

AP 100 (OC) Open Cell SPF System

DIVISION 7: Thermal & Moisture Protection

Product Description:

AP 100 (OC) is a spray-applied, two-component, open cell spray polyurethane foam (SPF) system. The product is formed by the chemical reaction of mixing the proprietary resin, B-Component with the Isocyanate A-Component at a 1:1 mixing ratio.

AP 100 (OC) open cell SPF system is spray-applied to fill voids and seal cracks as it expands to form a seamless thermal envelope and can adhere to a wide range of substrates typically found in building construction.

Product Uses:

- Interior Applications
- Walls
- Ceilings
- Attics
- Ducts
- Crawlspace

Physical Properties:

Property	Test Method	Value
Density	ASTM D-1622	0.5 lbs./ft ³ (nominal)
R-Value (Aged)	ASTM C-518	3.63 ft ² h°F/BTU
Tensile Strength	ASTM 1623	5.5 psi
Air Permeance	ASTM 2178	<0.02 L/sm ²
Open Cell Content	ASTM 6226	>90%
Water Vapor Permeance	ASTM E-96	@ 3.5 in. = 4.93 perms @ 5.5 in. = 3.17 perms CLASS III Vapor Retarder @ <9 perms.
Dimensional Stability (Aged 7 days)	ASTM 2126	<10%

**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	Class I Flame Spread <25 Smoke Developed: <450
Ignition Barrier	NFPA 286	PASS: DC 315 @ 4 mils WFT / 3 mils DFT PASS Flame-SEAL IB @ 5 mils WFT / 3 mils DFT
Thermal Barrier	NFPA 286	PASS: DC 315 @ 18 mils WFT / 12 mils DFT
Fire Characteristics of Exterior Wall Assembly	ASTM 285	PASS
Unvented Attic Assembly by Design	NFPA 286 Modified	PASS: See CCRR-0483. Foam thickness 16 in. maximum & 3.5 in. minimum. (No ignition or thermal barrier in the assembly.)

Critical Radiant Flux of Exposed Attic Floor Insulation	ASTM E-970	@ 14 in. thick >0.12 w/cm ²
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*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.

Liquid Component Properties:

Property	AP ISO A-side ISO	AP 100 (OC) B-side Resin
Color	Dark Brown	Transparent Yellow
Volumetric Mixing Ratio	100:100	100:100
Viscosity @ 75°F	150 -250 cps	150 -250 cps
Specific Gravity	1.22 – 1.24	1.08 – 1.10

Recommended Processing Parameters:

	REGULAR VERSION	WINTER VERSION
Primary A-side Heater	120-130°F	110 - 130°F
Primary B-side Heater	120-130°F	110 - 130°F
Hose Temperature	120-130°F	110 - 130°F
Recirculating Temperature	75 - 80°F	75 - 80°F
Processing Pressure	900 – 1200 psi	900 – 1200 psi
Moisture of Wood Substrate	≤19%	≤19%
Ambient Humidity	<85%	<85%
Minimum Application Temperature*	>20°F	<20°F

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

AP 100 (OC) Open Cell SPF System should only be applied by trained applicators 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 significantly due to equipment, environmental conditions, and applicator technique. Applicators should monitor the temperature 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 between 70 - 100°F. In some cases, it may be necessary to raise the temperature of the chemical inside the drums by recirculating through the hoses and primary heaters. Gently mix the resin while spraying to further improve performance. Air or mechanical purge guns can be used with this chemical system.

Storage and Shelf Life:

Property	AP ISO A-side ISO	AP 100 (OC) B-side Resin
Storage Temperature	65 - 110°F	65 - 110°F
Shelf Life	12 months / 1 year	12 months / 1 year

Environmental Conditions:

AP 100 (OC) Open Cell SPF System should be applied when ambient conditions are above 20°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 use in areas where this product may come into contact with water or in below grade applications.
- Protect from sunlight.

Fire Safety:

AP 100 (OC) Open 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 an 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 AC 100 (OC) Open 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.

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of thermal and acoustical fiberglass insulation listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the sales office nearest you for current information. For more information on other Alpha Polymers insulation and systems, visit www.alphapolymersllc.com or call (806) 683-9071.