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RESINS | GEL COATS | COLORANTS

# ALTEK® C431-C SERIES POLYESTER RESIN

# Product Information

## LOW STYRENE ACRYLIC BONDING POLYESTER RESIN

| Typical Cast Mechanical Properties* 1 SEE BACK PAGE | | | |
|---|---|---|---|
| **Test** | **Unit of Measure** | **Nominal** | **ISO Methods** |
| Tensile Strength | psi/MPa | 11,600/80 | ASTM D 638 |
| Tensile Modulus | psi/GPa | 580,000/4.0 | ASTM D 638 |
| Tensile Elongation | % | 2.5 | ASTM D 638 |
| Flexural Strength | psi/MPa | 16,500/114 | ASTM D 790 |
| Flexural Modulus | psi/GPa | 620,000/4.3 | ASTM D 790 |
| Heat Distortion Temp. | °F/°C @ 264 psi | 158/70 | ASTM D 648 |

| Typical Liquid Properties* 2 SEE BACK PAGE | | | | | |
|---|---|---|---|---|---|
| Version | Filler Type & Loading | Temp | Viscometer Spindle Speed | Viscosity Thix Index | Initiator Level/Type |
| C431-CCA-13 | 55% Valu-fil 650 | 29.4°C | LV 4 @ 6/60 | 2340/3.75 | 1.5% DDM-9 |
| C431-CCB-09 | 50% PMC-SP | 29.4°C | RV 4 @ 5/50 | 1270/4.45 | 1.5 MEKP-925 |
| C431-CCF-17 | 55% Valu-fil 650 | 29.4°C | LV 4 @6/60 | 3200/5.40 | 1.5% MEKP-9 |

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

## DESCRIPTION

Altek C431-C is AOC's new generation acrylic bonding resin. It is a pre-promoted, thixotropic polyester resin.

## APPLICATION

Altek C431-C is designed to be used with filler and has been carefully engineered to maximize filler loading without compromising quality of finished parts. It is used for backing vacuumed formed acrylic.

## BENEFITS

- Unique design for quicker hardness development, which speeds up mold turnover and increases rate of production
- Excellent adhesive to formed acrylic resulting in greater integrity of the laminate and finished parts
- Capable of higher filler loading without loss of physical properties insuring that as filler is increased, the rate of cracking at demold does not increase which maximizes the end product
- Designed for improved wet out and roll out of the laminate

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# C431-C 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 viscosity.

## STORAGE STABILITY

Resins are stable for three months from the date of manufacture 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 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 excellent curing characteristics of the Altek C431-C 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 fiberglass content and resin puddling with this product.

Caution:
The ability of an unsaturated polyester resin to bond to acrylic is influenced by many factors. Resin is only one of these factors. The type and amount of filler used, type and color of 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 fabricators evaluate for themselves the fitness of this product for their process.

To insure high quality fabricated parts, AOC strongly encourages fabricators to utilize "Best Practices Guidelines" for polyester resin, ABS and acrylic sheet.

## SAFETY

See the appropriate Safety Data Sheet for guidelines.

## ISO 9001:2015 CERTIFIED

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2015 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 at 77°F/25°C and 50% relative humidity. All tests performed on unreinforced cured resin castings. Castings were 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.


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