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## **EC- R590 Multi-Purpose Epoxy System**

### **PRODUCT DESCRIPTION**

EC-R590 is a 100% solids, two component economical epoxy system. EC-R590 is conveniently packaged in 1.25 gallon kits and 4.25 gallon kits. The mix ratio is 4:1 by volume. The product can be made into a dense, easy to trowel mortar using filler #410. As such, it can be troweled onto vertical or overhead surfaces with ease. EC-R590 can also be filled with 20/40 mesh silica and applied as a wear and impact resistant flooring. An economical polymer concrete is made by the addition of 1/4" pea gravel along with 20/40 mesh silica. When reinforced with EC-Scrim the product exhibits increased crack and impact resistance.

### **GENERAL USES**

EC-R590 is recommended for a wide variety of applications including:  
Floor toppings  
Casting of equipment footings  
Chemically resistant coating for concrete surfaces  
Lining below grade concrete pits, manholes and wet wells

### **PACKAGING AND COVERAGE**

EC-R590 is packaged in 1.25 gallon units, 40 lb. (4.25 gallon) units, and 5 drum quantities. The mix ratio of resin to hardener is 4 Parts A to 1 Part B by volume. Coverage rates depend on many factors; condition of the surface being coated, skill of the applicator, type of system being installed i.e., silica filled or reinforced or both. Contact your Blome International Representative for assistance estimating material requirements for your particular project.

### **TYPICAL PROPERTIES OF AGGREGATE FILLED EC-R590**

Compressive Strength:	14,160 psi
Tensile Strength:	9,700 psi
Flexural Strength:	5,650 psi
Shore D hardness:	75-85
Coefficient of thermal expansion:	14-16 X 10 <sup>-6</sup> in/in/F
Solids by Volume:	100%
Weight per Mixed Gallon:	9.5 lbs
Pot Life @ 70F:	30-40 minutes
Set firm @ 70F:	4-6 hrs
Chemical service @ 70F:	36 hrs
Color:	Red, Gray, Clear

### **STORAGE**

Keep EC-R590 components tightly sealed in their original containers until ready for use. Store at 70 – 75F to facilitate handling and workability. Properly stored, EC-R590 has a minimum shelf life of 12 months

## **SURFACE PREPARATION CONCRETE**

Concrete should be adequately cured, possess adequate integrity and not be expelling excess water of hydration. A rule of thumb for cure of new concrete is 28 days cure at 70°F but that is not an assurance that the concrete has achieved adequate physical properties. Concrete should exhibit a compressive strength of 3,000 psi minimum and tensile strength of 300 psi or higher.

Ground slabs and new concrete should be tested for excess moisture in accordance with ASTM D 4263 Plastic Sheet Test Method; any water on the backside of the sheet after overnight exposure will require additional curing before a coating can be applied.

We recommend utilization of a low water-cement ratio, preferably 0.38 and adequate superplasticizers for placement are recommended, particularly when cure time to coat is critical.

New concrete must also be free of curing compounds, form release agents and any other contamination that might inhibit adhesion. Old concrete must be free of existing coatings or toppings and any loose or unsound concrete must be removed.

All concrete must be cleaned, as necessary, in accordance with ASTM D 4258. The resultant surface should be free of all oil, grease, and other contamination. Consult Blome International for special procedures for oil contaminated surfaces.

Upon completion of cleaning, the concrete surface shall be prepared in accordance with ASTM D4259. The resultant surface should be free of laitance and efflorescence and have a surface texture similar to medium (60-80 grit sandpaper).

## **STEEL**

Incidental steel surfaces to which EC-R590 is to be applied, should be abrasive blasted to a near white finish with an anchor profile of 2-3 mils. Steel surfaces intended for immersion service must be abrasive blasted to a white metal finish with a 3-4 mil anchor profile.

## **MASKING & PROTECTION**

Mask or remove adjacent surfaces and equipment that are not to be coated and mask all termination points.

## **APPLICATION EQUIPMENT**

Blome EC-R590 may be applied by brush, roller, trowel or serrated squeegee. Since brush application is often for small areas or touchup, disposable china bristle brushes are recommended. Roller covers should be phenolic core roller suitable for epoxies and the nap thickness should reflect the texture of the substrate. Flat squeegees may be used and solvent resistant squeegee blades will facilitate cleanup and reuse.

## **MIXING TECHNIQUE**

We recommend using Jiffy type mixers for all mixing and stirring. When operating the mixer, avoid plunging it up and down in the bucket. This can fold air into the resin, which may cause bubbles to form in the coating after it has been applied. Be especially careful not to allow water to enter the mix.

## **WORKING TIME**

The working time for Blome EC-R590 is 30-40 minutes at 70°F. Working time will be longer at cooler temperatures and will be much shorter at higher temperatures.

## **MIXING & APPLICATION**

1. Add the Hardener to the Resin in a ratio of 4 parts Resin to 1 part Hardener by volume and thoroughly mix for 2-3 minutes.
2. When used as a primer or sealer, apply by brush, squeegee or roller at the recommended film thickness.

3. When used as a slurry, mix aggregate with resin/hardener mixture in a fixed arm mixer such as a KOL mixer until aggregate is wet out completely. Then spread with a rake or notched squeegee at the desired thickness.
4. When used as an aggregate broadcast system, apply at a uniform thickness of resin/hardener mixture with a notched squeegee and broadcast aggregate to saturation. Best results are obtained when the substrate is smooth, relatively level, and free of divots and protrusions.
5. When used as a trowel-applied topping, mix in a fixed arm mixer such as a KOL mixer until the aggregate is wet out completely. Screed mix out and hand trowel to the desired thickness.
6. EC-R590 can be used as a dense mortar lining. This system is ideal for vertical and overhead applications. To make EC-R590 into a dense mortar lining, add Blome #410 filler to desired consistency. The mix should be a creamy and trowelable mortar. Mix in a fixed arm mixer such as a KOL mixer until aggregate blend is wet out completely.
7. EC-R590 can be reinforced using Blome International EC-Scrim. When used in this manner, the EC-Scrim must be embedded into a fresh basecoat of aggregate filled EC-R590 followed by a topcoat adequate to cover the EC-Scrim.

Consult Blome International for specific details for using Blome EC-R590 in any of above-mentioned manners.

#### **TOUCH-UP & RECOATING**

Blome EC-R590 may be recoated with itself or other Blome epoxy and epoxy novolac coatings and toppings within 24 hours without special surface preparation. Provided that the temperature during the curing has not exceeded 90F and has not been exposed to direct sunlight for more than 8 hours. Beyond 24 hours, lightly sand to roughen before recoating.

#### **CLEAN-UP**

Before Blome EC-R590 gels, it may be cleaned from hand tools and equipment using hot, soapy water. Once it has gelled, xylene or MEK will be required for cleanup. Chlorinated solvents may be used if flammable solvents are not allowed.

#### **CAUTION**

Blome EC-R590 may cause skin irritation with prolonged or repeated contact. Avoid skin contact and follow the material safety data sheet, which is available for each product.

#### **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 MERCHANTABILITY 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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