

## Vipel Elastomeric Bisphenol A, Epoxy Vinyl Ester Resin

### TYPICAL PROPERTIES OF CURED RESIN\* (1) see back page

Test	Units of Measure	Nominal	Test Method
Tensile Strength,	psi/MPa	10,600/73	ASTM D 638
Tensile Modulus,	psi/GPa	490,000/3.4	ASTM D 638
Tensile Elongation, at break	%	9.1	ASTM D 638
Flexural Strength,	psi/MPa	17,100/118	ASTM D 790
Flexural Modulus,	psi/GPa	490,000/3.4	ASTM D 790
Heat Distortion Temperature, °F/°C @ 264 psi		199/93	ASTM D 648
Barcol Hardness		35	ASTM D 2583

### TYPICAL LIQUID RESIN PROPERTIES\* (2) see back page

VERSIONS	VISCOSITY, Cps	THIX INDEX	GEL TIME, minutes	GEL TO PEAK EXOTHERM, minutes	PEAK EXOTHERM, °F/°C	SPECIFIC GRAVITY	STYRENE CONTENT, %
F017-AAA-00	350 <sup>1</sup>	NA	15	6	351/177	1.03	40

NA- Not applicable

- 1) 77°F/25°C Brookfield RV viscosity spindle 2 at 20 rpm
- 2) 77°F/25°C Gel time with 0.5% Cobalt 6%, 0.3% DMA and 2.0% MEKP

### DESCRIPTION

The Vipel F017 Series are elastomeric, bisphenol A epoxy vinyl ester resins. Vipel F017-AAA-00 is a non-promoted, non-thixotropic resin that can be formulated as needed.



### BENEFITS

#### Low VOC content

Versions are available that are less than 40% styrene.

#### Bonding

AOC's Vipel F017 Series resins are designed as a primer for bonding fiberglass laminates to steel and other substrates.

#### Resilience

It can also be used to manufacture hand lay-up, spray-up or filament wound parts that require a great deal of resilience.

#### Versatile

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

# Vipel® F017 Series Elastomeric Bisphenol A Epoxy Vinyl Ester 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.

## 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.

## STORAGE STABILITY

This product is stable for seven 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/25°C.

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

## FOOTNOTES

### (1)

Based on tests on Vipel F017-AAA-00 Series 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 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/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.



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