order.

Rhino Hybrid 11-50 (continued)**How Supplied:**

Net weight per set is 910 pounds (412.7 kg). A set of Rhino Hybrid HP 11-50 consists of one (1) 55-gallon (208 L) drum of 'A' component and one (1) 55-gallon (208 L) drum of 'B' component.

Contact Rhino Linings Technical Support at (800) 747-6966 for additional questions.

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.

©2026 Rhino Linings Corporation. All rights reserved.

