TuffTex Materials
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RepWrap Bond – Hi-Mod, Moisture Tolerant CFRP Saturating Resin

DESCRIPTION:
RepWrap Bond is a two-component, high modulus, low viscosity, high strength, 100% solids, structural-epoxy adhesive for use with TuffTex Materials FRP Structural Strengthening Systems. **RepWrap Bond** provides a long working time for application with no offensive odor. **RepWrap Bond** is a high modulus material which gives optimum properties as a matrix for the **RepWrap** and **RepGlass** Systems.

FEATURES:
- Alkali Resistant
- Excellent adhesion to concrete, steel, masonry, wood and other structural materials
- Extended pot life and working time
- Hi-Modulus, Low Viscosity, High Strength
- High Strength
- Light Weight
- Non-corrosive

USES:
- Aging Construction Materials
- Change in Structural System
- Column Wrapping
- Damage to Structural Components
- Developed Specifically for the FRP Systems
- Impregnating Resin to FRP Laminate
- Increased Live Loads
- Masonry Walls
- Removal of Walls or Columns
- Seismic Strengthening
- Vehicle Impact Repair

TECHNICAL DATA:
Meets or exceeds current ASTM C881 and AASHTO M235, Types I, II, IV &V Grade 1, Classes B & C specifications.

COVERAGE GUIDE:
The first coat can be applied at a rate 40-50 sqft/gallon. Additional coats can be applied at 100 sqft per gallon.

WORKING TEMPERATURE:
Cool temperatures slow the initial set time. Ambient temperature should be 50º F and rising for best installation results. If temperature is below 50º F, please consult your TuffTex representative.

PREPARATION:
Surface must be clean, dry, and structurally sound and must be free of moisture and frost. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles, disintegrated materials and other bond inhibiting materials from the surface. Existing uneven surfaces must be filled with an appropriate repair mortar. Minor imperfections can be filled with **RepWrap Paste**. For best adhesion, concrete surfaces require an ICRI CSP of 3 or greater. To achieve this, prepare the concrete surface by etching with TuffTex Materials' environmentally friendly liquid etcher, **PrepEtch** or mechanically abrade the surface by grinding or blasting. The adhesive strength of the concrete should be verified after surface preparation by random pull-off testing (ACI 503R) at the discretion of the engineer. Minimum tensile strength, 200 psi (1.4 MPa) with concrete substrate failure.

MIXING:
Mix entire units, do not batch mix. Condition material to 65–75ºF (18– 24ºC) before using. Mix for 2 1/2 to 3 minutes or until thoroughly blended using either a pail mixer or a 1/2+ HP heavy duty, variable speed drill with a "Jiffy" mixer The mixing ratio is 2:1 (2A:1B), as prepackaged.

Mix at slow speed (less than 850 rpm) to avoid air entrainment. In case of hand mixing, periodically scrape the walls and the bottom of the container to avoid unmixed material (which will result in soft spots after curing). Mix thoroughly until uniformly blended. Mix only quantities that can be applied within the product's pot life.

PLACEMENT:
Dry Layup: Spread **RepWrap Bond** saturant at a rate of 40-50 sqft/gallon with a brush or roller over the prepared clean and dry concrete surface. Immediately afterward, lay in or apply the FRP fabric by accurately flattening it by hand (protected by rubber waterproof gloves) and rollers, all while ensuring the proper orientation of fibers. Squeegee and draw the air pockets out towards the edges. Roll out or squeegee all entrapped air and ensure that each individual layer is firmly bedded and adhered to preceding layer or substrate. Apply a second coat of **RepWrap Bond** at a rate of 100 sqft per gallon.

Wet Layup: On larger projects, the impregnation process for **RepWrap** and **RepGlass™** may be accomplished using a mechanically driven fabric saturating device. The FRP fabric may also be manually saturated by hand on a polyethylene covered work table using a roller prior to placement. In either

case, installation of this system should be performed only by a specially trained contractor. (See guide specifications for complete applications).

PROTECTIVE COATINGS:
RepCoat™ UV resistant topcoat can be applied when the surface has become tack free. In the case of a cementitious or plaster final coating, apply sand by hand for better bonding surface while the final coat of epoxy is still tacky. If **RepCoat UV** is to be the final coating, apply between 24 and 72 hours after final application of epoxy. If more than 72 hours after application, prepare the surface of the final coat of epoxy by light sandblast or hand sanding to slightly etch the surface.

CLEAN UP:
Ventilate area. Confine spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, state and federal regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically. Clean all tools and equipment immediately with xylene or TuffTex Materials **RepSolve X**.

PACKAGING:
1-gallon kit: 2/3 gallon (2.53 liters) pail Side-A and 1/3 gallon (1.26 liters) pail Side-B
3- gallon kit: 2 gallon (7.56 liters) pail Side-A and 1 gallon (3.78 liters) Pail Side-B

STORAGE:
The material should be stored between 40-95°F (4-35°C) in a cool, dry area away from direct sunlight.

SHELF LIFE:
Shelf life of properly stored, unopened containers is 24 months (2 years). Excessive temperature differential and or high humidity can shorten the shelf life expectance

LIMITATIONS:
TuffTex Materials recommends design calculations be made by a certified independent licensed PE.

CAUTION:
Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize the exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymer, sanding, etc.) may cause high vapor concentrations. Do not weld on, burn, or torch and epoxy material. Hazardous vapor is released when an epoxy is burned. Avoid skin or eye contact. Wash hands with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention.
READ SDS PRIOR TO USING PRODUCT.
KEEP OUT OF REACH OF CHILDREN.

PHYSICALS:	
Mixing Ratio by Volume (A:B)	2:1
Viscosity	100-500 cps
Gel Time 60 g mass (ASTM 881)	45 minutes
Tack Free Time (73ºF or 23ºC)	3 to 5 hours
Tensile Properties (ASTM D638) 7 day cure Tensile Strength: Tensile Elongation:	 10000 psi (67.0 MPa) 1.2%
Bond Strength (ASTM C882) 2 day cure: 14 day cure:	 2100 psi (14.5 MPa) 2200 psi (15.2 MPa)
Compressive Properties (ASTM D695) 7 day cure Compressive Strength: Compressive Modulus:	 11000 psi (75.9 MPa) 300,000 psi (2,070 MPa)
Shear Strength (ASTM D732)	6000 psi (41.4 MPa)
Flexural Strength (ASTM D790)	7500 psi (51.7 MPa
Shrinkage on Cure (ASTM D2566)	0.001
Thermal Compatibility (ASTM C884)	Pass
Heat Deflection Temperature (ASTM D648)	123ºF (50ºC)
Glass Transition Temp., Tg (ISO 11357-2)	156 ºF (69 ºC)
Water Absorption (ASTM D570)	0.3% (24 hr)

WARRANTY*:*
Due to the use of this product beyond our control, we assume no liability for damages of any kind, and the user accepts the product "as is" and without warranties, expressed or implied, from either **TuffTex Materials** or its agents. The suitability of the product for an intended use shall be solely up to the user. Our only obligation shall be to replace or pay for any material proved defective, with our liability limited to the purchase price of materials supplied by us.

DISCLAIMER:
Refer to the SDS sheet before use. The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of TuffTex Materials. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Published technical data and instructions are subject to change without notice. Contact your local TuffTex distributor or technical representative for additional technical data and instructions.