

Product Information

HYDROPEL® Vinyl Ester Modified Resin

TYPICAL CAST MECHANICAL PROPERTIES (2) see back page

	Nominal	Test Method
Tensile Strength, psi/MPa	10,400	ASTM D-638
Tensile Modulus, psi/GPa	580,000/4.0	ASTM D 638
Tensile Elongation, %	2.35	ASTM D 638
Flexural Strength, psi/MPa	17,500/125	ASTM D 790
Flexural Modulus, psi/GPa	600,000/4.1	ASTM D 790
Heat Distortion Temperature, °F/°C @ 264 psi	216/102	ASTM D 648

TYPICAL LIQUID RESIN PROPERTIES*

Viscosity @ 77°F/25°C, LV Brookfield	
Spindle #3 @ 60 rpm, cps.	500
Thix Index (6/60 rpm)	2.5+
Maximum Styrene, %	=/<35%
Gel Times available at 20, 30, 40 minutes using 1.25% DDM-9	



DESCRIPTION

Hydropol® H032-E is a thixotropic, pre-promoted, vinyl ester modified resin.

APPLICATION

Hydropol® H032-E is designed for use in the manufacturing of boats or other composite parts using hand lay-up or spray-up application methods. Hydropol® H032-E is designed to be used for the construction on the total composite.

BENEFITS

- Superior resistance to osmotic blistering when used for the complete composite.
- Improved strength and toughness of the finished composite part when used for the total composite.
- Good surface profile, with reduced post cure on finished parts.
- Meets requirements for low styrene resins in the marine industry.
- Some versions comply with California's AQMD Rule 1162

HYDROPEL® H032-E

PERFORMANCE GUIDELINES

A. Keep full strength catalyst levels between 1.0% - 2.0% (1.25% minimum with mechanical application) 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.

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.

During the hot summer months, no more than two months stability at 86°F/30°C should be anticipated.

After extended storage, some drift may occur in gel time.

Storage in plastic totes made out materials such as polyethylene (PE) or polypropylene (PP), in particular translucent PE/PP, will accelerate gel formation and result in a significantly reduced storage stability.

Storage of this resin outdoors in translucent plastic totes may reduce the storage stability to only a few weeks. AOC cannot assume responsibility for gel formation under these storage conditions.

SAFETY

See appropriate Material Safety Data Sheet for guidelines.

APPLICATION GUIDELINES

Due to the excellent curing characteristics of Hydropel® H032-E resin, complete all secondary bonding as soon as possible. Exposing the laminate to sunlight will result in severe secondary bonding problems. After 24 hours of cure, it may be necessary to abrade the laminate to insure good secondary bonding, especially if the surface of the laminate is resin rich. Avoid low fiber-glass content and resin puddling with this product.

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.

Chemical resistance studies indicate that resins like Hydropel® H032-E have poor resistance to certain hydrophobic liquids, such as hydrocarbons. Fuel storage tanks should not be produced with the Hydropel® H032-E resin.

If your manufacturing needs require a more corrosion resistant resin, please contact your AOC representative for information or technical assistance on AOC's line of isophthalic or vinyl ester resins.

ISO 9001:2000 CERTIFIED

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9002 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 and inhibitor concentrations and 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.

(2)

Based on tests of 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 are post cured for 5 hours at 212°F/100°C using AOC test method X-12Ab.



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