

## CP-95

### Novolac Epoxy Polymer Concrete

#### PRODUCT DESCRIPTION

Blome CP-95 is a three-component, novolac epoxy polymer concrete used for the construction of chemical resistant floors, pads, curbing, trenches and sumps. CP-95 is well suited for the construction of floors, pads, trenches, and other structures requiring resistance to strong acids, bleaches, alkalis, solvents and other corrosive chemicals. CP-95 exhibits superior resistance to strong mineral acids including 98% sulfuric, 37% hydrochloric, as well as resistance to caustic solutions, hypochlorite bleaches and dilute oxidizing acids such as 30% nitric (splash and spill) and 10% chromic. The material exhibits excellent bond strength to concrete and physical properties at least 3 times that of standard concrete. CP-95 is suitable for use in areas exposed to heavy traffic and abuse.

In addition to field installations, Blome CP-95 is supplied in Precast Shapes. These include precast trench sections, sumps, pits, floor slabs, pump pads and other fabrications that are made to fit the exact dimensions of each specific project. Precast shapes are fabricated off site and delivered to jobsite, ready to drop into place. Construction joints in precast pieces are quickly and easily seamed on site. These quick turnaround precast systems minimize downtime.

#### TYPICAL USES

Blome CP-95 Novolac Epoxy Polymer Concrete is suitable for use in a variety of applications including:

- Truck unloading pads
- Chemical process flooring
- Pump pads and tank piers
- Precast trenches and sumps

#### HANDLING CHARACTERISTICS

Blome CP-95 is placed by casting into forms, or by screeding into place as an overlay on floor slabs and concrete pads. CP-95 flows well into forms and is easily screeded into place for overlay applications and finished immediately with steel finishing trowel. Blome CP-95 cures rapidly, offering quick turnaround with minimal downtime for maintenance and new construction applications.

#### TYPICAL PROPERTIES

##### WET

|                   |  |
|-------------------|--|
| Components        | Three (3) Resin, Hardener & Aggregate      |
| Wet density       | 135 lbs./ft <sup>3</sup>                   |
| Mixed consistency | Castable concrete                          |
| Pot life          | 50°F 60 minutes<br>77°F 40 minutes         |
| Initial set       | 50°F 8 - 10 hours<br>77°F 4 - 6 hours      |
| Final cure        | 50°F 7 days minimum<br>77°F 5 days minimum |

## CURED

|   |                              |
|---|------------------------------|
| Absorption (ASTM C-413)                       | 0.05%                        |
| Shrinkage                                     | <0.05%                       |
| Bond Strength to concrete                     | concrete failure             |
| Coefficient of thermal expansion (ASTM C-531) | $12 \times 10^{-6}$ in/in/°F |
| Color   | gray / red                   |
| Compressive Strength (ASTM C-579)             | 16,500 psi                   |
| Tensile Strength (ASTM C-307)                 | 5,400 psi                    |

## PACKAGING & STORAGE

Blome CP-95 is supplied as a three (3) component product, with a Resin, Hardener and Aggregate. CP-95 Components are packaged as follows:

| Unit Size          | 0.6 ft <sup>3</sup>                     | 2.4 ft <sup>3</sup>                    |
|--------------------|---|--|
| Resin (Part A)     | 6.0 lbs. (0.6 gal)<br>(1 x 6 lb. can)   | 24 lbs. (2.4 gal)<br>(1 x 24 lb. pail) |
| Hardener (Part B)  | 2.5 lbs. (0.3 gal)<br>(1 x 2.5 lb. can) | 10 lbs. (1.2 gal)<br>(1 x 10 lb. can)  |
| Aggregate (Part C) | 70 lbs.<br>(2 x 35 lb. bag)             | 280 lbs.<br>(8 x 35 lb. bags)          |

For large projects, Blome supplies alternate packaging that includes CP-95 Resin and Hardener in standard unit sizes and Blome PC-Fines filler that is pigmented with graded silica sand and fines. Blome PC-Fines Filler is blended with locally supplied silica sand and pea gravel to yield desired castable polymer concrete consistency. This field mix option results in considerable freight savings by the elimination of shipping the heaviest portion of the polymer concrete materials. A field mix using Blome PC-Fines is as follows:

|                         |                   |
|-------------------------|-------------------|
| CP-95 Resin             | 1 ea. 24 lb. Pail |
| CP-95 Hardener          | 1 ea. 10 lb. Can  |
| Blome PC-Fines          | 2 ea. 45 lb. Bags |
| 3/8" x 3/16" Pea Gravel | 70-80 lbs.        |
| 8/16 Sand               | 90-100 lbs.       |
| 20-40 Sand              | 20-25 lbs.        |

Total mix = one batch yields approximately 2.5 ft<sup>3</sup>

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-95 components is one (1) year. Keep CP-95 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-95 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 <sup>2</sup> /cubic foot |
| 1" thickness | 12 ft <sup>2</sup> /cubic foot |
| 2" thickness | 6 ft <sup>2</sup> /cubic foot  |

## BID SPECIFICATION GUIDE

Use Blome CP-95 Novolac Epoxy Polymer Concrete as manufactured by Blome International, O'Fallon, MO.

## **JOB SITE ENVIRONMENTAL CONDITIONS**

Blome CP-95 must be applied while ambient temperatures are between 50°F and 90°F. Blome CP-95 components and substrate temperatures must also be maintained in this range. For best results, store CP-95 components at 75°F minimum, for 24 – 36 hours prior to installation. Installations of CP-95 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-95 will be applied should be primed using Blome 75 Epoxy Primer prior to installation of CP-95 polymer concrete. Apply Blome 75 to prepared concrete substrates using brush or roller, making certain to work primer into the pores of the concrete. Allow primer to cure until tacky or until the next day prior to installation of CP-95 polymer concrete.

If CP-95 is being cast in place over a membrane system, liquid or sheet applied membrane surfaces should be clean and dry prior to installation of Blome CP-95. These surfaces should be swept clean and be free of dirt, dust, water or other jobsite contaminants.

## **SAFETY PRECAUTIONS**

Blome CP-95 Resin, Hardener, Aggregate, and mixes of them present various health hazards if handled improperly. CP-95 Aggregate contains silica dust, CP-95 Resin will cause eye injury and irritate skin and CP-95 Hardener is a corrosive liquid. 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-95, wash thoroughly before eating, drinking, smoking or other activities.

## **APPLICATION EQUIPMENT**

Blome CP-95 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-95 is transferred to placement area using a clean, dry wheelbarrow or buckets. Forms are filled using clean, dry shovels or buckets. CP-95 is screeded into place using a clean, dry screed board to reach desired thickness. When placed, CP-95 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 may be adjusted slightly, up or down, to achieve desired consistency for specific uses. More aggregate will produce a low slump consistency for floor overlay and vibratory casting applications. Less aggregate will give better flow and self-leveling properties for grout applications.

For floor overlay applications, CP-95 is screeded into place at desired thickness and then finished using a steel finishing trowel to establish pitch, work the aggregate into place, and bring sufficient resin to the surface for required finish texture. Broadcast silica sand onto wet surface of polymer concrete if a non-skid texture is desired. 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 "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-95 from permanently bonding to forms. Vibration is recommended to remove entrained air from polymer concrete castings. Maximum pour depth for typical concrete pad construction is eight inches (8"). Deeper pours can be made in cool temperatures (<70°F), or 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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