

ELASTUFF 320

WATERPROOFING POLYUREA ELASTOMER

Manufactured In Beijing, China

Technical Data & Application Instructions

PRODUCT DESCRIPTION

ELASTUFF 320 is a highly elastomeric, 100% solids aromatic polyurea coating. It sets and cures rapidly to form a highly resilient membrane exhibiting excellent waterproofing and abrasion resistance characteristics. ELASTUFF 320 was formulated to achieve an unsurpassed balance of physical properties, including outstanding elongation, tensile strength, tear strength and impact resistance. Its supple finish also exhibits excellent thermal stability and good UV resistance. ELASTUFF 320 is applied using heated plural component equipment, enabling fast, high film build without solvent entrapment.

ELASTUFF 320 is a 1:1 ratio, thermosetting coating, providing a durable, flexible film with outstanding membraning characteristics and good chemical resistance. It also exhibits excellent hydrolytic stability to withstand a wide range of temperature extremes, in dry or aqueous environments. Because of its rapid gel time, ELASTUFF 320 can be applied in high humidity conditions or on substrates with relatively high moisture content without fear of blistering or film cellularity common with many coatings systems.

BASIC USES

ELASTUFF 320 was especially developed for providing a durable waterproof membrane over vertical and horizontal concrete and masonry substrates subject to aqueous environments. It also provides a high degree of corrosion protection, as well as chemical, abrasion and impact resistance. ELASTUFF 320 can also be used over primed metal, concrete, wood, fiberglass, geotextile fabric and foam substrates (EPS, isocyanurate or polyurethane).

ELASTUFF 320 is primarily used in below-grade or non-UV exposure applications. In areas where color stability is of primary importance, ELASTUFF 320 should be topcoated with an approved aliphatic, UV stable finish, such as Elastuff 102, Elastuff 200 or Elastuff 220.

ELASTUFF 320 can be used wherever a resilient, abrasion resistant membrane is required, and is ideally suited for bridge deck encapsulation. It is able to withstand the application of the hot asphalt driving surface, providing protection for the concrete substructure below. It can also be used for below grade waterproofing of foundation walls, inter-slab membraning, secondary containment, planter boxes, waste/water treatment, cooling towers, geotextile fabric systems, manhole & sewer lining, EPS or ISO foam stock, and many other waterproofing applications.

TYPICAL PROPERTIES

1. **Solids By Weight:** 100% [ASTM D1644]
2. **Solids By Volume:** 100% [ASTM D2697]
3. **Weight Per Gallon:**
Part A = 9.2 lbs. (4.2 kg)
Part B = 8.4 lbs. (3.8 kg)
4. **Gel Time:**
15 seconds @ 75°F (24°C), 50% R.H.
5. **Tack Free Time:**
<10 minutes @ 75°F (24°C), 50% R.H.
6. **Cure Time:** 75% @ 24 hours [ASTM D1640]
7. **Ultimate Tensile Strength:**
3,000 psi (± 100) (20 MPa) @ 75°F (24°C) [ASTM D412]
8. **Elongation at Break:**
400% (± 50) @ 75°F (24°C) [ASTM D412]
9. **Tear Strength:** 545 pli (±50) (90 kN/m) [ASTM D1004]
10. **Hardness:**
85-90 Shore A, 40-45 Shore D [ASTM D2240]
11. **Abrasion Resistance:**
0.65 mg loss w/H-10 wheels using 1,000 gm weights at 1,000 revolutions on Taber Abraser [ASTM D4060]
12. **Impact Resistance:**
Passes 160 Inch-Pounds direct and inverse [ASTM D2794]
13. **Adhesion:**
Concrete: 350 psi (± 50) (2.4 Mpa) – substrate failure [ASTM D4541]
14. **Water Absorption:**
< 1% after 7 days immersion [ASTM D570]
15. **High Temperature Stability:**
No age hardening or slump
16. **Cold Temperature Flexibility:**
Passes 180°, ¼" (.6 cm) mandrel bend at -4°F (-20°C) [ASTM D522]
17. **Temp. Limits For Normal Service Conditions:**
-30°F to 300+°F (-22°C to 149°C)

PACKAGING & MIXING

ELASTUFF 320 is a two-component, fast cure material available in 5-gallon (19 liter) pails and 55-gallon (208 liter) drums. Mix each component prior to use using a mixer with a blade capable of uniformly mixing the entire container. Once mixed, use drum mixers or recirculation to maintain a homogenous consistency. Shelf life is 1 year from date of shipment from UNIT-ED'S factory.

SURFACE PREPARATION

ELASTUFF 320 shall be applied to previously prepared and/or primed substrates. Concrete and wood are typically primed using **Uni-Tile Sealer** or **Uni-Tile HS Sealer**, while metal surfaces are primed with **Primer 302** or **Lock-Down**. Refer to separate literature entitled **Elastuff Surface Preparation** or individual primer technical data sheets for detailed information. **ELASTUFF 320** is applied using 1:1 ratio plural component airless spray equipment, of which there are several suitable types and manufacturers. Refer to separate literature entitled **Plural Component Spray Equipment** for information on suggested design and operation.

APPLICATION

All preparation work, including treatment of cracks, surface repairs, etc., must be completed in accordance with UNITED'S published recommendations. Typically, **ELASTUFF 320** should not be applied when the ambient temperature is below 40°F (4°C) or above 100°F (38°C) or if rain is anticipated within ½ hour of application. For application beyond these temperature limits, consult UNITED'S Technical Service Department for specific recommendations.

Coverage rates and dry film thickness are determined by specific project requirements. The versatility of **ELASTUFF 320** allows the specifying engineer to solve a multitude of protection problems utilizing one coating system at a wide range of dry film thicknesses. For additional information on application, refer to **ELASTUFF 320 Bridge Deck Membrane Guide Specification**. For specific recommendations on other type of applications, contact UNITED COATINGS' Technical Service Department.

ELASTUFF 320 applied at the rate of 1 gallon per 100 sq. ft. (.4 l/m²) will theoretically yield 16.0 dry mils (406 microns). The following dry film thicknesses are provided for guideline use only for typical applications:

Light Abrasion – Dry or Immersion

32 to 40 mils (813 to 1,016 microns)

Medium Abrasion – Dry or Immersion

45 to 60 mils (1,143 to 1,524 microns)

Heavy Abrasion – Dry or Immersion

65 to 120+ mils (1,651 to 3,048+ microns)

ELASTUFF 320 is capable of rapid, high film build utilizing multiple-pass application technique. Most required film builds can be achieved in one or two applications using this method. Ultra-high film builds may require three or more coats. The number of coats required to achieve the specified film thickness will depend on application method, jobsite and ambient conditions. Allow each coat of **ELASTUFF 320** to dry tack free prior to applying an additional coat. This will normally require less than 10 minutes at 75°F (24°C).

All surfaces must be uniformly coated and free of voids, pinholes or blisters. When applying **ELASTUFF 320** over rough textured concrete, or concrete exhibiting "bug holes", the surface should be scrape-troweled using UNITED'S **Uni-Crete** or **Wall-Bond 90** polymer-modified cements, or epoxy mastic, or equivalent.

ELASTUFF 320 is self-flashing at natural termination points such as expansion joints, corners, edges, tank wall caps, etc. Coated areas that do not tie into a natural termination must be sawcut around the perimeter to a minimum width and depth of ¼" (6 mm). The coating shall be applied so that it flows into and terminates into the saw cut.

The **ELASTUFF 320** coating installation shall be inspected as soon as practical to ensure that all surfaces have been uniformly coated and are free from holidays, bug-holes, blisters and thin areas. Any deficient areas should be resprayed within 48 hours of initial application.

Small repairs to the coating membrane, which require a hand-applied material, can be made using **Elastuff 120 Mastic** or **Roller Grade**. First, remove any loose or damaged coating to areas of sound adhesion. Edges of remaining coating shall be roughened by mechanically abrading with a wire wheel, wire brush, coarse sandpaper, or other similar means in order to create a mechanical bond.

Solvent wipe the roughened surface with M.E.K. to remove all dust and other contaminants, and to soften the existing coating surface. After thoroughly blending the **Elastuff 120 Mastic** or **Roller Grade** components, apply repair material to the designated area. Apply multiple coats until the repaired area is equal to or greater than the existing film thickness, tapering edges of the repair material over the edges of the existing membrane.

TOPCOAT APPLICATION

ELASTUFF 320 is designed as a functional coating system and will lose some sheen and chalk under extended exterior exposure. It is recommended that **ELASTUFF 320** be topcoated when subject to extended UV exposure, or in areas where aesthetics are of prime importance. **Elastuff 102, 200** or **220** are typically used as topcoats. Contact UNITED'S Technical Service Department for topcoat recommendations.

LIMITATIONS & PRECAUTIONS

ELASTUFF 320 components are affected by moisture prior to catalyzation and must be protected from moisture contamination. Although **ELASTUFF 320** is not affected by the presence of slight moisture, surfaces should be dry for best results.

Ingredients in the Part B component will freeze when exposed to temperatures below 50°F (10°C). Store materials indoors above 50°F (10°C) to prevent freezing. Should freezing occur, heat containers while agitating or recirculating the material until all crystals have melted and a smooth consistency is achieved.

Use only in a well ventilated area. Avoid breathing of vapor or spray mist. For exterior applications, approved MSHA/NIOSH chemical respirator must be worn by applicator and personnel in vicinity of application. If used indoors, air line masks or positive pressure masks must be worn. Avoid contact with eyes and skin. For additional information on safety requirements, refer to OSHA guidelines and **ELASTUFF 320** Material Safety Data Sheet.



Our products are guaranteed to meet established quality control standards. Information contained in our technical data is based on laboratory and field testing, but is subject to change without prior notice. No guarantees of accuracy are given or implied, nor does UNITED assume any responsibility for coverage, performance or injuries resulting from storage, handling or use of our products. Liability, if any, is limited to product replacement or, if applicable, to the terms stated within the executed project warranty.