AOC®
World Leader in Resin Technology

Vipel® K190 Series Polyester Resin

Fire Retardant Chlorendic Polyester Resin

TYPICAL CAST MECHANICAL PROPERTIES* (1) see back page

Test	Unit of Measure	Nominal	Test Method
Tensile Strength,	psi	8,500	ASTM D 638
Tensile Modulus,	psi	493,000	ASTM D 638
Elongation,	%	2.4	ASTM D 638
Flexural Strength,	psi	16,000	ASTM D 790
Flexural Modulus,	psi	550,000	ASTM D 790
Heat Distortion Temp.	°F	280	ASTM D 648
Barcol Hardness,		45	ASTM D 2583

TYPICAL LIQUID RESIN PROPERTIES* (2) see back page

Versions	Viscosity, cps	Thix Index	Gel Time, min	Gel to Peak, min	Peak Exotherm, °F/°C	Specific Gravity	Styrene Content %
K190-BFC-45	350 [1]	2.5 [2]	46 [3]	11	380	1.15	39
K190-BHC-26	350 [1]	2.5 [2]	25 [4]	13	387	1.14	43
K190-BPT-15	500 [5]	2.0 [6]	15 [4]	12	385	1.15	39
K190-RTM-17	240 [1]	NA	17 [4]	8	387	1.15	40
K190-BTT-00	525 [5]	2.0 [6]	18 [7]	14	375	1.13	42

NA- Not applicable
1) 77°F Brookfield LV viscosity spindle 3 at 60 rpm
2) 6/60 rpm Thix Index
3) 77°F Gel time with 1.5% MEKP
4) 77°F Gel time with 1.25% MEKP
5) 77°F Brookfield RV viscosity spindle 2 at 20 rpm
6) 2/20 rpm Thix Index
7) 77°F Gel time with 0.6% cobalt 6% and 1.25% MEKP

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

	ASTM E 84			
Version	% Antimony Trioxide	Flame Spread	Smoke Developed	Class
K190-B and T Series	3	35	445	II

Laminate Construction
2 plies of 600 grams per square meter/fiber glass chopped strand mat. Fiberglass content - 30%
Laminates were post cured at 212°F for 3 hours.

DESCRIPTION

Vipel K190 series is a chlorendic polyester resin designed for fire resistant and corrosion resistant applications. K190 series resin is designed to be used in demanding chemical environments such as hot wet chlorine and oxidizing chemicals.

BENEFITS

Flame/Smoke Resistance

Vipel K190-B series resin meet ASTM E 84 Class II when 3.0% antimony trioxide is added.

Heat Resistance

Vipel K190-B series is designed for high temperature applications.

Versatile

Suitable for various fabricating methods such as hand lay-up, filament winding, etc.

Corrosion Resistance

Vipel K190 is highly resistant 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.

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PERFORMANCE GUIDELINES

A. Keep full strength catalyst levels between 1.0% - 2.0% of the total resin weight.

B. Maintaining shop temperatures between 65°F and 90°F 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 (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.

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 77°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 K190-B at 77°F and 50% relative humidity. All tests performed on unreinforced cured resin castings. Thixotropic components, if applicable, are excluded from casting samples. Castings were post cured.

(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.

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