ROOF PA100

TECHNICAL DATA SHEET

A-ROOF

A two-part polyaspartic roofing topcoat that creates a waterproof barrier, blocks heat transfer, and provides thermal insulation.

PRODUCT DESCRIPTION

Roof PA100 is a two-part, polyaspartic, low VOC coating intended for use as a repairing topcoat over roofing materials. Roof PA100 is nano-formulated with high-emissivity, which provides low thermal conductivity, and high reflectivity, which results in thermal insulation.

Roof PA100's formulation is durable to protect against harsh abrasion, UV-fading, and flexible enough to contract and expand in changing temperatures without cracking or peeling.

Roof PA100 is designed to be used as a topcoat over Armus Water-borne Epoxy Primer.

ADVANTAGES

- 100% solids by volume
- Seamless and jointless coating
- Durable formula provides high abrasion resistance
- Flexible formula will not crack or peel
- Creates a waterproof barrier
- UV-resistant and will not yellow over time
- High emissivity provides low thermal conductivity
- High reflectivity provides thermal insulation
- Reduces energy costs
- Excellent adhesion on concrete, asphalt
- Temperature & humidity insensitive
- Various application thickness possible

COMPATIBLE SUBSTRATES

- Concrete
- Cement
- Bitumen
- TPO & EPDM
- Metal Roofs

USES

- Existing roofs

PRODUCT INFORMATION

Available Packaging	2.5 gal. unit (2 containers – Part A Base & Part B Hardener)
Storage Conditions	Store dry at 40-95 °F (4-35 °C) Condition material to 65-85 °F (18-30 °C) before using.
Solid Content by Volume	100%

TECHNICAL INFORMATION

Type	Two-part aspartic polyurea
Color	White
Components	Part A (Base) Polyaspartic Ester Part B (Hardener) Aliphatic Isocyanates
VOC Content	< 1 g/L
Required Primer	Armus Water-borne Epoxy Primer
Density	1.13 ± 0.05 g/cm^3
Hardness (Shore A)	>70
SRI Index	114

Emissivity (ASTM C1371)	0.88
Emittance (ASTM E408-71)	0.91
Solar Reflectance	93%
Solar Reflectance Index	121.1 (Low wind) 119.0 (Medium wind) 118.0 (High wind)
Thermal Conductivity (ISO 12667:2004)	0.08 ±0.007 W/(mk)
Flame Spread	Class A
Water Resistance	168 psi @ 20mils
Elongation at break	450%
Elasticity	14°F (-10°C): 400% 73.4°F (23°C): 381% 140°F (60°C): 315%.
Reflectivity (ASTM E906-06)	Total: 91.58% (250-2200nm) Infrared: 94.76% (700-2200nm)
Thermal Performance of Building Components (ISO 13786:2007)	The paint coating (at 2 applications) provides thermal insulation equal to EPS of ~2cm.

MIXING RATIO

Base A : Hardener B Ratio (Volumetric)	1.50 : 1
Base A : Hardener B Ratio (Mass)	1.50 : 1
Density Base A	67.42 lb/ft^3 (1.08 kg/L)
Density Hardener B	67.42 lb/ft^3 (1.08 kg/L)
Density Mix	67.42 lb/ft^3 (1.08 kg/L)
Solid Content by Volume	100%

APPLICATION INFORMATION

Coverage (with no loss factor)	~80.27 sq. ft. per gal @ 20 mil (508 µm) dry film thickness ~40.14 sq. ft. per gal @ 40 mil (1016 µm) dry film thickness ~26.75 sq. ft. per gal @ 60 mil (1624 µm) dry film thickness
Pot Life	Maximum of 45 minutes @ 75°F (25°C)
Touch Dry	6 hours
Full Dry	14 hours @ 75°F (25°C)
Full Cure	48 hours @ 75°F (25°C)
Minimum Recoat Interval	8 hours after previous application
Application Temperature	41-95°F (5-35°C)
Application Conditions	Humidity should be under 75% and rain should not be expected within 24 hours after application. Roof moisture should not exceed 15% prior to application.

APPLICATION INSTRUCTIONS

EQUIPMENT
The preferred method of application is either by squeegee and roller or by airless sprayer.

If applying via airless sprayer, see below for airless sprayer specifications.

Material Flow: 2.9 gal / min (11 L/min)
Max Pressure: 270-300 bar
Air Intake Pressure: 5-6 bar
Pump Filter: 30 Mesh
Hose: 3/8”
Nozzle: 0.027” – 0.031”

RECOMMENDED SYSTEM
Armus recommends using our Water-borne Epoxy Primer as a base coat prior to application of Roof PA100. WBE Primer works on almost every substrate and is specially formulated to provide added adhesion.

SURFACE PREPARATION
1. Wear protective gloves & gear before applying.
2. Roof must be cleaned from dirt, debris, and any residue. Scrub away mold or mildew, or power wash if necessary.
3. Allow surface to dry completely.
4. Ensure moisture of the roof is less than 15% prior to application.
5. REQUIRED: Apply base coat of Armus Water-borne Epoxy Primer to increase adhesion. Allow WB-Epoxy Primer to cure and dry for 24 hours.

6. Fleecing joints, seams and penetration points may be required during the application of WBE Primer. See WBE Primer Technical Data sheet for additional details.

MEASURE COVERAGE AREA

Depending on the desired dry-film thickness, measure & use tape to mark the corners of the area on the roof for each application section.

Doing so is the easiest way to ensure that you are not over-spreading the material, and that the application of Roof PA100 is applied at the proper spread rate.

MIXING

1. Open Part A Base. Using a power drill and paddle paint mixer, mix Part A well for a minimum of 1 minute. It is composed completely of solids, so ensure Part A Base is mixed until fully homogenous.
2. Pour all of Part B into the Part A container. Completely mix Part A (Base) & Part B (Hardener) together.
3. Mix well for a minimum of 1 minute using a power drill and paddle mixer a low RPM in the Part A container.
4. Scrape the sides of the container to ensure that no unmixed material remains. Mix frequently during application to maintain uniform color.

APPLICATION

1. Using a paint brush, paint any edges of your pre-measured section. You should work from the exterior to interior of your coverage area.
2. If using airless sprayer, spray out your pre-measured section, ensuring you are using the entirety of Roof PA100 for the section.
3. To apply using roller, pour material and spread over your pre-measured section and spread with spiked roller.
4. Work in sections until entire roof is coated in the same manner, ensuring your spread rate is consistent across the project. Each mixture has a maximum 45-minute working time (at 77°F / 25°C).
5. Allow Roof PA100 to dry for 8 hours between coats if applying additional coats.
6. Apply aggregate over the final topcoat before Roof PA100 fully dries. Non-adhered aggregates must be removed with a high-performance vacuum.
7. Roof PA100 fully dries in 14 hours, and fully cures in 48 hours.
8. If working in hotter temperatures, store material in shade or in a cool area to maximize pot life.

SAFETY INFORMATION

Always read the product SDS for safety instructions and precautions before use. Use appropriate safety equipment and job-site controls during handling, application, and storage.

For further information regarding transportation, handling, storage and disposal of chemical products, users should refer to the SDS.

LIMITATIONS

• Do not store materials outdoors exposed to sunlight, extreme heat, or open flame for extended and prolonged periods.
• To avoid dew point conditions during application, relative humidity must be no more than 75% and substrate must be at least 5°F above measured dew point temperatures.
• Minimum ambient and substrate temperature during application and curing of material is 40°F (5°C); maximum is 95°F (35°F).
• Any repairs required to achieve a level surface must be performed prior to application. Surface irregularities may reflect through the final cured topcoat.
• Do not apply to a porous or damp surface where vapor transmission may occur during drying or curing time.
• Substrate must be dry prior to application. Do not apply Roof PA100 to wet, damp, or frosted surfaces.
• Do not apply if rain is imminent within 24 hours of application. This will leave sufficient time for drying and curing.
• Proper safety precautions should be taken to prevent product vapor and odors from entering the building. This includes but is not limited to: sealing air intake vents, air conditioners, and other means of vapor ingress during application and curing.

WARRANTY

The information and recommendations provided are based on thorough research conducted by ourselves and others, and we believe them to be accurate. However, we do not guarantee complete accuracy because it is impossible to cover every potential application of our products or anticipate all variations that may occur in substrates, surfaces, job conditions, and application methods. It is the responsibility of purchasers to conduct their own tests to determine the suitability of our products for their specific purposes.

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