BLOME INTERNATIONAL

Surrounding You with Exceptional Protection

CHEMICAL PROOFING SYSTEMS

CP-300 HF

High Flow Vinyl Ester Polymer Concrete

PRODUCT DESCRIPTION

Blome CP-300 HF is a three-component, high flow, Vinyl Ester polymer concrete used for the construction of chemical resistant floors, pads, curbing, trenches and sumps. CP-300 HF is based on a unique formulation that exhibits virtually no curing shrinkage. This makes CP-300 HF ideal for concrete overlay applications and equipment grouting. CP-300 HF 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 HF withstands heavy traffic, physical abuse and is suitable for temperature excursions up to 220°F in many harsh chemical environments.

TYPICAL USES

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

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

HANDLING CHARACTERISTICS

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

TYPICAL PROPERTIES

WET

Components:	Three (3) Resin, Catalyst & Aggregate
Wet density:	130 lbs./ft^3
Mixed consistency:	Flowable concrete
Pot life:	50°F 90 minutes 77°F 60 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 *depends on mass

CURED

Absorption (ASTM C-413)	0.1%
Bond Strength to concrete	concrete failure
Coefficient of thermal expansion (ASTM C-531)	13 x 10^{-6} in/in/^{o}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 HF is supplied as a three (3) component product, with a Resin, Catalyst and Aggregate. CP-300 HF Components are packaged as follows:

Unit Size	2.25 ft^3
CP-300 HF/UHF Resin (Part A)	40 lbs. (1 x 40 lb. pail)
VE Cure (CHP) (Part B)	15 ounces (1 x 15 oz. bottle)*
CP-300 HF Aggregate (Part C)	250 lbs. (5 x 50 lb. bags)

*VE Cure is sold at 3 oz/gal. Use 2 oz/gal at higher temperatures.

This mix will exhibit high slump and is best placed by pouring into place. Material may be screed and finished with hard trowel to desired texture depending on the application. Use vibration or tamping when casting material into forms.

Shelf life for CP-300 HF Resin is four (4) months (refrigeration can extend the shelf life). VE Cure and CP-300 HF Aggregate have a shelf life of two years if kept dry, out of sunlight and in sealed packaging. Keep CP-300 HF 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 HF Aggregate from water and weather while in storage and on job site.

ESTIMATED COVERAGE

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

1” thickness	12 ft^2/cubic foot
2” thickness	6 ft^2/cubic foot

BID SPECIFICATION GUIDE

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

JOB SITE ENVIRONMENTAL CONDITIONS

Blome CP-300 HF must be applied while ambient temperatures are between 50°F and 90°F. Blome CP-300 HF components and substrate temperatures must also be maintained in this range. For best results, store CP-300 HF components at 75°F minimum, for 24 – 36 hours prior to installation. Installations of CP-300 HF 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 contaminates 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 HF will be applied should be primed using Blome Primer 205 prior to installation of CP-300 HF 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 HF.

If CP-300 HF 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 HF. These surfaces should be swept clean and be free of dirt, dust, water or other job site contaminants immediately prior to placing CP-300 HF.

Do not apply over asphalt-based membranes or latex-modified concrete to avoid possible adhesion issues.

SAFETY PRECAUTIONS

Blome CP-300 HF Resin, Hardener, Aggregate, and mixes of them present various health hazards if handled improperly. CP-300 HF Aggregate contains silica dust, CP-300 HF Resin is flammable, will cause eye injury and irritate skin and CP-300 HF Hardener is a strong oxidizer. Wear respirator suitable for silica dust, safety glasses with side shields, gloves and long sleeve shirts to prevent all contact with skin and eyes. After working with Blome CP-300 HF, wash thoroughly before eating, drinking, smoking or other activities.

APPLICATION EQUIPMENT

Blome CP-300 HF 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 HF is transferred to placement area using a clean, dry wheelbarrow or buckets. Forms are filled using clean, dry shovels or buckets. CP-300 HF is screeded into place using a clean, dry screed board to reach desired thickness. When placed, CP-300 HF 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 specified above is ideal for

applications requiring high flow. More aggregate can be added if less flow is desired.

For floor overlay applications, CP-300 HF 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 HF. 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.

When casting into forms it is important that all forms be sealed “water tight” 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 HF from permanently bonding to forms. Some vertical installations require anchors or mesh to mechanically secure CP-300 HF to substrates. Vibration is recommended to remove entrained air from 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.

When placing under baseplates, the use of a headbox or similar device is recommended for a continuous pour to avoid air pockets under baseplates. All CP-300 HF shall be placed from one side to the other, maintaining contact with the bottom of the baseplate at all times, maximizing effective bearing area under baseplate.

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.

Revision: March 5, 2020