

CP-35 Non-Shrink Furan Polymer Concrete

PRODUCT DESCRIPTION

Blome CP-35 is a two-component, furan polymer concrete used for construction of chemical resistant pump pads, equipment pads, curbing, trenches and sumps. CP-35 is well suited for construction of pump pads, equipment pads, chemical trenches, and structures requiring resistance to non-oxidizing acids, alkalis, solvents and other corrosive chemicals. CP-35 exhibits superior resistance to strong organic acids including glacial acetic, citric, and formic, 37% hydrochloric, as well as aggressive chlorinated solvents, and caustic solutions. CP-35 withstands temperatures to 375°F. The material exhibits physical properties at least twice that of standard concrete.

In addition to field installations, Blome CP-35 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-35 Furan Polymer Concrete is suitable for use in a variety of industrial process applications including:

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

HANDLING CHARACTERISTICS

Blome CP-35 is placed by casting into forms, or by screeding into place as an overlay on floor slabs and concrete pads. CP-35 flows well into forms and is easily screeded into place for overlay applications and finished immediately with steel finishing trowel. Blome CP-35 cures rapidly, offering quick turnaround with minimal downtime for maintenance and new construction applications.

While Blome CP-35 provides excellent physical properties and chemical resistance, the material provides only a minimal bond to concrete and steel substrates. Therefore, interface areas with concrete and steel substrates are best treated using an appropriate primer or membrane system prior to installation of CP-35. Cast in place, vertical installations should be anchored to substrate with studs or mesh to mechanically secure CP-35 polymer concrete. Blome CP-35 is typically installed by casting to a two inch (2") minimum thickness.

TYPICAL PROPERTIES WET

Components	Two (2) – Aggregate & Resin
Wet density	134 lbs./ft ³
Mixed consistency	Castable concrete
Pot life	50°F 60 minutes 77°F 30 minutes
Initial set	50°F 12 - 18 hours 77°F 4 - 6 hours
Final cure	50°F 7 days minimum 77°F 5 days minimum

CURED

Absorption (ASTM C-413)	0.25% maximum
Bond Strength to concrete	not recommended
Coefficient of thermal expansion (ASTM C-531)	12 x 10 ⁻⁶ in/in/°F
Color	black
Compressive Strength (ASTM C-579)	8,450 psi
Shrinkage	0.05%
Temperature Limit	375°F
Tensile Strength (ASTM C-580)	1,100 psi

PACKAGING & STORAGE

Blome CP-35 is supplied as a two (2) component product, with an Aggregate and Resin. CP-35 Components are packaged as follows:

Unit Size	<u>2.6 ft³</u>
Aggregate (Part A)	318 lbs. (6 x 53 lb. bags)
Resin (Part B)	40 lbs. (1 x 40 lb. pail)

Shelf life for CP-35 components is one (1) year. Keep CP-35 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-35 Aggregate from water and weather while in storage and on jobsite.

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 ft²/cubic foot
- 1" thickness 12 ft²/cubic foot
- 2" thickness 6 ft²/cubic foot

BID SPECIFICATION GUIDE

Use Blome CP-35 Non-Shrink Furan Polymer Concrete as manufactured by Blome International, O'Fallon, MO.

JOB SITE ENVIRONMENTAL CONDITIONS

Blome CP-35 must be applied while ambient temperatures are between 50°F and 90°F. Blome CP-35 components and substrate temperatures must also be maintained in this range. For best results, store CP-35 components at 75°F minimum, for 24 – 36 hours prior to installation. Installations of CP-35 should be protected from water and weather during installation and curing.

SURFACE PREPARATION

While Blome CP-35 provides excellent physical properties and chemical resistance, the material provides only a minimal bond to concrete and steel substrates. Therefore, interface areas with concrete and steel substrates are best treated using an appropriate primer or membrane system prior to installation of CP-35. Cast in place, vertical installations should be anchored to substrate with studs or mesh to mechanically secure CP-35 polymer concrete. Blome CP-35 is typically installed by casting at a two inch (2") minimum thickness.

If a bond is required at interface areas with steel, these steel substrates should be primed using Blome 75 Epoxy Primer prior to installation of CP-35 polymer concrete. Apply Blome 75 to prepared steel substrates using brush or roller. Allow primer to cure until tacky prior to installing CP-35 polymer concrete.

If CP-35 is being cast in place over a membrane system, install appropriate membrane system to prepared substrate. All liquid or sheet applied membrane surfaces should be fully cured, clean and dry prior to installation of Blome CP-35. These surfaces should be swept clean and be free of dirt, dust, water or other jobsite contaminants immediately prior to placing CP-35.

SAFETY PRECAUTIONS

Blome CP-35 Aggregate, Resin, and mixes of them present various health hazards if handled improperly. CP-35 Aggregate contains silica dust, CP-35 Resin and mixed polymer concrete will cause eye injury and irritate skin. 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-35, wash thoroughly before eating, drinking, smoking or other activities.

APPLICATION EQUIPMENT

Blome CP-35 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-35 is transferred to placement area using a clean, dry wheelbarrow or buckets. Forms are filled using clean, dry shovels or buckets. CP-35 is screeded into place using a clean, dry screed board to reach desired thickness. When placed, CP-35 is finished using a clean, dry, steel finishing trowel to desired surface texture.

MIXING AND APPLICATION

Pour one (1) – 40 lb. pail of Blome CP-35 Resin (Part B) into the clean, dry, paddle type mortar mixer and turn the mixer on. Add six (6) – 53lb. bags of Aggregate (Part A) 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 varied as the catalyst system is in the aggregate.

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-35 from permanently bonding to forms. Vibration is recommend 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 can be poured in lifts,

allowing a cool down period between lifts. Cast in place, vertical installations should be anchored to substrate with studs or mesh to mechanically secure CP-35 polymer concrete.

For floor overlay applications, CP-35 must be installed over an appropriate membrane system. Consult Blome for membrane recommendations. When mixed, the material is screeded into place at desired thickness and then finished using steel, finishing trowel to 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. Minimum thickness for installations on floor slabs is two inches (2").

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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