



Rhino™ 102HT

Hi-Temp Toughened Structural Adhesive

Data Sheet



ISO 9001:2000
FM62236

Part # 102HT

DESCRIPTION:

Rhino 102HT is a toughened, high temperature use structural epoxy adhesive designed for the bonding of fiberglass to itself and many dissimilar materials. It is a two phase (toughened) epoxy resin produced using a CTBN elastomer with a flexible epoxy resin backbone for maximum stress and fatigue resistance. 102HT bonds with an immediate high tack consistency, and offers a quick cure when used at ambient temperatures ranging from 60°F (15°C) to 95°F (35°C). The working life at 77°F (25°C) is 60 minutes (working time increases with lower ambient temperatures), with full cures occurring between 12 – 14 hours depending on cure temperature.

Unlike most epoxy adhesives, 102HT adhesive cured at ambient temperatures provides heat resistance well in excess of most engineering limits with an HDT of 105° C (220°F). The material mixes at 100:35 by weight (resin to hardener). The convenient color-coded components form a uniform color when properly mixed. Rhino 102HT adhesive is designed for high production meter/mix ram dispensing and although highly thixotropic, it offers very fast application rates. 102HT adhesive is solvent free, and 100% solids.

SUGGESTED USES:

Use Rhino 102HT adhesive to bond fiberglass to itself, and other materials such as concrete, metal, wood, and many plastics. Rhino 102HT adhesive is highly recommended as a “tack coat” for applying epoxy resin saturated reinforcement materials to vertical and overhead substrate such as concrete, or steel in the areas of seismic retrofit and structural upgrades.

ADDITIONAL BENEFITS:

Rhino 102HT adhesive is formulated to improve the intimate bond between the epoxy adhesive and cured glass fiber laminate. This formulation technique results in increased physical properties due to better surface wetting and increased bond strength to E-glass fibers. Of equal, if not greater significance is the retention of physical properties after exposure to heat, cycle fatigue, water, expected adverse environmental reagents such as salt spray, acid rain, etc. The formulation of Rhino 102HT adhesive results in minimal degradation of the cured adhesive’s physical properties as compared to epoxy systems not containing the proprietary formulation constituents of 102HT adhesive. This technology offers the fabricator not only a superior adhesive today, but more importantly, increased product life and long term durability.

SURFACE PREPARATION:

All surfaces should be mechanically abraded, or, in the case of fiberglass laminate(s), the use of peel ply on the bonding surfaces is acceptable. All dust, grease, and standing water must be removed prior to the application of Rhino 102HT Adhesive.

RECOMMENDED CURING OF RHINO 102HT ADHESIVE:

- Gel at ambient + 8 hours at 50°C
- Gel at ambient + 6 hours at 70°C
- Gel at ambient + 7 days at ambient

HOW SUPPLIED:

Rhino 102HT Adhesive is available in 3 gallon (11.5 liter), 15 gallon (58 liter) and 165 gallon (635 liter) kits. Shipped FOB San Diego, CA.

(continued)

Rhino™ 102HT

PHYSICAL PROPERTIES OF RHINO™ 102HT RESIN WITH 102HT FAST & SLOW HARDENERS:

Rhino™ Material	102 Resin	w/102 Hardener
Density at 25°C	1.1 – 1.2 g/cm ³ (9.7 – 9.8 lbs)	1.03 – 1.04 g/cm ³ (8.65 – 8.75 lbs)
Viscosity	Thixotropic Gel	Thixotropic Gel
Color	Yellow	Blue
Color Mixed	-	Green
Mix Ratio by Weight	100	35
Working Life, 1000 grams at 77°F	-	55 – 60 minutes
Initial Cure Time	-	6 – 8 hours
Shore D Hardness	-	87
Heat Deflection Temperature	-	105°C (220°F)
Tensile Lap-Shear (DIN EN 1465)	-	10.5 MPa
Peeling Resistance (DIN 53282)	-	2.3 N/mm (minimum)

ADHESION AND FAILURE MODE RHINO 102HT ADHESIVE:

Epoxy Laminate to itself	Laminate fails prior to adhesive failure
Polyester Laminate to itself	Laminate fails prior to adhesive failure
Galvanized Steel to itself	Galvanized coating fails prior to adhesive failure
Carbon Steel to Epoxy Laminate	Laminate fails prior to adhesive failure
Carbon Steel to Polyester Laminate	Laminate fails prior to adhesive failure
Epoxy Laminate to Concrete	100% Concrete failure

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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