



Your Formula for Success
RESINS | GEL COATS | COLORANTS

**FIREPEL® K140
POLYESTER
FIRE RETARDANT RESIN**



Product Information

POLYESTER FIRE RETARDANT RESIN SYSTEM FOR TRANSPORTATION AND BUILDING APPLICATIONS

Typical Laminate Mechanical Properties ³			
Test	Unit of Measure	Nominal	Test Method
Tensile Strength	psi/MPa	12,865/89	ASTM D 638/ISO 527-1
Tensile Modulus	kpsi/GPa	1,350/9.3	ASTM D 638/ISO 527-1
Tensile Elongation	%	2.0	ASTM D 638/ISO 527-1
Flexural Strength	psi/MPa	29,500/203	ASTM D 790/ISO 178
Flexural Modulus	kpsi/GPa	1,300/9.0	ASTM D 790/ISO 178
Glass Content	%	22	

Typical Liquid Resin Properties ¹							
VERSIONS	Viscosity, cps	Thix Index	Gel Time, min	Gel to Peak, min	Peak Exotherm (°F/°C)	Weight per Gallon	HAP Content, %
K140-MTI-00	1100 cps	3.0	40 ³	25 ³	255/124 ³	10.5	<30

1) 77°F/25°C Brookfield RV viscosity spindle #2 at 20 rpm
 2) 77°F/25°C Thix Index 2/20
 3) 77°F/25°C 100 gram Resin with 0.25% Cobalt-12%, and 1.5% DDM-9

*Typical properties are not to be construed as specifications.

K140 Flammability Properties Table ^{2 & 3}					
Test Method and Results(3)	ASTM E 84 Tunnel Test	ASTM E 162 Flame Spread	ASTM E 662 Smoke Density	Bombardier SMP 800-C	European Standard TS 45545
	Flame Spread - 20	Flame Spread Index (Is) = 5	Flaming at 1.5 mins, Ds = 1	Flaming - PASSED	Category R1
	Smoke Development - 400		Flaming at 4.0 mins, Ds = 8	Non-Flaming - PASSED	ISO 5660 - HL2 rating
	Class 1 Rating		Non-Flaming at 1.5 mins, Ds = 1		ISO 5658- HL3 rating
			Non-Flaming at 4.0 mins, Ds = 13		ISO 5659- HL3 rating

DESCRIPTION

The Firepel K140 Series are halogen-free fire retardant resins specifically designed for mass transportation and architectural applications. This unique fire retardant resin requires no additional fillers or additives to achieve composite parts with superior flame spread and smoke development/toxicity properties.

APPLICATIONS

- Mass Transportation
- Architectural
- Building/Construction

BENEFITS

- Meets globally recognized mass transportation standards
- Meets low smoke toxicity requirements in US, Europe and Asia
- Meets ASTM E 84 Class 1 flame and smoke requirements
- Provides reduced weight compared to ATH filled composites
- Formulated for improved storage stability
- Pre-accelerated and requires only Cobalt and MEKP

FIREPEL®

K140 POLYESTER FIRE RETARDANT RESIN



APPLICATION GUIDELINES

A. Some separation of the K140 resin is normal upon standing. Mix the resin thoroughly in the original container at least 15 minutes prior to use. Firepel K140 is provided in partially filled open top containers with enough space for easy mixing with the promoters.

B. Use mixing equipment with sufficient horsepower based on the size of the container to ensure adequate mixing. Adequate mixing is evident when the resin is homogenous and no undissolved material is present on the bottom of the container.

C. To assure adequate bonding to gel coats, fabricators should pre-wet the gel coat surface with a thin pass of catalyzed resin prior to lamination.

STORAGE STABILITY

Resins are stable for three months from date of production when stored in the original containers away from sunlight at no more than 70°F/21°C. After extended storage, some drift may occur in gel time. During hot summer months, no more than two months stability at 86°F/30°C should be anticipated.

SAFETY

See the appropriate Safety Data Sheet for guidelines.

ISO 9001:2008 CERTIFIED

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2008 standards. This certification recognizes that each AOC facility has an internationally accepted model in place for managing and assuring quality. We follow the practices set forth in this model to add value to the resins we make for our customers.

FOOTNOTES

(1) The gel times shown are typical but may be affected by catalyst, promoter, inhibitor concentration, resin, mold, and shop temperature. Variations in gelling characteristics can be expected between different lots of catalysts and at extremely high humidities. Pigment and/or filler can retard or accelerate gelation. It is recommended that the fabricator check the gelling characteristics of a small quantity of resin under actual operating conditions prior to use.

(2) *Flammability, toxicity and smoke development of composite parts is dependent on many variables, including the geometry of the part, the degree of cure of the laminate, reinforcement types - among many others. It is the end user's responsibility to ensure that finished parts meet the required specifications. Published flammability properties should be used for comparison purposes only.

(3) All testing was performed on a 3 ply 1.5 ounce CSM laminate at 22% glass. Post curing for 4 hours at 180°F/82°C prior to testing at third party accredited testing facility. Resin was prepared using 1.5% MEKP and 0.25% Cobalt 12%.



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