



Rhino™ 3136R-1
High Strength
Epoxy Hardener
Data Sheet



ISO 9001:2000
 FM62236

DESCRIPTION:

Novel modified cycloaliphatic hardener. High strength, low viscosity curing agent with fast thin film set time, rapid oven cure and high HDT after post cure. Cures sufficiently at ambient temperatures for unsupported post cure. Contains no solvents, 100% solids.

SUGGESTED USES:

Filament winding, Press molding, Hand lay up laminating & tooling, and VARTM composite molding. Provides Tg's higher than post cure temperatures with both diluted and undiluted resins.

PROPERTIES OF RHINO 3136R-1 HARDENER:

Viscosity at 77°F, cps	50 – 70 cps
Mixed Viscosity with 1403 Resin	300 – 400 cps
Mixed Viscosity with 1403T Resin	1300 – 1400 cps
Color (Gardener)	2 max
Weight Per Gallon	8.2 lbs
Mix Ratio, Parts Per 100 of Resin	20 by weight (100: 12 when used with 908SC)
Gel Time at 77°F (150 grams)	25 – 30 minutes
Thin Film Set Time, Hours	2

CURED PHYSICAL PROPERTIES WITH RHINO R-4013 RESIN:

(Cure schedule: 24 hours at ambient + 2 hours at 100°C + 2 hours at 150°C)

HDT, °F	>300 (>250 after 7 days at ambient)
Shore D Hardness	90 ±5
Flexural Strength, psi	19,000
Flexural Modulus, psi	495,000
Tensile Strength, psi	11,500
Tensile Modulus, psi	522,000
Elongation %	3.5

HOW SUPPLIED:

FOB Rhino Linings, San Diego or authorized distributors. Rhino 3136R-1: 8lb Gallons, 40lb Pails and 450lb Drums.

SAFETY PRECAUTIONS:

Health Considerations: Consult the Rhino Linings® Material Safety Data Sheets.

This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product MSDS 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.

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