

CP-300 Non-Shrink Vinyl Ester Polymer Concrete

PRODUCT DESCRIPTION

Blome CP-300 is a three-component, Vinyl Ester polymer concrete used for the construction of chemical resistant floors, pads, curbing, trenches and sumps. CP-300 is based on a unique formulation that exhibits virtually no curing shrinkage. This makes CP-300 ideal for concrete overlay applications and equipment grouting. CP-300 exhibits superior resistance to strong mineral acids including 65% nitric, 70% sulfuric, 37% hydrochloric, as well as resistance to caustic solutions, oxidizing bleaches, and splash and spill exposure to many organic acids, such as glacial acetic. The material exhibits excellent bond strength to concrete and physical properties at least 3 times that of standard concrete. Blome CP-300 withstands heavy traffic, physical abuse and is suitable for temperature excursions up to 220°F in many harsh chemical environments.

In addition to field installations, Blome CP-300 is supplied in Pre-cast Shapes. These include pre-cast trench sections, sumps, pits, floor slabs, pump pads and other fabrications that are made to fit the exact dimensions of each specific project. Pre-cast shapes are fabricated off site and delivered to job site, ready to drop into place. Consult Blome International for additional information.

TYPICAL USES

Blome CP-300 Non-Shrink Vinyl Ester Polymer Concrete is suitable for use in a variety of applications including:

- Pump pads and tank piers
- Chemical process flooring
- Pre-cast trenches and sumps

HANDLING CHARACTERISTICS

Blome CP-300 is placed by casting into forms, or by screeding into place as an overlay on floor slabs and concrete pads. CP-300 flows well into forms or is easily screeded into place for floor overlay applications and finished immediately with steel finishing trowel. Blome CP-300 cures rapidly, offering quick turnaround with minimal downtime for maintenance and new construction applications.

TYPICAL PROPERTIES

WET

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| Components: | Three (3) Resin, Catalyst & Aggregate |
| Wet density: | 134 lbs./ft ³ |
| Mixed consistency: | Castable concrete |
| Pot life: | 50°F 50 minutes 77°F 25 minutes |
| Initial set: | 50°F 6 - 8 hours 77°F 2 - 4 hours |
| Final cure | 50°F 7 days minimum 77°F 5 days minimum |

CURED

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|---|------------------------------|
| Absorption (ASTM C-413) | 0.1% |
| Bond Strength to concrete | concrete failure |
| Coefficient of thermal expansion (ASTM C-531) | 13×10^{-6} in/in/°F |
| Color | gray |
| Compressive Strength (ASTM C-579) | 14,500 psi |
| Shrinkage | 0.05 - 0.08% |
| Tensile Strength (ASTM C-307) | 1,800 psi |

PACKAGING & STORAGE

Blome CP-300 is supplied as a three (3) component product, with a Resin, Catalyst and Aggregate. CP-300 Components are packaged as follows:

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|--------------------|-----------------------------|
| Unit Size | <u>2.3 ft³</u> |
| Resin (Part A) | 34 lbs. (1 x 34 lb. pail) |
| Hardener (Part B) | 8 ounces (1 x 8 oz. bottle) |
| Aggregate (Part C) | 280 lbs. (4 x 70 lb. bags) |

This mix will exhibit low slump and is best placed by screed and finished with hard trowel to desired texture. Use vibration when casting material into forms.

Shelf life for CP-300 components is three (3) months. Keep CP-300 components tightly sealed in original containers until ready for use. Store components in a cool, dry place, out of direct sunlight, and on pallets at temperatures between 50°F – 80°F. Protect CP-300 Aggregate from water and weather while in storage and on job site.

ESTIMATED COVERAGE

Blome Polymer Concretes and Silicate Concretes are estimated and sold by the cubic foot. One cubic foot covers the following areas at stated thicknesses:

| | |
|--------------|--------------------------------|
| ½" thickness | 24 ft ² /cubic foot |
| 1" thickness | 12 ft ² /cubic foot |
| 2" thickness | 6 ft ² /cubic foot |

BID SPECIFICATION GUIDE

Use Blome CP-300 Non-Shrink Vinyl Ester Polymer Concrete as manufactured by Blome International, O'Fallon, MO.

JOB SITE ENVIRONMENTAL CONDITIONS

Blome CP-300 must be applied while ambient temperatures are between 50°F and 90°F. Blome CP-300 components and substrate temperatures must also be maintained in this range. For best results, store CP-300 components at 75°F minimum, for 24 – 36 hours prior to installation. Installations of CP-300 should be protected from water and weather during installation and curing.

SURFACE PREPARATION

Concrete must be adequately cured, structurally sound and dry. It must be free of dirt and contaminants and all defects should be repaired. All loose coatings must be removed. Concrete must be dry in accordance with ASTM D 4263 Plastic Sheet Test Method. Concrete surfaces must be free of all laitance, oil, curing compounds, and any dust or other loose materials prior to installation of materials. Concrete must be etched or roughened by abrasive blasting, shot blasting, grinding or in some instances, it may be acid etched. Check with Blome International for optional recommendations.

Concrete substrates to which Blome CP-300 will be applied should be primed using Blome Primer 205 prior to installation of CP-300 polymer concrete. Apply Blome Primer 205 to prepared concrete substrates using brush or roller, making certain to work primer into the pores of the concrete. Allow primer to cure tack free or until the next day prior to installation of CP-300.

If CP-300 is being cast in place over a membrane system, liquid or sheet applied membrane surfaces should be fully cured, clean and dry prior to installation of Blome CP-300. These surfaces should be swept clean and be free of dirt, dust, water, or other job site contaminants immediately prior to placing CP-300.

SAFETY PRECAUTIONS

Blome CP-300 Resin, Hardener, Aggregate, and mixes of them present various health hazards if handled improperly. Consult safety data sheets before using. Wash thoroughly after handling and before eating, drinking, smoking or other activities.

APPLICATION EQUIPMENT

Blome CP-300 is best mixed with a paddle type mortar mixer or in a pail using a drill motor driven paddle blade. All mixing and application equipment must be clean, dry and free of any contaminants including Portland cement, other mortars or resins. When mixed, CP-300 is transferred to placement area using a clean, dry wheelbarrow or buckets. Forms are filled using clean, dry shovels or buckets. CP-300 is screeded into place using a clean, dry screed board to reach desired thickness. When placed, CP-300 is finished using a clean, dry, steel finishing trowel to desired surface texture.

MIXING AND APPLICATION

Mix Resin (Part A) and Hardener (Part B) together with a drill motor driven paddle mixer and blend thoroughly for 1-2 minutes. Pour this mixture into the paddle type mortar mixer and turn the mixer on. Add Aggregate (Part C) to the mixer and mix to a uniform castable consistency. Mix for 1-2 minutes minimum, making sure there are no lumps or dry pockets of powder on the paddles or in corners of mixer. The amount of aggregate should not be adjusted as this will potentially lead to increased shrinkage or cracking during cure.

For floor overlay applications, CP-300 is screeded into place at desired thickness and then finished immediately, using a steel finishing trowel to establish pitch, work the aggregate into place, and bring sufficient resin to the surface for required finish texture. Finish immediately as screeded polymer concrete will begin to get sticky within 5-10 minutes after placement. Trowels can be lightly wetted with solvent for finishing CP-300. Broadcast silica sand onto wet polymer concrete to minimize sticky surface while trowelling. The material is then "dry-troweled" into place and finished to desired texture. Typical installations on high traffic floor slabs are placed at a nominal one-inch (1") thickness. For foot traffic or light duty areas, a one-half inch (1/2") minimum thickness is recommended.

When casting into forms it is important that all forms be sealed "watertight" to prevent weeping of resin from forms. Forms must be treated with a wax or petrolatum-based form release agent, or wrapped with Mylar, polyethylene or other plastic sheet to prevent CP-300 from permanently bonding to forms. Some vertical installations require anchors or mesh to mechanically secure CP-300 to substrates. Vibration is recommended to remove entrained air from polymer concrete castings. Maximum pour depth for typical concrete pad construction is twelve inches (12"). Deeper

pours can be made in cool temperatures (<70°F), or may be poured in lifts, allowing a cool down period between lifts.

CLEANUP

All tools, mixing equipment, gloves and application equipment should be cleaned up immediately using a citrus or biodegradable cleanser, with hot water, while material is still wet. If material begins to cure, solvent-based cleaners will be required for removal.

WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH. We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection therewith regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

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