

# STYPOL<sup>®</sup>

## 040-6095, 040-6097 & 040-6098 Hybrid Marble Resin

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### Type

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### Uses

STYPOL<sup>®</sup> 040-6095, 040-6097, and 040-6098 are pre-promoted, low shrink hybrid marble resins which are suitable for manufacturing all cultured marble parts. Because of the low exotherm and shrinkage, these resins are ideal for making large parts such as tubs and shower pans. Their fast green strength development allows ¼" panels (if catalyzed properly) to be demolded within 1 to 1.5 hours. These products are exceptionally compatible for use with lightweight fillers. STYPOL<sup>®</sup> 040-6097 is the "summer" or longer gel time version of STYPOL<sup>®</sup> 040-6095. STYPOL<sup>®</sup> 040-6098 is a shorter gel time variation of STYPOL<sup>®</sup> 040-6095 and may be considered when faster demolding times are required or as a winter version.

### Distinguishing Characteristics

STYPOL<sup>®</sup> 040-6095, 040-6097, and 040-6098 offer the following features:

- 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 )

These values may or may not be manufacturing control criteria. They are listed for a reference guide only. Particular batches will not conform exactly to the numbers listed because storage conditions, temperature changes, age, testing equipment (type and procedure) can have significant effect on the testing. Products with properties outside of these readings can perform acceptably. Final suitability of this product is in the end use performance.



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Test	040-6095	040-6097	040-6098
Viscosity, Brookfield LVF #2 Spindle @ 12 rpm	750 cps	750 cps	750 cps
Non-Volatile Material	69.5%	69.5%	69.5%
Gel Time (with 1.0% DDM-9)	20 min	27 min.	15 min.
Gel-to-Peak	11 min.	13 min	10 min.
Peak Exotherm	320°F	320°F	320°F

### Typical Filled Marble Matrix Properties (at 77°F)

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

#### Marble Matrix Formulation

STYPOL® 040-6095/040-6097/040-6098	25%
Calcium Carbonate filler	75%
Catalyst	1.25% DDM-9

Matrix Property	040-6095	040-6097	040-6098
Marble Gel Time	30 min.	45 min.	22 min.
Demold Time	60 min.	70 min.	50 min.
Peak Exotherm	120 - 140°F	120 - 140°F	120 - 140°F

### Cure

It is recommended that gel time be checked in the customer's plant as age, temperature, humidity, and catalyst will produce varied gel times.

Using MEKP catalyst, the level should not exceed 2.5% or fall below 0.6% for proper cure. Recommended range is 0.75% to 2.25% with 1.25% at 77°F being ideal.

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

### Unfilled Physical Properties

Polyester resins do not develop ultimate physicals, i.e. "cure," immediately. Time and/or heat are needed.



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Heat may come from internal exotherm or external sources. The amount of catalyst will influence the cure. With time and heat, such as “post-curing,” a “moderate cure” will develop into “ultimate physicals.” When will the part reach ultimate cure? It depends upon time, temperature, and satisfactory catalyzation. Too much or too little catalyst can result in permanent under-cure, which cannot be overcome. Practically speaking, serviceable cure time will range from overnight to a week and occasionally longer due to circumstances. Sufficient external heat, such as “post-curing” can reduce the cure time to less than a day.

Physical Property	040-6095/040-6097/040-6098
Tensile Strength	8,938 psi
Tensile Modulus	0.52 x 10 <sup>6</sup> psi
Tensile Elongation	2.12 %
Flexural Strength	18,300 psi
Flexural Modulus	0.55 x 10 <sup>6</sup> psi
Heat Distortion (at 264 psi)	55.5°C/132°F

**Caution**

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

**Storage**

Uncatalyzed, standard cure polyester products have a usage life of 90 days from the date of shipment from CCP when stored at 73°F or below in a closed, factory-sealed, opaque container, and out of direct sunlight.

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**CCP COMPOSITES US  
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Without limiting the generality of the foregoing, if any product fails to meet warranties mentioned above, Seller shall at Seller's option either replace the nonconforming product at no cost to Buyer or refund the Buyer the purchase price thereof. The foregoing is Buyer's sole and exclusive remedy for failure of Seller to deliver or supply product that meets the foregoing warranties. Seller's liability with respect to this contract and the product purchased under it shall not exceed the purchase price of the portion 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 limitations loss of profits, capital or business opportunity, downtime costs, or claims of customers or employees of Buyer. Failure to give Seller notice of any claim within thirty (30) days of shipment of the product concerned shall constitute a waiver of such claim by Buyer. Any product credit received by Buyer hereunder, if not used, shall automatically expire one (1) year from the date the credit was granted. Notwithstanding any applicable statute of limitations to the contrary, any action by Buyer relation to a claim hereunder must be instituted no later than two (2) years after the occurrence of the event upon which the claim is based. All the foregoing limitations shall apply irrespective of whether Buyer's claim is based upon breach of contract, breach of warranty, negligence, strict liability, or any other legal theory.

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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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