



Rhino Linings®

PREMIUM PROTECTION



Rhino Hybrid HP1150®

SIDE-A – ISO

SIDE-B - Resin

Revised Date: 20/02/2015

This TDS Replaces All Previous Versions

DESCRIPTION

Rhino Hybrid™ HP1150 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 2mm up to unlimited thickness. It can be sprayed up to 98% humidity and a dew point temperature difference of 15°C or more with no blistering. Rhino Hybrid HP1150 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°C to 79.4°C
- Elastomeric properties allow for application to surfaces subject to: vibration, expansion, contraction, movement, flexing, abrasion and impact.

NOT RECOMMENDED FOR

- Sustained temperatures below -40°C or above 121°C
- Application to high-density polyethylene or thermo plastics
- Do not apply to concrete with curing or sealing membranes.
- Do not apply to substrates affected by moisture content in excess of 5%.
- Do not apply to concrete less than 28 days old
- **NOTE** – Substrate temperature **must** be 3 deg C above the dew point prior to application

TYPICAL PHYSICAL PROPERTIES:

	Test	Result
Hardness (Shore D)	ASTM D-2240	50±5
Tensile Strength (psi)**	ASTM D-412	2250
Secant Modulus @ 100% elongation	ASTM D-412	1250
Secant Modulus @ 200% elongation	ASTM D-412	1850
Tear Resistance (pli)** Die C	ASTM D-624	375
Elongation (%)**	ASTM D-412	250
Impact Resistance, lbs	ASTM D-256	160
Density (lb/ft3)	ASTM D-1622	69 – 70
Compressive Strength (psi)	ASTM D-695	800
Taber Abrasion Resistance (mg of loss/1000 cycles) H18 Wheel; 1000 grams weight	ASTM D-4060	140
Mandrel Bend, 180°, 1 inch mandrel	ASTM D-522	Pass
Coefficient of Friction on Steel: -Static	ASTM D-1894	.6
-Kinetic	ASTM D-1894	.55
Water Absorption (%)	ASTM D-570	≤1.6
Dielectric Strength (volts/mil)	ASTM D-149	300

TYPICAL PHYSICAL PROPERTIES (cont):

	Test	Result
Volume Resistance (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 Rhino Hybrid™ lining, 1/16" (62 mils), (1.6 mm) thick stock.

CHEMICAL RESISTANCE

Rhino Hybrid HP 1150 provides good resistance to many commercial and industrial chemicals such as acids, alkalis, oils and cleaning chemicals. For specific applications Contact Rhino Linings technical/sales department for details.

CHEMICAL PROPERTIES*:

	Standard Test	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-792	1.09 – 1.12	1.13 – 1.02
Viscosity, cps		550	850
Solids by Volume/Weight		100%	100%
Mix Ratio, parts per volume		1	1
Mix Ratio, parts per weight		109	100
Gel Time, seconds		3	
Tack Free, seconds		4	
Recoat, max		4 hrs	
95 – 99% Cure Time		24 hrs	
Theoretical Coverage		1600 sqft/gal @ 1 mil	
Odour		Mild	Amine
Freezing Point		40°F	n/a
Base Colour		Amber/Brown	Amber/Brown
Shelf Life - Unopened Containers		12 months	12 months

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

COMMON SUBSTRATES

Concrete, fiberglass, metals and wood

VOLATILE ORGANIC COMPOUND

Zero VOC

DRY FILM THICKNESS RANGE

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

STORAGE AND PACKAGING

Components should be stored in sealed containers, in a dry area away from direct sunlight at 15°C – 30°C. **Constant 25°C recommended.**

Available in 20L pails & 200L drums only. Net weight per set is 412.7 kg

BASE MATERIAL COLOUR

Isocyanate – yellow or light straw colour.

Resin – Opaque

COLOUR OPTIONS

Standard colours - Natural & black. Custom colours are available by special order.

PROCESSING CHARACTERISTICS

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.

Equipment Used	Spray Pressure	Process Temperature	Spray Gun	Mix Module
Graco EXP-1; E-XP2	2000psi – 3500psi	55°C - 65°C	Fusion – Air Purge	AR2929 or Greater
Graco E-10HP	1500psi – 2500psi	55°C - 65°C	Fusion – Air Purge	AR2020 – AW2222

NOTE - Processing temperatures are a guide only, please contact Rhino Linings Technical department for further details.

SAFETY PRECAUTIONS

Health Considerations: consult Rhino Linings Material Safety Data Sheets.

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 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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