TECHNICAL DATA SHEET

AP 500 Roofing Foam System

DIVISION 7: Thermal & Moisture Protection

Product Description:

AP 500 Roofing Foam is a rigid polyurethane spray foam. The controlled chemical reaction allows for smoother surface and more uniform application over a wide temperature range.

AP 500 Roofing Foam Closed Cell SPF system is spray-applied forming a seamless thermal envelope and can adhere to a wide range of substrates.

Product Uses:

Flat and Low-Slope Roof Systems ▪ Roof Restoration ▪ Thermal Insulation ▪ Waterproofing ▪ Air Sealing

Physical Properties:

Property	Test Method	Value
Density	ASTM D-1622	2.8 – 3.0 lbs./ft³
Resistance 1 inch	ASTM C518	6.9
Compressive Strength	ASTM 1623	≥40-45 psi
Open Cell Content	ASTM 6226	<10%
Dimensional Stability (Aged 7 days)	ASTM 2126	<10%
		Class II Vapor Retarder In Accordance with IBC
Water Vapor Permeance	ASTM E-96	@1 inch 0.94 perms

**These values are typical; however, values can vary and should not be considered part of the product specifications.*

Fire Testing:

Property	Test Method	Value
Surface Burning Characteristics	ASTM E-84	Flame Spread <75

**The flammability rating stated is not intended to reflect hazards under actual fire conditions. These ratings are used solely to measure and describe the product's response to heat and flame under controlled laboratory conditions.*

Insulation Type	MAXIMUM THICKNESS (in.) (Walls & Vertical Surfaces)	MAXIUM THICKNESS (in.) (Ceilings, Underside of Roof Sheathing/Rafters & Floors)	FIRE-PROTECTIVE COATING MINIMUM THICKNESS & TYPE (Applied to all Foam Surfaces)2	MINIMUM APPLICATION RATE OF FIRE-PROTECTIVE COATING	TESTS SUBMITTED
	8	12	Fireshell® F10E 18 wet mils / 12 dry mils	1.20 gal / 100 ft2	NFPA 286
	8	12	DC 315 14 wet mils / 9 dry mils	0.88 gal / 100 ft2	NFPA 286
	8	12	Flame Control 14 wet mils / 9 dry mils	0.87 gal / 115ft2	NFPA 286
	8	12	No-Burn Plys THb 14 wet mils / 9 dry mils	0.87 gal / 115ft2	NFPA 286

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Liquid Component Properties:

Property	AP ISO A-side ISO	AP 500 Roofing Foam B- side RESIN
Color	Dark Brown	Transparent Yellow
Volumetric Mixing Ratio	100:100	100:100
Viscosity @ 75°F	150 – 250 cps	300 – 450 cps
Specific Gravity	1.22 – 1.24	1.11 – 1.15
Storage Temperature	65° - 110° F	55° - 70° F

Recommended Processing Parameters:

	AP 500 Roofing REGULAR	AP 500 Roofing ARCTIC
Primary A-side Heater	108°-115°F	108°-120°F
Primary B-side Heater	108°-115°F	108°-120°F
Hose Temperature	108°-115°F	108°-120°F
Processing Pressure	900 – 1200 psi	900 – 1200 psi
Minimum Application Temperature	>85° F	>50° F
Ambient Humidity	<85%	<85%
Maximum moisture of Wood Substrate	19%	19%

**It is strongly recommended that test sprays be conducted before installation for use in extreme temperatures.*

AP 500 Roofing Foam Closed Cell SPF systems should only be applied using 1:1 by volume proportioning equipment capable of maintaining the pressures and temperatures as recommended above. Like all SPF systems, the chemical reaction varies due to equipment, environmental conditions, and applicator technique. Applicators should monitor the temperature and pressures of the chemical as well as the rate of rising foam to achieve the best yield for maximum performance.

Before spraying, the chemical temperature inside the drums should be less than 70°F.

Storage and Shelf Life:

Property	AP ISO A-side ISO	AP 500 Roofing Foam B-side
Storage Temperature	65 - 110° F	55 - 70° F
Shelf Life	12 months / 1 year	6 months

Environmental Conditions:
AP 500 Roofing Foam Closed Cell SPF system should be applied when ambient conditions are above 30°F and below 105°F with a relative humidity less than 85%. When ambient conditions are below 40°F, it is recommended to warm and dry the building or substrates.

Substrate Preparations:
All surfaces must be clean and dry. For optimal performance, make sure the substrate is free of dirt, oil, grease, solvents, or any loose particles.

Product Limitations:

- Do not heat the resin drum by direct heat, heating blankets, band heaters, etc. This type of heating will result in loss of blowing agent negatively affecting the yield.
- Do not recirculate or mix AP 500 Roofing Foam Closed Cell SPF system.
- Do not mix AP 500 Roofing Foam Closed Cell SPF system with other manufacturers components.
- AP 500 Roofing Foam Closed Cell SPF system may be applied in passes of uniform thickness at no more than 3 inches (after expansion) in a single pass. If this thickness is exceeded, it will adversely affect the quality and physical properties of the finished product, and the internal temperature build up within the foam may cause charring or thermal degradation.
- Allow the core temperature of the foam to drop below 100°F before applying an additional pass. Multiple layers can be applied to reach the desired thickness and R-value.

Fire Safety:

AP 500 Roofing Foam Closed Cell SPF system should not be used near open flames or sparks. Warning signs should be posted whenever hot work is done, such as welding, cutting with torches, soldering, etc. All hot work should be performed no less than 35 feet from any exposed spray foam. If hot work must be performed, all spray foam should be covered with appropriate welders or fire blanket. In addition, a fire watch should be provided. For more information follow API Fire Safety Guidelines for Use of Rigid Polyurethane and Polyisocyanurate Foam Insulation in Building Construction (AX230).

Safety and Handling:

It is critical to read and become familiar with the Safety Data Sheets (SDS') prior to working with AP 200 245FA (CC) Closed Cell SPF system. To obtain copies of the SDS, visit alphapolymersllc.com.

Respiratory Protection:

During application, proper respiratory protection is required for the applicator and bystanders or helpers. A copy of the Model Respiratory Protection Program developed by CPI can be obtained by visiting www.polyurethane.org.