

# ELASTUFF 101/102

## ELASTOMERIC POLYURETHANE COATING SYSTEM

### Technical Data & Application Instructions

#### PRODUCT DESCRIPTION

ELASTUFF 101/102 is a high solids, moisture-catalyzed, single-component polyurethane coating system. The system consists of ELASTUFF 101, an aromatic polyurethane basecoat, and ELASTUFF 102, a UV-resistant, color stable aliphatic polyurethane topcoat. This combination provides an excellent balance of tensile strength, elongation and hardness, resulting in superior durability, dirt and mildew resistance, chemical resistance and weatherproofing. High abrasion and impact resistance also offers protection from maintenance traffic and severe weather conditions. The fire retardant chemicals are permanently locked into the cured coating and will not leach out upon extended weathering. ELASTUFF 101/102 is a "breathing" coating, allowing moisture vapor to pass through the film while remaining impervious to mass water penetration from the exterior.

#### BASIC USES

The ELASTUFF 101/102 System is designed for protecting a wide range of substrates from the effects of weathering and moisture intrusion. It is particularly effective as a protective membrane over new or existing roof substrates, including concrete, metal and asphaltic substrates. It provides a barrier to the effects of degradation caused by normal weathering, aging and ultraviolet exposure. ELASTUFF 101/102 is also effective when used on other horizontal or vertical applications requiring a tough, abrasion and chemical resistant membrane, such as secondary containment.

For information on protection over sprayed-in-place polyurethane foam insulation, refer to separate ELASTUFF 101/102 Technical Data in UNITED'S Polyurethane Foam Coatings Division catalogue.

ELASTUFF 101 and ELASTUFF 102 are single-component elastomers that are catalyzed through exposure to moisture in the air. They are designed for application through standard airless spray equipment, as well as brush, roller, squeegee or notched trowel.

#### COLORS

ELASTUFF 101 is available in standard Light Gray only. ELASTUFF 102 is available in standard Ivory White and a limited number of custom colors. Color chips or samples must be furnished to UNITED for all custom colors.

#### TYPICAL PROPERTIES

- Solids By Weight:**  
Basecoat: 82% (±2)  
Topcoat: 77% (±2) [ASTM D2369]
- Solids By Volume:**  
Basecoat: 80% (±2)  
Topcoat: 65% (±2) [ASTM2697]
- Flash Point:**  
Basecoat: 75°F (24°C)  
Topcoat: 75°F (24°C) [ASTM3278] (Seta-Flash)
- Dry Time To Walk On:**  
Basecoat: 6-8 hours @ 24 wet mils  
Topcoat: 8-12 hours @ 16 wet mils with booster  
Dry Times at 70°F (21°C), 50% R.H.
- Tensile Strength:**  
Basecoat: 1,000 psi (±100)  
Topcoat: 2,500 psi (±200) [ASTM D412]
- Elongation:**  
Basecoat: 500% (±50)  
Topcoat: 400% (±50) [ASTM D412]
- Tear Strength:**  
Basecoat: 125 lbs. per inch (±20)  
Topcoat: 285 lbs. per inch (±25)  
[ASTM D1004]
- Hardness:**  
Basecoat: 65-70 Shore A  
Topcoat: 90-95 Shore A [ASTM D2240]
- Abrasion Resistance:**  
Less than 35 milligrams weight loss using CS-17 abrasive wheels and 1000 gram weights after 1000 cycles on Taber Abraser.  
[ASTM D4060]
- Low Temperature Flexibility:**  
Passes 180 degree flex over 1/8" (3 mm) mandrel at -7°F (-22°C), Federal Test Method No. 141a-6221.
- Low Temperature Impact Resistance:**  
No surface cracks or breaks when impacted with 130 gram, 1 1/4" (3 cm) steel ball dropped from a height of 5' at -12°F (-25°C).
- Temperature Limits For Normal Service Conditions:**  
Tested from -30°F to 200°F (-34°C to 93°C).
- Fire Resistance:**  
UL-790 Class "A" listed system. Consult UL Building Material Directory for specifics.

## PACKAGING, MIXING & STORAGE

**ELASTUFF 101** and **102** are single component materials available in 5-gallon (19 liter) pails and 55-gallon (208 liter) drums. **ELASTUFF 102** is supplied with a separate booster unit, which must be thoroughly mixed into the topcoat to ensure optimum cured properties.

Thoroughly mix all containers using an air-driven power mixer, taking care to avoid sucking air into the coating. Once the booster unit is added to the **ELASTUFF 102**, the pot life will be 3 to 7 days depending on ambient conditions. Thinning the material is not recommended.

## SURFACE PREPARATION

All surfaces shall be dry and clean, free from any dirt, grease, oil, pollution fallout, loose rust, form release agents, surface chemicals or other foreign contaminants that could interfere with proper adhesion. Surfaces shall be free of sharp projections, ridges and loose aggregate.

Clean all surfaces prior to priming or coating using **United Cleaning Concentrate (UCC)**, or other biodegradable chemical cleaner. Power rinse with clean water and allow to dry.

Allow new concrete to cure a minimum of 28 days prior to coating. Previously painted or coated surfaces must have any oxidation, chalking and/or loose paint or coating removed by water blasting. Cracks in concrete surfaces shall be filled with a high quality urethane sealant. Remove any loose granules on mineral-surface roofing. All loose gravel must be removed from tar and gravel roofs, followed by planing or spuding the remaining embedded gravel to create a smooth surface.

Moving cracks, splits and/or voids must be repaired and reinforced using **Elastuff 120 Roller Grade**, or with **Roof Mate Mesh** embedded into a strip-coat of **ELASTUFF 101**. **Elastuff 120 Roller Grade** is a high solids, **Elastuff 120 Roller Grade** urethane, which is applied to a thickness of 60 to 80 mils (1524 to 2032 microns) over the detail area. Extend **Elastuff 120 Roller Grade** a minimum of 2" (5 cm) at each side and taper to the existing substrate. If **Roof Mate Mesh** is used, an appropriate length of 4", 6" or 12" (10, 15 or 30 cm) fabric – depending on the detail area – is embedded into a strip-coat of **ELASTUFF 101** while it is still wet. Apply additional material over the top of the fabric to ensure it is totally encapsulated, taking care to remove any wrinkles, gaps or air pockets.

Steel surfaces shall be sound and free from rust scale and other contamination. Metal roofs exhibiting sound rust shall be primed using UNITED'S **Lock-Down Primer** at 300 sq. ft. per gallon (7.3 m<sup>2</sup>/l). Steel surfaces in industrial or immersion conditions must be blast cleaned and primed with UNITED'S **Primer 302** at 250 to 300 sq. ft. per gallon (6.1 to 7.3 m<sup>2</sup>/l). For additional information, consult separate primer technical data sheets or UNITED'S Technical Service Department.

**ELASTUFF 101/102** is self-priming over most existing roof substrates. Bare concrete and wood surfaces shall be primed with UNITED'S **Uni-Tile Sealer** or **Uni-Tile HS Sealer**, applied at the rate of approximately 250 sq. ft. per gallon (6.1 m<sup>2</sup>/l). Contact UNITED'S Technical Service Department for specific primer recommendations over other substrates.

## COATING APPLICATION

**ELASTUFF 101** and **ELASTUFF 102** can be applied by brush, roller, spray, squeegee or notched trowel. Airless spray is the preferred method. Utilize airless spray equipment capable of a minimum of 2 gallons (7.6 l) per minute output at 2,000 psi (13,790 kPa) pressure.

Each coat of **ELASTUFF 101/102** must be applied in a direction perpendicular to the previous coat. The system must be applied in two or more separate coats to ensure proper coverage and cure rate, and a pinhole-free continuous film. **ELASTUFF 102** can be used with or without **ELASTUFF 101**, depending upon application requirements, over properly primed wood, metal or concrete.

All surfaces must be uniformly coated and free of voids, blisters and pinholes. **ELASTUFF 102** shall be applied over **ELASTUFF 101** within 48 hours of its application. Successive coats of **ELASTUFF 101/102** should be applied as soon as the previous coat has dried tack free, or sufficiently to allow the applicator to walk on.

**ELASTUFF 101** applied at the rate of 1 gallon per 100 sq. ft. (.4 l/m<sup>2</sup>) will theoretically yield 12.8 dry mils (325 microns). **ELASTUFF 102** applied at this rate will theoretically yield 10.4 dry mils (264 microns). The following recommended coverage rates and dry film thickness are minimum requirements for issuance of UNITED'S 10-Year Standard Warranty on typical roofing applications and are for guideline use only. Contact UNITED'S Technical Service Department for recommended application rates for other warranty programs, specific project requirements or over other substrates.

### Application Over Roofing Substrates:

**MODIFIED BITUMEN** – 35 mils (889 microns):

**Basecoat:** 2 coats **ELASTUFF 101** @ 1 gallon/100 sq. ft. (.4 l/m<sup>2</sup>) per coat.

**Topcoat:** 1 coat **ELASTUFF 102** @ 1.25 gallons/100 sq. ft. (.5 l/m<sup>2</sup>).

**BUILT-UP ROOFING** – 35 mils (889 microns):

**Prime Coat:** Apply thin tack-coat of **ELASTUFF 101** thinned 100% with Xylol to tack down surface.

**Basecoat:** 2 coats **ELASTUFF 101** @ 1 gallon/100 sq. ft. (.4 l/m<sup>2</sup>) per coat.

**Topcoat:** 1 coat **ELASTUFF 102** @ 1.25 gallons/100 sq. ft. (.5 l/m<sup>2</sup>).

**BARE CONCRETE** – 35 mils (889 microns):

**Prime Coat:** **Uni-Tile Sealer** or **Uni-Tile HS Sealer** @ 250 sq. ft. per gallon (6.1 m<sup>2</sup>/l).

**Basecoat:** 2 coats **ELASTUFF 101** @ 1 gallon/100 sq. ft. (.4 l/m<sup>2</sup>) per coat.

**Topcoat:** 1 coat **ELASTUFF 102** @ 1.25 gallons/100 sq. ft. (.5 l/m<sup>2</sup>).

**METAL** – 25 mils (635 microns):

**Prime Coat:** **Lock-Down Primer** @ 300 sq. ft. per gallon (7.3 m<sup>2</sup>/l), if necessary.

**Basecoat:** 1 coat **ELASTUFF 101** @ 1.25 gallons/100 sq. ft. (.5 l/m<sup>2</sup>).

**Topcoat:** 1 coat **ELASTUFF 102** @ 1.25 gallons/100 sq. ft. (.5 l/m<sup>2</sup>).

Do not apply below 50°F (10°C) or if inclement weather is imminent. Shelf life is 6 months from date of shipment. Clean equipment with MEK, Methylene Chloride or Xylol.

