

# Vipel Resilient Isophthalic Polyester Resin

### TYPICAL CAST MECHANICAL PROPERTIES \* (1) see back page

Test	Unit of Measure	Nominal	Test Method
Tensile Strength	psi/MPa	12,400/85.5	ASTM D 638
Tensile Modulus	psi/GPa	490,000/3.4	ASTM D 638
Tensile Elongation	%	4.0	ASTM D 638
Flexural Strength	psi/MPa	20,400/141	ASTM D 790
Flexural Modulus	psi/GPa	570,000/3.9	ASTM D 790
Heat Distortion Temperature °F/°C at 264 psi		197/92	ASTM D 648
Izod Impact, ft-lbs/inch of notch		4.2	ASTM D 4812
Barcol Hardness		39	ASTM D 2583

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

Versions	Viscosity, cps	Thix Index	Gel Time, min	Gel to Peak, Exotherm	Peak Exotherm, °F/°C	Specific Gravity	Styrene Content %
F737-BBX-00	450 <sup>1</sup>	NA	12 <sup>8</sup>	10	374/190	1.10	40
F737-BTB-20	350 <sup>1</sup>	NA	20 <sup>2</sup>	8	410/210	1.09	43
F737-FBB-15	450 <sup>3</sup>	2.0 <sup>4</sup>	15 <sup>5</sup>	10	390/199	1.08	44
F737-FFF-00	2000 <sup>6</sup>	NA	5 <sup>7</sup>	3	415/213	1.14	31

NA- Not applicable

- 1) 77°F/25°C Brookfield RV viscosity spindle 2 at 20 rpm
- 2) 77°F/25°C Gel time with 1.1% BPO
- 3) 77°F/25°C Brookfield LV viscosity spindle 3 at 60 rpm
- 4) 6/60 rpm Thix Index
- 5) 77°F/25°C Gel time with 1.25% MEKP
- 6) 77°F/25°C Brookfield RV viscosity spindle 3 at 10 rpm
- 7) 180°F/82°C SPI gel with 1.0% BPO
- 8) 77°F/25°C gel time with 0.25% Cobalt - 12% and 1.5% MEKP

\*Typical properties are not to be construed as specifications.

### DESCRIPTION

AOC's Vipel F737 series is a resilient isophthalic polyester resin with excellent mechanical properties. Vipel F737 resins are used extensively in grating and in the construction of large diameter water pipes for transporting water to and from power stations. Vipel F737 resins can be adapted for a variety of fabrication processes.



### BENEFITS

#### Internationally Recognized

Vipel F737 series resins have been used in many corrosion resistant applications such as grating and water pipes, etc.

#### Corrosion Resistance

This resin provides excellent corrosion resistance when used in contact with inorganic and organic acids. 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.

#### Versatile

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

#### Food and Drug

All resins in this datasheet are manufactured from raw materials that are listed in FDA regulation Title 21 CFR 177.2420. It is the fabricator's responsibility to also be sure that the final composite is well cured. All composites used for FDA applications should be post cured at 180°F/82°C for at least 4 hours. After post curing, laminate should be washed with soap and water and rinsed.

# Vipel® F737 Series Polyester Resin

## PERFORMANCE GUIDELINES

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

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

**C.** Sanding and/or grinding is recommended if a secondary bond is applied to a laminate that was made with a resin containing wax.

## STORAGE STABILITY

Vipel F737 Series is stable for 7 months from the date of manufacture when stored in original containers, away from direct sunlight or other UV light sources and at or below 77°F/25°C. All of the other products are stable for 3 months from the date of manufacture when stored in 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.

## SAFETY

See appropriate Material 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)

Based on tests of the base resin with 40% styrene 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 postcured.

### (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.



### Global Contacts

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