



STYPOL[®]

040-4950, 040-4954, 040-4956, 040-4965 Marble Clear Gel Coats

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Description

STYPOL[®] 040-4950, 040-4954, 040-4956 and 040-4965 are clear MACT compliant NPG isophthalic gel coats. They have been designed for use in the manufacturing of cultured marble, onyx, and granite.

Features and Benefits

- Low VOC / HAP content (42% or less)
- Excellent sprayability
- Excellent nonsagging properties
- High clarity
- Excellent chemical and water resistance
- Excellent thermal shock resistance ⁽¹⁾
- UV light stabilized
- Good color retention
- Suitable for low pressure spray equipment
- Meets gel coat test specifications according to ANSI Z124.3
- Meets BAAQMD, Regulation 8-50-1, Method 26 (Bay Area AQMD of Northern California)

⁽¹⁾ Note: It is important to remember that many factors other than resin influence the outcome of whether a cultured marble part will pass the Thermal Shock Test.

Typical Liquid Properties

Typical liquid properties of STYPOL[®] 040-4950, 040-4954, 040-4956 and 040-4965 are shown below. These values may or may not be manufacturing control criteria. They are listed as a reference guide only. Particular batches won't conform exactly to the numbers listed because storage conditions, temperature changes, age, testing equipment (type and procedure) can each have a significant effect on the testing. Products with properties outside of these readings can perform acceptably. Final suitability of this product is shown in the end use performance.



Test	040-4950	040-4954	040-4956	040-4965
Viscosity ⁽¹⁾	3,000 cps	2,800 cps	2,850 cps	3,000 cps
Thixotropic Index (2/20)	6.4	6.3	6.7	6.5
% VOC	42%	40%	41%	42%
Weight per Gallon	9.07 lbs	9.12 lbs	9.09 lbs	9.12 lbs
Specific Gravity	1.089	1.095	1.091	1.095
Gel Time ⁽²⁾	6 minutes	6.3 minutes	7.5 minutes	4.5 minutes
Castable ⁽³⁾	35 minutes	--	--	--

⁽²⁾ Brookfield RVF #3 Spindle, 20 rpm @ 77°F

⁽³⁾ 2% Arkema DDM-9 @ 77°F

⁽⁴⁾ "Castable" refers to the point at which a gel coat film is ready to be cast upon. Use of heat (90-120°F), such as "gel coat curing tunnels," can reduce castable time.

STYPOL® 040-4950 is the fastest gel and cure version available and is designed for use in colder temperatures.

Application

STYPOL® 040-4950, 040-4954, 040-4956 and 040-4965 gel coats must be mixed prior to use. This includes prior to production spray application and when obtaining material for patching or any material that has been set aside for patching. Several suitable types of mixing equipment and styles of agitators are available for both pails and drums. Regardless of the specific type used, the equipment must have 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. Do not overmix STYPOL® 040-4950, 040-4954, 040-4956 and 040-4965 gel coats. Overmixing can break down the polymer coating viscosity increasing the tendency to sag. Overmixing can also result in styrene loss which could contribute to porosity. Air bubbling should not be used for mixing. It is not effective and only serves as a potential source of water or oil contamination.

Low VOC gel coats need to be at 75°F or higher for good sprayability. STYPOL® 040-4950, 040-4954, 040-4956 and 040-4965 are designed for use with airless system gel coat applications. Suggested parameters are an 1840 or 518 tip, 500 to 700 psi fluid pressure, 15 to 20 psi assist air pressure, and 5-7 mils per pass. A large diameter fluid hose as well as an inline heater improves the pumping and sprayability of the material. Because of the lower monomer content, the fan pattern is smaller than with standard gel coats. Tip sizes larger than 18 do not atomize the gel coat correctly.

STYPOL® 040-4950, 040-4954, 040-4956 and 040-4965 have also been sprayed through a FIT System using a 1727 tip, 350 to 500 psi of fluid pressure and catalyst air at 15 psi pressure. Use a 1/2-inch hose with a 3/8-inch whip.

Higher pump pressures may be needed with smaller diameter hoses (do not go below 3/8 inch hose) or with lower gel coat temperatures.

It is advisable to allow some time between passes for air release. Apply 16 to 20 mils on the deck and up to 22 mils on the bowl in three passes.



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Determining castable time can be accomplished with a simple finger test. If a light drag of a finger over the gel coat film picks up gel coat, the gel coat is not yet ready. However, if the same light drag picks up NO gel coat, the matrix can be poured. Note that even when the gel coat is cured, it will be possible to pick up gel coat by applying direct pressure (as opposed to a light drag), and with such pressure, a slight finger print may appear on the cured gel coat film.

It is recommended that gel time be checked in the customer's plant because age, temperature, humidity and catalyst will produce varied gel times. The recommended catalyst range for proper cure is 1.5% to 2.5%, with 2.0% being ideal.

This product should not be used when temperature conditions are below 75°F, as curing may be adversely affected.

Caution

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

Storage Limitations

Uncatalyzed, STYPOL® 040-4950, 040-4954, 040-4956 and 040-4965 have a shelf life of 60 days from date of manufacture when stored at 73°F or below, in a closed, factory-sealed, opaque container and out of direct sunlight. The shelf life is cut in half for every 20°F over 73°F.

SDS / Data Sheets

SDS and data sheets can be obtained by contacting your Polynt representative or Polynt Customer Service at 800-322-8103.

POLYNT SAFETY INFORMATION

All sales of products manufactured by Polynt Composites USA Inc. and described herein, are made solely on condition that Polynt Composites USA 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 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 12th Report on Carcinogens issued by the National Toxicology Program lists styrene as a "reasonably anticipated" carcinogen, but the Report cautions that the NTP listing does not mean that styrene presents a risk to persons in their daily lives. The Styrene Information and Research Center does not agree with the classification as it did not include a review of all available data. SIRC states: "HHS included styrene in the 12th RoC despite the fact that European Union regulators have determined styrene does not represent a human cancer concern. E.U. scientists reviewed the full styrene database, weighing all of the available data in reaching their conclusion."

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 workplace 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 Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your Polynt Composites representative or from: Polynt Composites USA Inc., 99 East Cottage Avenue, Carpentersville, IL 60110, 800-322-8103.

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.

FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY. KEEP OUT OF REACH OF CHILDREN.

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LIMITED WARRANTY.

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- (a) Seller's total liability for any claim arising out of or in connection with this contract, including for breach of contract, warranty, statutory duty, or for other tort, including seller's negligence, shall not exceed the purchase price of such product as to which such liability arises. Seller shall not be liable for any injury, loss or damage, resulting from the handling or use of the product shipped hereunder whether in the manufacturing process or otherwise. **IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF PROFITS, CAPITAL OR BUSINESS OPPORTUNITY, DOWNTIME COSTS, OR CLAIMS OF CUSTOMERS OR EMPLOYEES OF BUYER, WHETHER IN AN ACTION UNDER CONTRACT, NEGLIGENCE OR ANY OTHER THEORY, ARISING OUT OF OR IN CONNECTION WITH THIS CONTRACT, OR THE USE, INABILITY TO USE, OR PERFORMANCE OF THE PRODUCT.**
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