

STYPOL[®]

040-4917

Acrylic Modified Gel Coat

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Type

STYPOL[®] 040-4917 is a clear, acrylic modified NPG[®] isophthalic gel coat.

Uses

STYPOL[®] 040-4917 has been designed for use in the manufacture of cultured marble, onyx, and granite.

Distinguishing Characteristics

- Excellent dimensional stability during hot and cold water cycling
- Excellent chemical and water resistance
- Good spray ability
- Excellent non-sagging properties
- High clarity
- UV Light stabilized
- Good color retention
- Suitable for low pressure spray equipment
- Meets gel coat test specifications according to ANSI Z124.3
- Meets the BAAQMD, Regulation 8-50-1, Method 26 (Bay Area AQMD of Northern California)



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Test	Typical Value
Non-Volatile Material ⁽¹⁾	50.5%
Viscosity ⁽²⁾	2800 cps
Thixotropic Index	7.0
Gel Time ⁽³⁾	12 minutes
Castable Time ⁽⁴⁾	45 minutes
Weight per Gallon	8.75 lbs.
Specific Gravity, 77°F/77°F (25°C/25°C)	1.050

⁽¹⁾For HAP and Monomer content information please refer to the MSDS

⁽²⁾Brookfield RVF #3 Spindle @ 20 rpm

⁽³⁾100 g mass, 2.0% Arkema Luperox DDM-9

⁽⁴⁾Castable Time refers to the point at which a gel coat film is ready to be cast upon.

Physical Properties

The physical properties of **STYPOL[®] 040-4917** are shown below. Properties are shown for a neat resin casting. These are typical values and are provided for reference only.

Note: The physical properties of thermoset resins evolve as the resin cures. The properties given below are for well cured castings and laminates. Resin and laminates at different stages of cure will have varying properties.

Test	Test Method ¹	Neat Resin Casting
Tensile Strength	ASTM D638	10,400 psi
Tensile Modulus		440,000 psi
Tensile Elongation		2.9%
Flexural Strength	ASTM D790	18,500 psi
Flexural Modulus		570,000 psi
Impact	ASTM D256	3.43 ft-lb
Barcol Hardness, Model #934	ASTM D2583	35
Heat Distortion Point at 264 psi	ASTM D648	181°F (83°C)

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Application

STYPOL® 040-4917 should be mixed prior to use. Use mixing equipment with sufficient horsepower (relative to container size) to achieve thorough circulation from top to bottom and out to the sides of the container. The agitator must be properly sized for the container and must allow for uniform mixing regardless of the liquid level in the container. Mixing once a day for 10 minutes is typically sufficient. Air bubbling should not be used for mixing. It is not effective and only serves as a potential source of water or oil contamination. Do not over mix STYPOL® 040-4917. Over mixing can break down the resin viscosity increasing the tendency to sag.

The cure rate of polyester resins depends on a number of factors including the product's age, temperature, catalyst type, catalyst level and ambient humidity. When used in a laminating application the laminate cure rate also depends on reinforcement content and laminate thickness as well as other factors. For these reasons, we recommend that customer's check the cure rate in your plant.

STYPOL® 040-4917 is quality control tested using Arkema Luperox® DDM-9, Syrgis NOROX® MEKP-9 and NOROX® MEKP-9H, and Akzo Nobel CADOX D-50 are expected to yield similar performance. Arkema Luperox® DHD-9, Syrgis NOROX® MEKP-925 and NOROX® MEKP-925H, Akzo Nobel CADOX L-50a and Chemtura HP-90 may also be used, but gel times will vary.

The recommended catalyst range for proper cure is 1.5% to 2.5%, with 2.0% at 77°F being ideal. This product should not be used when temperature conditions are below 60°F, as curing may be adversely affected.

STYPOL® 040-4917 is designed for use with airless system gel coat applications. Suggested parameters are an 1840 tip, 450 psi fluid pressure, 15-20 psi assist pressure, and five-to-eight mil applications per pass. It is advisable to allow some time between passes for air release. Apply 16 to 20 on the deck and 20 to 25 on the bowl.

Further information detailing use of these products can be found in the *CCP Composites Application Guide*.

Caution

Do not add any material, other than the recommended methyl ethyl ketone peroxide, to this product without the advice of a representative of CCP Composites US.

Storage Limitations

STYPOL® 040-4917 has a shelf life of 90 days from date of shipment from CCP when stored at 73°F or below in a closed, factory-sealed, opaque container and out of direct sunlight. The usage life is cut in half for every 20°F over 73°F.

Data Sheets/MSDS

CCP data sheets and MSDS's are available in printable format at www.ccpcompositesus.com.

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(Rev. 01/12)

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COMPOSITES SAFETY INFORMATION (October 2011)

All sales of products manufactured by CCP Composites US (CCP), and described herein, are made solely on condition that CCP's customers comply with applicable health and safety laws, regulations and orders relating to the handling of our products in the workplace. Before using, read the following information, and both the product label, and Material Safety Data Sheet pertaining to each product.

Most products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash thoroughly after use.

Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and, if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not ingest or breathe vapor, spray mists or dusts caused by applying, sanding, grinding and sawing products. Wear an appropriate NIOSH/MSHA approved and properly fitted respirator during application and use of these products until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapors, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The International Agency for Research on Cancer (IARC) reclassified styrene as Group 2B, "possibly carcinogenic to humans." This revised classification was not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and published the following statement: Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene.

Styrene is classified by OSHA and the Department of Transportation as a flammable liquid. Flammable products should be kept away from heat, sparks, and flame. Lighting and other electrical systems in the work place should be vapor-proof and protected from breakage.

Vapors from styrene may cause flash fire. Styrene vapors are heavier than air and may concentrate in the lower levels of molds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapors well below the lower explosion limit and all air contaminants (vapor, mists and dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.

Some products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Material Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your CCP representative or from: CCP Composites US, P.O. Box 419389, Kansas City, MO 64141-6389; 816-391-6053.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention.

Those products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages read all warning labels. Observe all precautions.

Keep containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

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