

## Hydropel Low Styrene Content Vinyl Ester Laminating Resin

### TYPICAL CAST MECHANICAL PROPERTIES\* (2) see back page

Test	Nominal	Test Method
Tensile Strength, psi/MPa	13,600/94	ASTM D 638
Tensile Modulus, psi/GPa	500,000/3.4	ASTM D 638
Tensile Elongation, %	4.5	ASTM D 638
Flexural Strength, psi/MPa	22,000/155	ASTM D 790
Flexural Modulus, psi/GPa	530,000/3.7	ASTM D 790
Heat Distortion Temperature, °F/°C @ 264 psi	250/121	ASTM D 648

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

### TYPICAL LIQUID RESIN PROPERTIES\* (1) SEE BACK PAGE

Version	Viscosity cps,	Thix Index	Gel Time,min	Total cure time	Peak exotherm °F/°C	Catalyst type/Level	Styrene %
H100-CFA-20	650	3.8	20	26	374/190	2% HiPoint 90	35



### DESCRIPTION

AOC's Hydropel H100-CFA-20 is a thixotropic, prepromoted, 100% epoxy based vinyl ester resin.

### APPLICATION

AOC's Hydropel H100-CFA-20 is designed for use in the manufacturing of boats, backing thermoformed acrylic and construction of other various composite parts using hand lay up and spray up techniques.

### BENEFITS

- Excellent resistance to osmotic blistering even when used for only the skin coat.
- Excellent strength and toughness of the composite.
- Provides excellent resistance to cracking caused by flexural failure of the laminate.
- Low Color
- Minimal Air Entrapment
- Less than 35% Styrene

# HYDROPEL® H100-CFA-20

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

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

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

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

## SAFETY

See appropriate Material Safety Data Sheet for guidelines.

## APPLICATION GUIDELINES

Due to the curing characteristics of the H100-CFA-20 resin it is desirable to complete all secondary bonding as soon as possible. Exposure of the laminate to sunlight will result in severe secondary 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 have been allowed to become resin rich. Low fiberglass content and resin puddling should be avoided with this product.

To assure adequate bonding to acrylics, fabricators should pre-wet the acrylic surface with a thin pass of catalyzed resin prior to lamination.

The ability to an unsaturated polyester resin to bond to acrylic is influenced by many factors. Resins is only one of the factors. The type and color of the acrylic used, and the conditions during the thermoforming process are but a few of the factors that effect the ability of the resin to bond to the acrylic. Therefore, it is vitally important that the fabricator evaluates for themselves the fitness of this product for their processes.

To insure a high quality fabricated parts, AOC recommends that fabricators utilize "Best Practice Guidelines" for polyester resins vinyl ester resins & acrylic sheet

## 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)

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 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.



## Global Contacts

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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.