



# POLYURETHANE 300 ALIPHATIC FINISH COAT

## PREMIUM POLYURETHANE ROOF COATING

### TECHNICAL DATA SHEET

#### PRODUCT DESCRIPTION:

ERSystems® Polyurethane 300 Aliphatic Finish Coat is a single component, aliphatic, moisture-cure, polyurethane coating. Polyurethane 300 Aliphatic Finish Coat was developed to provide the highest possible combination of flexibility, elongation, gloss and color retention, as well as excellent weathering and UV screening capabilities. In combination with substrate primers and Polyurethane 300 Aromatic Base Coat it produces a continuous, seamless, waterproof coating system.

#### TYPICAL PROPERTIES PER ASTM D-6083

Property	Test Method	Typical Value
Percent Solid:	ASTM D2369	Weight Solids 76%, Weight Volume 75%
Viscosity:	Brookfield Viscometer	3500-7000 cps
Ultimate Elongation:	ASTMD412	475%
Tensile Strength:	ASTM D412	2390 psi
Tear Strength	ASTM D624	281 pli
Moisture Vapor Transmission	ASTM D6083/D6694	0.0518 perm-in (15 mil thickness) 3.384 perms
Weight/Gallon	Density Cup	10.1 lbs.
VOC Content	EPA Method 24	80 g/l
Low Temperature Flexibility	ASTM D6083/D6994	(1/4" Mandrel Bend @ -15°F) Passes, no loss in adhesion
Hardness	ASTM D2240	90A
Water Absorption	ASTM D471	4%
Cure Time		16-24 hours to recoat @ (75°F/23.9°C) 45% RH
Reflectivity-White		Initial 0.84, 3 Year Aged 0.68
Emittance-White		Initial 0.90, 3 Year Aged 0.90
SRI		Initial 106, 3 Year Aged 86
** The shelf life for an unopened container stored at temperatures between 60°F (15.6°C) and 95°F (35°C) is 6 months from date of manufacture. Store out of direct sunlight in a cool, well-ventilated area. Avoid storing container directly on the floor or against an outside wall		

#### APPROVALS:

<ul style="list-style-type: none"> <li>▪ CRRC / Energy Star Listed</li> <li>▪ Title 24 Compliant</li> <li>▪ NOA 20-1001.06 Miami Dade County, Florida</li> <li>▪ Florida Building Code Approval-FL# 32667</li> </ul>
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#### TYPICAL USES:

- Polyurethane 300 Aliphatic Finish Coat is applied over Polyurethane 300 Aromatic Base Coat as a UV stable Aliphatic Topcoat. It has excellent reflective and physical properties. It is a versatile, easily applied finish coating as part of our urethane membrane restoration system.

- The overall coating system is used maintain and extend the performance of Metal, Polyurethane Foam, Concrete, Aged Modified Bitumen, Single Ply's and other roofing substrates
- Polyurethane 300 Aliphatic Finish Coat has high solids consistency designed to provide a tough film Finish.

**COLORS:** Standard color is White.

#### PACKAGING:

- 5 Gal. Pail, 55 Gal. Drum



#### APPLICATION EQUIPMENT:

Application may be by brush, roller or airless spray.

- **Brush or Roller:** Recommended for flashing, small areas, inaccessible areas or where over spray may be a problem. Use a 1/4 inch or 3/8-inch nap solvent resistant roller. The product can be squeegee applied and then back-rolled using a paint roller and/or spiked/teethed rollers to help break entrapped air pockets. (Do not "Dip" and roll)
- **Airless Spray Equipment:** Airless spray equipment should be capable of 3 gallons per minute capacity at 3500 psi. 3500 psi at the spray gun is essential to produce the desired pattern. Polyurethane 300 Aromatic Base Coat is designated a "medium elastomeric coating" with high viscosity for pump purposes. 3/4" high pressure hose from the pump should be dropped to a 1/2" hose. The airless spray gun should be equipped with a ball-bearing swivel for ease of handling. Recommended orifice size is .028" - .035" diameter, wide-angle fan pattern. A reverse-a-clean nozzle is recommended. Exact orifice size will vary with temperature of the material and weather condition.

#### GENERAL APPLICATION:

- All surfaces to be coated must be clean, dry, and free of contaminants, such as dirt, oil, grease, loose coatings or debris. Power wash blasting is typically required to remove contaminants. It is recommended the initial coat of Polyurethane 300 Aliphatic Finish Coat is back rolled to eliminate pin-holing. Allow 16 – 24 hours of cure time between coats.

Polyurethane 300 Aliphatic Finish Coat can be applied at 1 gallon (3.79 liters) per 100 square feet in 1 coat.

- In planning application of Polyurethane 300 Plus Finish Coat consider environment and weather related conditions such as frost, dew, mist, condensation, humidity, and temperature. Temperature should be above 40°F (4.45°C), more than 5°F above the dew point and rising, for best application results.

#### **Over Single Ply Membranes (TPO, PVC, EPDM, HYPALON, KEE):**

- (See Single-Ply Roof Guideline - Polyurethanes) Follow the detailed instructions in the Guideline regarding surface preparation prior to applying Polyurethane 300 Aromatic Base Coat.
- Once the single-ply surface is properly prepared, apply Polyurethane 300 Aromatic Base Coat at 1 gallon (3.79 liters) per 100 square feet in 1 pass. Allow to cure, and finish with Polyurethane 300 Aliphatic Finish Coat. Polyurethane 300 Aliphatic Finish Coat is applied at a rate of 1 gallon (3.79 liters) in one pass per 100 square feet to the cured Polyurethane 300 Aromatic Base Coat. Roofing granules may be embedded into a final tack coat of .5 gallon (1.89 liters) of Polyurethane 300 Aliphatic Finish Coat.

#### **Over Aged Modified Bitumen and Aged BUR:**

- Aged Modified Bitumen and Aged BUR Roof Restoration Guideline). Follow the detailed instruction in the Guideline regarding Aged Modified Bitumen and Aged BUR prior to applying the Polyurethane 300 Aliphatic Finish Coat. ERSYSTEMS® Acrylic Asphalt Primer may be required.
- Once the Aged Modified Bitumen or Aged BUR surface is properly prepared, apply a minimum of 1.5-2 gallons (5.68-7.57 liters) per 100 square feet of Polyurethane 300 Aromatic Base, do not exceed 1.5 gallons in a single pass. Allow to cure, and finish with Polyurethane 300 Aliphatic Finish Coat. Polyurethane 300 Aliphatic Finish Coat is applied at a rate of 1 gallon (3.79 liters) in one pass per 100 square feet to the cured Polyurethane 300 Aromatic Base Coat. Roofing granules may be embedded into a final tack coat of .5 gallon (1.89 liters) of Polyurethane 300 Aliphatic Finish Coat.

#### **Over Polyurethane Foam:**

- (See Polyurethane Foam Insulation Roof Guideline - Polyurethanes) Follow the detailed instructions regarding characteristics of the Polyurethane foam required and preparation of the surface per the Guideline.
- Once the Polyurethane Foam surface is properly prepared, apply Polyurethane 300 Aromatic Base Coat at 2 gallons (7.57 liters) per 100 square feet in 2 passes. Allow to cure, and finish with Polyurethane 300 Aliphatic Finish Coat. Polyurethane 300 Aliphatic Finish Coat is applied at a rate of 1 gallon (3.79 liters) in one pass per 100 square feet to the cured Polyurethane 300 Aromatic Base Coat. Roofing granules may be embedded into a final tack coat of .5 gallon (1.89 liters) of Polyurethane 300 Aliphatic Finish Coat.

#### **Over Concrete:**

- (See Concrete Roof Guideline - Polyurethanes) Follow the detailed instructions in the Guideline regarding concrete surface preparation prior to applying Polyurethane 300 Aromatic Base Coat. Pacific Polymers Elasto-Poxy Primer VOC may be required.
- Once the concrete surface is properly prepared, apply Polyurethane 300 Aromatic Base Coat at 2 gallons (7.57 liters) per 100 square feet in 2 passes. Allow to cure, and finish with Polyurethane 300 Aliphatic Finish Coat. Polyurethane 300 Aliphatic Finish Coat is applied at a rate of 1 gallon (3.79 liters) in one pass per 100 square feet to the cured Polyurethane 300 Aromatic Base Coat. Roofing granules may be embedded into a final tack coat of .5 gallon (1.89 liters) of Polyurethane 300 Aliphatic Finish Coat.

#### **RE-COAT TIME:**

- Polyurethane 300 Aliphatic Finish Coat White will typically cure sufficient to re-coat in 16 - 24 hours, at 75°F (23.9°C) and 45% R.H. Lower temperature and lower humidity will typically retard the cure rate and will require additional time to recoat. If more than 48 hours elapse before re-coating, consult ITW Polymers Sealants for proper re-coating procedures.

#### **APPLICATION LIMITATION:**

- Prior to the application of any topcoat over new or freshly applied asphalt based product consult with the asphalt product manufacturer or NRCA guidelines for necessary asphalt cure times prior to coating.

#### **TEMPERATURE CONSTRAINTS:**

- Cold temperatures influence viscosity and pumping/handling characteristics of Polyurethane 300 Aliphatic Finish Coat. Heat increases and cold decreases the flow of Polyurethane 300 Aliphatic Finish Coat. When temperatures fall below 60°F, Polyurethane 300 Aliphatic Finish Coat can best be applied after storage at 70°F or higher for a minimum of 48 hours prior to usage. For ease of application, material temperature should be 60°F (15.6°C) minimum. If Polyurethane 300 Aliphatic Finish Coat is to be pumped at temperature below 60°F (15.6°C), insulated or heated hoses may be required. For additional cold weather application techniques and information, consult ITW POLYMERS SEALANTS NORTH AMERICA. The temperature service range is -50°F (-45.6°C) to 200°F (93.3°C). The substrate temperature range for application is 40°F (4.45°C)–120°F (48.9°C).

#### **LIMITATION:**

- Polyurethane 300 Aliphatic Finish Coat cures by reacting with air moisture and atmospheric humidity. Partially used containers should not be left open and exposed to the air. Curing in the once opened container can be slowed by placing plastic wrap directly over the surface of the coating and tightly resealing the container. If a cured film has formed on the top of the product it should be carefully cut away prior to stirring the remainder of the product in the container. Stirring should be done at a slower speed so that it does not aerate the material. The surface film formation does not affect the performance of the remaining product.

#### **CLEAN UP:**

- Upon completion of the application, tools, hoses and equipment must be cleaned immediately with a suitable solvent such as xylene (xylol) solvent. If regulation does not permit use of Xylene, alternate such as acetone can be used.

#### **CAUTION:**

- Contains reacted polyurethane polymer, petroleum naphtha, and parachlorobenzotrifluoride. If swallowed, do not induce vomiting. If splashed in eyes, flush with clean water for a minimum of 15 minutes. In either case, call for physician help immediately. If splashed on skin, wash thoroughly with soap and water. Avoid breathing vapors and spray mists. Capable of producing severe dermatitis and bronchial spasms. Keep away from heat, sparks and open flames. Close container after use. Keep out of reach of children.
- The flow of material through pump and system could create static electricity. When pumping flammable materials, all equipment must be properly grounded to prevent static discharge and sparking, which could cause fire or explosions. Use only conductive or grounded air and material hoses, and be sure that your compressor and pump are properly grounded per manufacturer's recommendation.

PRIOR TO USE OF THIS MATERIAL,  
READ ALL APPROPRIATE SAFETY DATA SHEETS

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Complete technical information is available from:  
ITW Polymers Sealants North America, Inc.