ARMORCAST®

040-6123
Hybrid Marble Resin

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Description

ARMORCAST® 040-6123 is a pre-promoted, low shrink hybrid marble resin suitable for manufacturing all cultured marble parts. Because of the low exotherm and shrinkage, this resin is ideal for making large parts such as tubs and shower pans. Its fast green strength development allows ¼″ panels, if catalyzed properly, to be de-molded within 1-1.5 hours. This product is exceptionally compatible for use with lightweight fillers.

Features and Benefits

- Cured casting color easily pigmented
- Lower viscosity provided at higher solids (NVM) content, an advantage for manufacturers reporting emissions
- Superior wet-out capabilities allow higher filler loading
- Low matrix exotherm
- Low shrinkage rate reduces buildup of internal stress during cure of the part
- Fast green strength development and cure
- Very compatible with lightweight fillers
- Excellent thermal shock resistance

Typical Liquid Properties (at 77°F)

The liquid properties of ARMORCAST® 040-6123 are shown below. These values may or may not be manufacturing control criteria; they are listed as a reference guide only. Particular batches will not conform exactly to the numbers listed because storage conditions, temperature changes, age, and testing equipment (type and procedure) can each have a significant effect on the results. Products with properties outside of these readings can perform acceptably. Final suitability of this product is in the end use performance.

Test	ARMORCAST® 040-6123
Viscosity (1)	750 cps
Gel Time (2)	27 minutes
Gel-to-Peak	13 minutes
Peak Exotherm	320°F

(1) Brookfield LVF #2 Spindle @ 12 rpm

(2) 100 g mass, 1.0% Arkema Luperox® DDM-9

Typical Filled Marble Matrix Properties (77°F)

This information is to give the manufacturer a reference guide for filled cure properties. Actual results will vary.

Marble Matrix Formulation	
ARMORCAST® 040-6123	25%
Calcium Carbonate filler	75%
Catalyst (Arkema Luperox® DDM-9)	1.25%

Matrix Property	**ARMORCAST® 040-6123**
Marble Gel Time	45 minutes
De-mold Time	70 minutes
Peak Exotherm	120-140°F

Unfilled Physical Properties

The physical properties of ARMORCAST® 040-6123 are shown below. Properties are shown for a neat resins 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. Resin and laminates at different stages of cure will have varying properties**.**

Test	**Test Method** (1)	**Neat Resin Casting**
Tensile Strength	ASTM D638	8,938 psi
Tensile Modulus		520,000 psi
Tensile Elongation		2.12%
Flexural Strength	ASTM D790	18,300 psi
Flexural Modulus		550,000 psi
Heat Distortion at 264 psi	ASTM D648	132°F (56°C)

(1) All tests run per internal Polynt Composites test methods. These methods are similar to the ASTM Method listed above.

Application

ARMORCAST® 040-6123 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 overmix ARMORCAST® 040-6123**.** Overmixing 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 customers check the cure rate in their plant.

ARMORCAST® 040-6123 is quality control tested using Arkema Luperox® DDM-9.

The catalyst level should not exceed 2.5% or fall below 0.6% for proper cure. The recommended range is 0.75-2.25%, with a catalyst level of 1.25% at 77°F considered ideal.

This product should not be used when temperature conditions are below 60°F, as curing may be adversely affected**.**

Caution

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

Storage Limitations

ARMORCAST® 040-6123 has a shelf life of 120 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.

Seller warrants that: (i) Buyer shall obtain good title to the product sold hereunder, (ii) at shipment such product shall conform to Seller's specifications for the product; and (iii) the sale or use of such product will not infringe the claims of any U.S. patent covering the product itself, but Seller does not warrant against infringement which might arise by the use of said product in any combination with other products or arising in the operation of any process. **SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO SELLER. ANY ADDITIONAL REPRESENTATIONS OR SUGGESTIONS REGARDING THE PRODUCT OR ITS POSSIBLE USES ARE BASED UPON SELLER'S GOOD FAITH OPINION AND BELIEF, BUT ARE NOT TO BE CONSTRUED AS AFFIRMATIONS OF FACT, PROMISES, OR DESCRIPTIONS, AND SHALL IN NO WAY BE DEEMED PART OF THE SALE OF PRODUCT.** In particular, and without limiting the foregoing, because of environmental and use conditions beyond Seller's control, Seller offers no warranty and makes no promise concerning the results that may be obtained by the Buyer (or the Buyer's customer) with the product or the performance of the product. Each user should satisfy itself, by adequate testing, of the suitability of the product for its particular application.

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