

Product Information

Vipel® Fire Retardant Isophthalic Polyester Resin

TYPICAL CAST MECHANICAL PROPERTIES * (1) see back page

Test	Unit of Measure	K733-A	K733-B	Test Method
Tensile Strength	psi/MPa	9,400/65	11,000/76	ASTM D 638
Tensile Modulus	psi/GPa	560,000/3.9	550,000/3.8	ASTM D 638
Tensile Elongation	%	1.9	2.4	ASTM D 638
Flexural Strength	psi/MPa	17,400/120	18,000/124	ASTM D 790
Flexural Modulus	psi/GPa	600,000/4.1	580,000/4.0	ASTM D 790
Heat Distortion Temperature °F/°C @ 264 psi		194/90	205/96	ASTM D 648
Barcol Hardness		40	44	ASTM D 2583



TYPICAL LIQUID RESIN PROPERTIES* (2) see back page

VERSIONS	Viscosity, cps	Thix Index	Gel Time, min	Gel to Peak, Exotherm min	Peak Exotherm, °F/C°	Specific Gravity	Styrene Content %
K733-APT-20	500 ¹	2.0 ²	20 ³	7	335/168	1.26	39
K733-ABB-00	185 ¹	NA	35 ⁴	15	355/179	1.21	39
K733-BPT-20	450 ¹	2.0 ²	20 ³	6	355/179	1.21	39

NA- Not applicable

1) 77°F/25°C Brookfield RV viscosity spindle 2 at 20 rpm

2) 2/20 rpm Thix Index

3) 77°F/25°C Gel time with 1.25% MEKP

4) 77°F/25°C Gel time with 0.25% Coblat 6 and 1.25% MEKP

*Typical properties are not to be construed as specifications.

FLAMMABILITY PROPERTIES (ASTM E-84 TUNNEL TEST)**

Version	ASTM E 84			
	% Antimony Trioxide	Flame Spread	Smoke Developed	Class
K733-A Series	-	20	600	I
K733-B Series	1.5	15	650	I

**Laminate Construction

2 plies of 2.0 ounce per square foot (600 grams per square meter) fiber glass chopped strand mat Fiberglass content - 30% Laminates were post cured at 212°F/100°C for 3 hours.

DESCRIPTION

AOC's Vipel® K733-A series is a fire retardant isophthalic polyester resin that meets ASTM E 84 Class I with no synergists added.

Vipel® K733-B is a fire retardant isophthalic polyester resin that meets ASTM E 84 Class I with 1.5% antimony trioxide added. Vipel K733 series resins are ideally suited for use in hand lay-up, spray-up and filament winding processes where outstanding mechanical properties and mild chemical resistance are required.

BENEFITS

Fire Retardant

The Vipel® K733-A requires no antimony trioxide spread to meet ASTM E 84 Class I flame spread requirements.

Vipel® K733-B requires only 1.5% antimony trioxide to meet ASTM E 84 Class I flame spread requirements.

Versatile

Wide formulating capabilities allow for use in many processes and for optimization of cost/performance.

Corrosion Resistance

Vipel® K733 provides mild chemical resistance to a number of chemical environments. Refer to AOC's "Corrosion Resistant Resin Guide" for corrosion resistance information or for questions regarding suitability of a resin to any particular chemical environment contact AOC.

Vipel® K733 Series Polyester Resin

PERFORMANCE GUIDELINES

A. Keep full strength catalyst levels between 1.0% - 2.5% of the total resin weight.

B. Maintaining shop temperatures between 65°F/18°C and 90°F/32°C and humidity between 40% and 90% will help the fabricator make a high quality part. Consistent shop conditions contribute to consistent gel times and will help the fabricator make a high quality part.

C. Finished part surfaces that have been cured at room temperature in contact with air should be relatively tack free. They may not, however, be fully cured and are thus not as resistant to chemicals as a fully cured part. If no further laminating is planned, a 10% solution of 5% paraffin wax solution (MP 115-118°F/46-48°C) in styrene may be added to the last resin layer to provide a tack free surface.

D. Optimum cure and performance may be obtained by post curing room temperature cured laminates for two hours at 158-212°F/ 70-100°C.

E. Room temperature curing by means of cobalt acceleration should be completed with low hydrogen peroxide content MEKP catalyst to minimize foaming.

STORAGE STABILITY

This product is stable for three months from the date of manufacture when stored in the original containers, away from direct sunlight or other UV light sources and at or below 25°C (77°F). Storage stability of two months or less should be anticipated if the storage temperature exceeds 30°C (86°F).

After extended storage, some drift may occur in the product viscosity and gel time.

SAFETY

See appropriate Material Safety Data Sheet for guidelines.

ISO 9001:2000 CERTIFIED

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2000 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)

Based on tests of Vipel K733-A series and Vipel K733-B at 77°F/25°C and 50% relative humidity. All tests performed on unreinforced cured resin castings. Thixotropic components, if applicable, are excluded from casting samples. Castings prepared using 1% BPO and cured for 4 hours at 160°F, 1 hour at 200°F, 1 hour at 240°F and 2 hours at 280°F.

(2)

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 fillers 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.

The information contained in this data sheet is based on laboratory data and field experience. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability for occurrences arising out of its use. The user, by accepting the products described herein, agrees to be responsible for thoroughly testing each such product before committing to production.

Our recommendations should not be taken as inducements to infringe any patent or violate any law, safety code or insurance regulation.



950 HIGHWAY 57 EAST
COLLIERVILLE, TN 38017
www.aoc-resins.com

NORTH AMERICA
Tel: 001(901) 854-2800
Fax: 001 (901) 854-7277
sales@aoc-resins.com

**ASIA, MIDDLE EAST
& LATIN AMERICA**
Tel: 001 (863) 815-5016
Fax: 001 (863) 815-4733
international@aoc-resins.com

EUROPE
Tel: (44) 1473 288997
Fax: (44) 1473 216080
europe@aoc-resins.com