



Orca 249

Polyester Fillable Resin

DESCRIPTION

ORCA 249 is a semirigid, medium reactive, low viscosity, low exotherm polyester resin.

APPLICATIONS

ORCA 249 is designed to be used with filler in the fabrication of tubs, shower stalls and spas in hand layup spray up.

BENEFITS

Cure Profile

Designed for good even cure with moderate exotherm.

Wetout/Rollout

Designed for ease of processability.

APPLICATION GUIDELINES

Due to the curing characteristics of Orca 600, 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.

Fuel storage tanks should not be produced with Orca 249 resin.

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

ISO 9001:2000 CERTIFIED

The Quality Management Systems at every manufacturing facility have been certified as meeting ISO 9001:2000 standards. This certification recognizes that each 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.

Typical Liquid Resin Properties* Filled at 38% ATH	Nominal
Viscosity @ 77°F/25°C, RVF Brookfield Spindle #3 @ 20 RPM, cps.	1350
Thix Ratio	4.25
Styrene, %	47

Typical Filled Curing Properties* (1)

Gel time @ 77°F/25°C	
Catalyst, 1.0% MEKP-9	
Gel Time, minutes	10
Gel to peak, minutes	31
Peak Exotherm, °F/°C	225/107

Typical Cast Mechanical Properties * (2)

Typical Cast Mechanical Properties * (2)	Test Method
Tensile Strength, psi/MPa	10,000/69.0 ASTM D 638
Tensile Modulus, psi/GPa	520,000/3.6 ASTM D 638
Tensile Elongation, %	2.8 ASTM D 638
Flexural Strength, psi/MPa	20,900/144.1 ASTM D 790
Flexural Modulus, psi/GPa	590,000/4.1 ASTM D 790
Heat Distortion Temperature °F/°C @ 264 psi	144/62 ASTM D 648

*Typical properties are not to be construed as specifications

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 four 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.

Storage in plastic 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.

Orca Composites can not assume responsibilities for gel under these storage conditions.

SAFETY

See appropriate Material Safety Data Sheet for guidelines.

(2) Based on tests of Orca 249 base resin at 77°F/25°C and 50% relative humidity. All tests performed on unreinforced cured resin castings. Castings prepared using 1.25% MEKP, 0.125% Cobalt 12% post cured for 2 hours at 194°F/90°C using AOC test method X-12Ab.

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