



# Rhino Linings®

**PREMIUM PROTECTION**



## Rhino Extreme 1150FR (A)

Revised Date: 13/12/2019

This TDS Replaces All Previous Versions

**SIDE-A – ISO**

**SIDE-B - Resin**

### DESCRIPTION

Rhino Extreme 1150FR(A) is a two component, flame retardant, elastomeric, polyurea system.

Its flame retardancy makes it an ideal coating for numerous applications that require a flammability rating. This product has been tested to and passed US/FAR 25.853(a) Material Flammability Test and AUS/SIMTARS Surface Resistance Testing (Spark Test) to AS/NZS 60079.0:2019, Section 2, Clause 26.13.

Because of the large number of flammability ratings and the large array of surfaces that can be coated, it is highly recommended that testing, certification, and approval be considered prior to any application of this coating. Note: Ultimate flame retardancy is dependent upon coated substrate, thickness, and density.

### FEATURES AND BENEFITS

- FAR 25.853 App F (a) (ii) flammability rated
- Surface resistance tested (Spark Test)
- Can be applied in 80% RH or lower & temps >0°C
- Excellent impact resistance
- Provides vibration and acoustic dampening
- High tensile strength, elongation, and tear strength
- Excellent fire resistance
- Suitable for Mine site applications
- Excellent corrosion resistance
- Excellent abrasion resistance
- Good chemical resistance

### TYPICAL USES

- Military and special project applications
- Building facades
- Underground mining
- Construction sites
- contact Rhino Linings technical / sales department for further applications

### NOT RECOMMENDED FOR

- Sustained temperatures below -40°C or above 125°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°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	3200
Tear Resistance (pli)** Die C	ASTM D-624	600 (105.1 KN/m)
Elongation (%)*	ASTM D-412	300
Density (lb/ft3)	ASTM D-1622	69-70 (1104-120 Kg/m3)
Taber Abrasion Resistance (mg of loss/1000 cycles) (CS-17 wheel: 1000 grams weight)	ASTM D-4060	27
Coefficient of Friction on Steel:	Static:	.4
	Kinetic:	.25
Flammability	FAR 25.853 App F(a)(ii)	PASS
Surface Resistance (Spark Test)	AS/NZS 60079.0:2019	PASS (Clause 26.13, Sect 2)
Dielectric Strength (volts/mil)	ASTM D-149	300
Volume Resistivity (ohm/inches)	ASTM D-257	6x10 (12)
Dielectric Constant (MHz)	ASTM D-150	5.4
Dissipation Factor (MHz)	ASTM D-150	0.058
Cathodic Disbonding	ASTM G-8	Pass
Elcometer Adhesion Pull Test	ASTM D-4541	Pass

\*Properties were checked from polyurea lining, (1/8"), 3.18 mm thick stock.

## CHEMICAL RESISTANCE

(Guidelines only: Fume, splash, spillage as noted. Individual testing required for immersion).

Acetic Acid to 10%.....Excellent	Ammonia to 5%	Excellent
Formic Acid to 5%.....Excellent	Caustic Soda Lye to 50%	Excellent
Sulfuric Acid to 10%.....Excellent	Potash Lye to 20%	Excellent
Tannic Acid to 20%.....Excellent	Oils	Excellent
Solvents.....Moderate		

Properties were checked from polyurea lining, 3.18mm thick .

Contact Rhino Linings technical/sales department for details.

## CHEMICAL PROPERTIES

	A-Side	B-Side
Specific Gravity (gm/cc) ASTM D-792	1.06 l/kg mixed	
Viscosity, CPS at 77°F (25°C)	400	650
Solids by Volume/Weight	100%	100%
Volatile Organic Compounds, calculated	0 Kg/L	0 Kg/L
Mix Ratio, parts per volume	1	1
Mix Ratio, parts per weight	109	100
Gel Time, seconds at 25°C	5 – 7	
Tack-free time, seconds	10 – 12	
Theoretical Coverage (DFT)	1 Mixed Kg/sqm at 1mm thick	
Freezing Point	40°F (4.5°C)	n/a
Base Colour	Amber	Straw Opaque
Shelf Life - Unopened Containers	12 months	12 months

## COMMON SUBSTRATES

Metals, wood, concrete, fibreglass, geotextiles and most plastics

## VOLATILE ORGANIC COMPOUND

Zero VOC

## DRY FILM THICKNESS RANGE

Varies based on application, typically used at a minimum of 1.5 mm 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 200L drums only.

Part A –230kg Isocyanate: 12 months, unopened; stored properly.

Part B – 200kg Resin: 12 months, unopened; stored properly.

## BASE MATERIAL COLOURS

Isocyanate – yellow or light straw colour.

## COLOUR OPTIONS

Standard colours – natural beige. Custom colours are available by special order

## RE-APPLICATION PROCEDURES

Clean old Polyurea so it is free from contaminants, cleaning with biodegradable foaming agents or similar if necessary. Once cleaned and dry, abrade surface to gain a rough scratched profile (80 Grit sandpaper or nylon cup brush). Remove all dust with air and wipe substrate with acetone then prime using RhinoPrime 251 primer to TDS.

## 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 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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