Rhino Linings®

Rhino eXtreme™ 11-50 GTS Data Sheet

Part A – Rhino Extreme 11-50 GTS Iso, Part # 60162-1
Part B – Rhino Extreme 11-50 GTS Resin Black, Part # 60107-1

DESCRIPTION:

Rhino Extreme™ is a two-component, rapid curing, elastomeric polyurea lining system. Rhino Extreme™ 11-50 GTS is a 1:1 ratio designed to be sprayed with high pressure plural component spray equipment. Thickness of the lining will vary depending on the application, typically from a minimum of 30 mils up to unlimited thickness.

TYPICAL USES:

- Excellent wetting properties for geotextile fabric
- Excellent industrial lining for tough application spray conditions such as:
  - Outdoor application sites where water, humidity or low temperature conditions exist and are tough to eliminate
  - 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 that conforms to any shape and size
- Can withstand vehicle forklift traffic and heavy loads with proper thickness build
- Elastomeric properties allow for application to surfaces subject to: vibration, expansion, contraction, movement, flexing, abrasion and impact.

FEATURES & BENEFITS:

- Robust application window with ability to spray at low temperatures and high humidity
- High physical properties including tensile, tear, and elongation properties
- Excellent leveling properties
- Excellent abrasion and impact resistance
- Excellent chemical resistance and corrosion resistance
- Reduces noise from vibration and impact
- Bonds to virtually all substrates of any dimension, including metals, woods, concrete, fiberglass and geotextiles
- Stable from -40° to 230° F (-40° to 110° C)
- 100% solids, zero VOCs, no solvents

CHEMICAL PROPERTIES*:	Test	Isocyanate	Resin
Specific Gravity (grams/cc)	ASTM D-792	1.14	1.02
Viscosity, cps		675 – 775	1050 – 1250
Solids by Volume/Weight		100%	100%
Volatile Organic Compounds		0 lbs/gal	0 lbs/gal
Mix Ratio, parts per volume		1	1
Mix Ratio, parts per weight		109	100
Gel Time, seconds		15 – 25	
Tack Free, seconds		55 – 65	
Recoat, max		≤4 hrs	
95 – 99% Cure Time		24 hrs	
Theoretical Coverage		1600 sqft @ 1 mil	
Odor		mild	amine
Freezing Point		40°F (4.4°C)	n/a
Color		amber/brown	straw
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 D-2240	50±5
Tensile Strength (psi)**	ASTM D-412	2000 – 2400 (13.8 – 16.5 MPa)
Tear Resistance (pli)** Die C	ASTM D-624	400 – 500 (70.1 – 87.6 KN/m)
Elongation (%)**	ASTM D-412	<100
Impact Resistance (in/lbs)	ASTM D-256	160 (28.0 KN/m)
Density (lb/ft3)	ASTM D-1622	69 – 70 (1104 – 1120 Kg/m3)

RHINO EXTREME™ 11-50 GTS

TYPICAL PHYSICAL PROPERTIES *(continued)*:		Test	Result
Compressive Strength (psi)		ASTM D-695	800 (5.5 MPa)
Taber Abrasion Resistance (mg of loss/1000 cycles) CS17 Wheel; 1000 grams weight		ASTM D-4060	11
Mandrel Bend, 180°, 1 inch mandrel		ASTM D-522	Pass
Coefficient of Friction on Steel:	-Static	ASTM D-1894	.7
	-Kinetic	ASTM D-1894	.5
Water Vapor Transmission:	-Rate of Transmission (grains/hr/sqft)	ASTM E-96	0.53 (0.35 metric perm)
	-Permeance (perm, in - lb)	ASTM E-96	1.63 (1.03 metric perm)
Water Absorption (%)		ASTM D-570	≤1
Glass Transition - Tg (°C)		ASTM D-7028	-40°F (-40°C)
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
Cathodic Disbonding		ASTM G-8	Pass

**Properties were checked on lining, 1/8" (125 mil), (3.18 mm) thick stock.

PROCESSING CHARACTERISTICS:

Equipment Used	Process Pressure	Spray Gun	Mix Module
Graco Reactor EXP-2	2300 psi (static)	Fusion - Air Purge or Mechanical Purge	AR2929 or greater

Process Temperatures and Relative Humidity

Iso Component	Resin Component	Hoses	Substrate Surface
140º–160ºF (60°–71°C)	140º–150ºF (60°–66°C)	140º–160ºF (60°–71°C)	-20°–120°F (-29°–49°C)

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

NOT RECOMMENDED FOR: Application to high density polyethylene or thermo plastics

CHEMICAL RESISTANCE: Rhino Extreme 11-50 GTS provides good resistance to many commercial and industrial chemicals such as acids, alkalies, oils and cleaning chemicals. For specific applications and information, please consult a Rhino® representative.

SUBSTRATES: Bonds to virtually all substrates of any dimension, including metals, wood, concrete and fiberglass

COLOR OPTIONS: Color - Unpigmented. Standard colors in stock. Custom colors are also available by special order.

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

STORAGE: Rhino Extreme™ 11-50 GTS components should be stored in sealed containers at 60 – 90ºF (15 – 32°C) in a dry area.

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.

Rhino Linings®
PROTECTION NEVER LOOKED SO GOOD™

Rhino Linings Corporation
9747 Businesspark Avenue, San Diego, CA 92131
858-450-0441 • Fax 858-450-6881
1-800-422-2603
www.rhinolinings.com