Your Formula for Success
RESINS | GEL COATS | COLORANTS

HYDROPEL® H034-A SERIES VINYL ESTER RESIN

Product Information

PREMIUM PERFORMANCE MODIFIED VINYL ESTER RESIN

Typical Cast Mechanical Properties [1]			
Test	**Unit of Measure**	**Nominal**	**Test Method**
Tensile Strength	psi/MPa	11,600/80	ASTM D 638
Tensile Modulus	psi/GPa	580,000/4.0	ASTM D 638
Tensile Elongation	%	2.7	ASTM D 638
Flexural Strength	psi/MPa	19,000/131	ASTM D 790
Flexural Modulus	psi/GPa	600,000/4.1	ASTM D 790
Heat Distortion Temperature	°F/°C @264 psi	225/107	ASTM D 648

Typical Liquid Properties[2]		
Test	**Unit of Measure**	**Nominal**
25C Viscosity Brookfield, LV		
Spindle #3 @ 60 rpm	cps	500
Thix Index, 6/60		3.0

Available 20-40 minute gel time versions using 1.25% MEKP type catalyst.

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

DESCRIPTION

AOC's Hydropel H034-A Series is a thixotropic, pre-promoted, modified vinyl ester resin.

APPLICATION

AOC's Hydropel H034-A Series is designed for use in the manufacturing of boats or other composite parts using hand lay-up or spray-up application methods. For boat fabrication, Hydropel H034-A Series can be used either in a skin coat or for the complete laminate to obtain the maximum benefits

BENEFITS

- Good resistance to osmotic blistering when used for the skin coat or the complete composite.
- Excellent strength and toughness of the finished composite part.
- Provides improved resistance to cracking caused by the flexural failure of the laminate even when used only for the skin coat.
- Good surface profile, with reduced post cure on finished parts.
- Meets MACT requirements for low HAP resins in the marine industry.

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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.

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 and viscosity.

Storage in plastic totes made out of 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.

APPLICATION GUIDELINES

Due to the curing characteristics of the Hydropel H034-A Series resin, it is desirable to complete all secondary bonding as soon as possible. Exposure of the laminate to the sunlight will result in severe bonding problems. After 24 hours of cure, it may become necessary to abrade the laminate to insure good secondary bonding, especially if the surface of the laminate has been allowed to become resin rich. Low fiberglass content and resin puddling should be avoided 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 H034-A Series have poor resistance to certain hydrophobic liquids, such as hydrocarbons. Fuels storage tanks should not be produced with the Hydropel H034-A Series 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.

SAFETY

See the appropriate 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 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.

(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.

AOC

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