



UREA-TUFF 4270

SOLVENT-FREE, POLYUREA, INDUSTRIAL WATERPROOFING MEMBRANE

1. PRODUCT

UREA-TUFF 4270 is a two-component, liquid-applied, medium hardness, hybrid polyurea elastomer designed for use as a mix-in-the-bucket, but yet rapid-curing, monolithic waterproofing membrane.

2. FEATURES

UREA-TUFF 4270 has good chemical and water resistance and is often suitable for use in waterproofing assemblies designed for water immersion conditions (with appropriate geotextile reinforcement and cement mortar top coat). The cured membrane possesses the necessary elongation and tensile strength to span hairline substrate cracks.

3. BENEFITS

Solvent Free, Non-Gassing, Rapid Curing
Easy Application by Squeegee, Trowel or Roller
Resilient to Expansion and Contraction of Substrate
High Adhesion, Stress-Relieving, Crack Bridging Membrane
Provides 100% Contact, Eliminates Migratory Water Problems
Designed for Demanding Exterior Applications

4. PRODUCT DESCRIPTION

Composition: UREA-TUFF 4270 is a solvent-free, two-component, liquid-applied, aromatic polyurea-polyurethane elastomer containing no tar or asphaltic extenders.

Basic Uses: UREA-TUFF 4270 is designed for use as a high mil thickness, liquid-applied, high solids elastomeric waterproofing membrane for concrete, plywood, or metallic substrates.

SUGGESTED APPLICATIONS:

- Base Coat and Aggregate Binder coat on vehicular decks, helipads, and heavy duty pedestrian decks.
- High performance between slab waterproofing system for parking decks or roof decks.
- Waterproofing under kitchen, laundry, bathroom floors and shower pans.
- Used as a higher hardness sealant or bedding compound in a multitude of applications.
- Waterproofing inside planter boxes and as a geotextile fabric reinforced buried membrane for reflective pools.
- Waterproofing under tile, terrazzo or wood floors.
- Waterproofing protection for subgrade structures and tunnels.
- Secondary containment buried membrane around storage tanks when used with Epoxy Top Coats.

Limitations: Containers that have been opened should be used within several days. Opened pails should be purged with nitrogen prior to resealing lids. UREA-TUFF 4270 is not intended for long term exterior exposure without application of a suitable topping or protective layer. When used in an exposed membrane system, an approved TUFFLEX Aliphatic Polyurea top coat should be applied to prevent UV discoloration.

Shelf Life: Nine (9) months when continuously stored in the original metal pails at a temperature less than 80°F. Six (6) months in plastic pails.

5. INSTALLATION

Surface Preparation: All surfaces to be coated with UREA-TUFF 4270 must be free of all contamination including oil, grease, concrete curing compounds, paint and dirt. New concrete surfaces should be shotblasted, sanded or mechanically scarified to remove laitance and impurities. (High Pressure-wash with water or power vacuum in order to remove all cleaning contaminants). New concrete should be cured for a minimum of 28 days and should have a minimum of 3000 psi compressive strength. The only permissible concrete curing agents (if used) are of the pure sodium silicate type. Other proposed curing agents will require the prior written approval of TUFFLEX.

Priming: Most application conditions require priming. Use TUFF-POXY Primer # 1 (solvent free) or TUFF-POXY Primer # 3 (low VOC) epoxy primers. Allow the primer to properly cure to a firm but tacky condition prior to application of the UREA-TUFF 4270 membrane system. Apply the primers at the rate of 250-350 square feet per mixed gallon and apply bonding aggregate when needed.

6. APPLICATION

6.1. Thorough mixing of Part A with Part B is critical to successful application and should be performed with a slow speed power mixer such as a model KOL mixer with a ½ h.p. motor @ 60 rpm or equivalent mixer equipped with a "Jiffy" type mixing blade. Do not mix at high speeds or use an air-entraining paddle mixer.

6.2. The mixed material has an approximate pot life of 25 to 35 minutes at 77°F; higher temperatures will shorten the pot life.

6.3. Hand mix or machine mix Part A for 2 minutes in its separate container. Pour all of Part B into the container of Part A and mix 1-2 minutes, taking care that the sides and bottom of the mixing pail are scraped with a broad blade spatula.

6.4. After mixing, apply the material as desired. It may be applied by notched squeegee, notched trowel or heavy duty roller.

6.5. The thickness of the applied membrane will vary with specific use requirements. However, an average thickness of 32-64 mils is recommended. Four gallons of the mixed material applied at a thickness of 64 mils should cover an area of 100 square feet (with no allowance for loss or wastage).

6.6. Application should not commence unless the ambient temperature is 45°F or higher and should not proceed during inclement weather.

6.7. UREA-TUFF 4270 may also be spray applied followed by backrolling using appropriate two-component urethane dispensing equipment.

6.8. UREA-TUFF 4270 will attain its initial set within 2 to 3 hours however it will remain slightly tacky to the touch.

6.9. If multiple coats of UREA-TUFF 4270 are desired and if the first coat is dirty or lost its surface tack, solvent wiping is recommended to remove dirt or contamination prior to additional applications. Do not use lacquer thinner but an approved urethane-grade solvent such as xylene or acetone. Do not puddle cleaning solvents. Allow the solvent to fully evaporate prior to applying additional coats. Allow the application of UREA-TUFF 4270 to cure for at least 4 hours, and until firm, before recoating with additional materials.

7. MAINTENANCE

If UREA-TUFF 4270 membrane is damaged prior to the placing of the top coat or protective layer, it can be repaired by abrading the surface, wiping with xylene or acetone solvent and recoating with properly mixed UREA-TUFF 4270.

8. TECHNICAL SERVICE

Technical assistance is available by contacting:

TUFFLEX POLYMERS
10880 Poplar Avenue
Fontana, CA 92337
Phone: 909-349-2016
Fax: 909-823-6309

9. PRECAUTIONS

This product contains isocyanates and low viscosity amine chain extenders. Read the container-warning labels carefully. Exposure to Isocyanates may cause allergic skin and respiratory reaction. Personnel applying isocyanate prepolymers should wear protective clothing, goggles and gloves and should use only with adequate ventilation and respiratory protective gear. Avoid contact of material with skin or eyes and avoid breathing vapors. Mix and apply only in well-ventilated areas. Read the appropriate Safety Data Sheet (SDS) prior to handling the epoxy primers or the UREA-TUFF 4270 Membrane. THIS PRODUCT IS FOR PROFESSIONAL USE ONLY.

11. PHYSICAL PROPERTIES (TYPICAL)

10. LIMITED WARRANTY

TUFFLEX Polymers (TUFFLEX) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any TUFFLEX materials prove to contain manufacturing defects that substantially affect their performance, TUFFLEX will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by TUFFLEX with respect to its materials. There are no other warranties, including the implied warranties of merchantability and/or fitness for a particular purpose. TUFFLEX specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.

The dollar value of TUFFLEX'S liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the TUFFLEX material in question.

UREA-TUFF 4270

<i>PROPERTY</i>	<i>TYPICAL VALUE</i>	<i>ASTM TEST METHOD</i>
Color	Tan	
Weight per Gallon Part A (Resin) Part B (Hardener)	9.4 lbs. 8.3 lbs.	
Solvent Content	Solvent Free	Calculated
Coverage, sq. ft. per gal, @ 60 mils thickness	25 (4 gal./sq.)	-----
Hardness, Shore A	73 ± 3	D-2240
Tensile Strength	2000 ± 200 psi	D-412
Ultimate Elongation, %	600 ± 100%	D-412
Tear Resistance	250 ± 25 pli	D-1004
Pot Life, @77°F	10 – 20 minutes	-----
Gel Time, @77°F	25 – 30 minutes	-----
Low Temperature Brittleness @ -30°F	Passes	D-746
Flash Point, Mixed Material	Above 200°F (93.9°C)	D-3278

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