

Product Information

Altek® General Purpose Orthophthalic Polyester Laminating Resin

TYPICAL CAST MECHANICAL PROPERTIES* (2) see back page

	Nominal	Test Method
Tensile Strength, psi/MPa	10,500/72	ASTM D 638
Tensile Modulus, psi/GPa	590,000/4.1	ASTM D 638
Tensile Elongation, %	2.5	ASTM D 638
Flexural Strength, psi/MPa	18,500/128	ASTM D 790
Flexural Modulus, psi/GPa	580,000/4.0	ASTM D 790
Heat Distortion Temperature, °F/°C at 264 psi	158/70	ASTM D 648

*Typical properties are not to be construed as specifications.

TYPICAL LIQUID RESIN PROPERTIES*

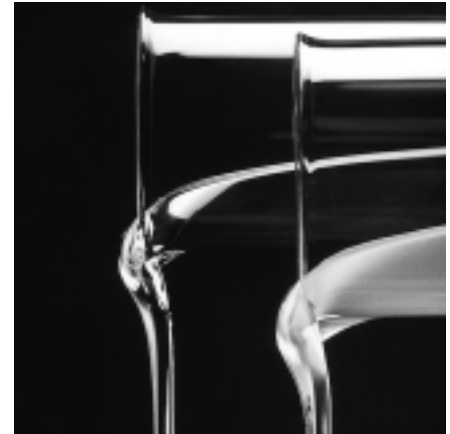
Viscosity LV #3@60	460
Thix Index	3.0
Styrene %,	35
Gel Time, 1% Butanox M-50	
Gel to Peak	12.0
Peak Temperature °C	163

APPLICATIONS

AOC's Altek® H559-B is designed for use in the manufacturing of composite parts using hand lay-up or spray-up application methods. For those marine applications where improved resistance to blistering is required, we recommend a skincoat of Hydropel® H034-A, H100W, or H100-M be applied on the hull prior to the application of AOC's Altek H559-B.

DESCRIPTION

AOC's Altek H559-B is a prepromoted, thixotropic, general purpose medium reactive orthophthalic polyester resin.



BENEFITS

Fast Cure

The medium reactivity of AOC's Altek H559-B resin allows for complete rapid cure of the composite even in relatively thin composites when used with the recommended peroxide levels and application temperature.

Adaptability

AOC's Altek H559-B resin is designed to be used successfully for the fabrication of type and sizes of composites using differing application methods under varying conditions.

Good secondary bonding

Both the non air inhibited and the air inhibited versions of Altek H559-B provide good chemical bonding between laminate application if proper application procedures are followed. The air inhibited versions provides the best secondary bonding and should be used in application where maximum secondary bonding is required.

Superior mechanical properties

When used with the proper glass reinforcement content, AOC's Altek H559-B produces a composite with superior mechanical properties that can assist in the reduction of cracking.

Altek® H559-B Series Polyester Resin

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

This product is stable for three 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 25°C (77°F). Storage stability of two months or less should be anticipated if the storage temperature exceeds 30°C (86°F).

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

SAFETY

See appropriate Material Safety Data Sheet for guidelines.

APPLICATION GUIDELINES

AOC's Altek® H559-B Series provides good secondary bonding under normal conditions. However, exposing the laminate to direct sunlight, high temperatures, or dusty conditions can greatly reduce secondary bonding. The non air inhibited versions of Altek® H559-B Series are designed to provide a good fast surface cure. Secondary bonding with these resins can be reduced over an extended period of time even under normal conditions. After an extended period of time it may be necessary to abrade the laminate to insure the maximum secondary bonding.

Caution: AOC's Altek® H559-B contains a surfacing agent that needs to be removed from the cured laminate prior to the application of subsequent layers. The laminate surface should be ground down to expose the glass fibers of the composite. Failure to prepare the laminate surface can cause delamination failures.

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 Altek® H559-B Series have very poor resistance to certain hydrophobic liquids, such as hydrocarbons. Fuel storage tanks should not be produced with the Altek® H559-B Series resin.

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.

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 run 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.

The information contained in this data sheet is based on laboratory data and field experience. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability for occurrences arising out of its use. The user, by accepting the products described herein, agrees to be responsible for thoroughly testing each such product before committing to production.

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



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