

**CP-5  
Potassium Silicate Brick Mortar**

**PRODUCT DESCRIPTION**

Blome CP-5 is a two component Potassium Silicate based mortar used for the installation of chemical and abrasion resistant masonry linings. Blome CP-5 exhibits excellent resistance to all concentrations of all acids (except HF) including 98% sulfuric, oleum, 70% nitric, and acid/solvent solutions. Blome CP-5 is resistant to mortar joint deterioration that occurs due to sulfation/hydration reactions in wet/dry acid environments and withstands temperatures to 1,750°F.

**TYPICAL USES**

Blome CP-5 is suitable for bonding chemical and abrasion resistant masonry units in a variety of applications including:

- Acid absorption towers and acid pump tanks
- Spent acid storage tanks
- Acid brick chimney linings
- Linings for incineration systems
- Abrasion resistant tile linings in strong acid environments

**HANDLING  
CHARACTERISTICS**

Blome CP-5 offers superior trowelling and handling characteristics, with sufficient body and thixotropy to butter brick in place and secure them from slipping or sliding while the mortar cures. CP-5 utilizes a unique hardening system that cures rapidly and provides an excellent bond to brick and tile. This combination of handling, curing and performance properties has led industry leaders to specify Blome CP-5 for acid process equipment and chimney linings worldwide.

**TYPICAL PROPERTIES**

**WET**

|                     |  |
|---------------------|--|
| Components:         | Two (2) - powder & liquid                  |
| Wet mortar density: | 112 lbs./ft <sup>3</sup>                   |
| Mixed consistency:  | Creamy mortar                              |
| Pot life:           | 50°F 50 minutes<br>77°F 30 minutes         |
| Initial set:        | 50°F 12 hours<br>77°F 6 hours              |
| Final cure          | 50°F 5 days minimum<br>77°F 2 days minimum |

## CURED

|   |                               |
|---|-------------------------------|
| Blome CP-5 Complies with ASTM C-466           |                               |
| Bond Strength to brick (ASTM C-321)           | 190 psi                       |
| Coefficient of Thermal Expansion (ASTM C-531) | $7.1 \times 10^{-6}$ in/in/°F |
| Color   | White                         |
| Compressive Strength (ASTM C-579)             | 3,100 psi                     |
| Flexural Strength (ASTM C-580)                | 1,600 psi                     |
| Recommended pH for use                        | 0.0 – 7.0                     |
| Temperature limit                             | 1,750°F                       |
| Tensile Strength (ASTM C-307)                 | 380 psi                       |

## PACKAGING & STORAGE

Blome CP-5 is supplied as a two-component product, with a filler powder and a liquid binder solution. CP-5 Powder (Part A) is packaged in 50 lb. Bags and CP-5 Liquid is packaged in 40 lb. Pails or 600 lb. Drums. The use ratio of Powder to Liquid is 2.5 pbw to 1.0 pbw.

|                 |                            |
|-----------------|----------------------------|
| Unit Size       | <u>140 lbs.</u>            |
| Powder (Part A) | 100 lbs. (2 x 50 lb. bags) |
| Liquid (Part B) | 40 lbs. (1 x 40 lb. pail)  |

Shelf life for CP-5 components is one (1) year. Keep CP-5 Powder and Liquid tightly sealed in original containers until ready for use. Store Powder and Liquid in a cool, dry place, on pallets at temperatures between 50°F – 90°F. Protect CP-5 Liquid from freezing. If Liquid does freeze, thaw frozen material back to a liquid solution and then thoroughly remix prior to use, as settling will occur during the thawing procedure. It is important to completely remix thawed liquid to achieve a uniform solution for use.

## ESTIMATED COVERAGE

Please refer to Blome Brick Mortar Usage Chart in Chemical Proofing Section of Blome International Catalog. This chart gives estimated coverage rates and does not allow for waste, joint variations or other job site contingencies.

## BID SPECIFICATION GUIDE

Use Blome CP-5 Potassium Silicate Brick Mortar as manufactured by Blome International, O'Fallon, MO.

## JOB SITE ENVIRONMENTAL CONDITIONS

Blome CP-5 must be applied while ambient temperatures are between 50°F and 90°F. Blome CP-5 components, brick, tile and substrate temperatures must also be maintained in this range. It is critical that installations of CP-5 be protected from water and weather during installation and curing.

## SURFACE PREPARATION

Brick and tile to be installed with Blome CP-5 must be clean, dry and oil free. If brick or tile has been frozen, they must be thawed completely and allowed to dry prior to installation with Blome CP-5. Applications on steel substrates should be installed over clean, blasted and oil free steel substrates. Steel substrates must be abrasive blasted to achieve a commercial blast profile.

## **SAFETY PRECAUTIONS**

Blome CP-5 Powder, Liquid and mixes of them present various health hazards if handled improperly. CP-5 Powder contains silica dust and CP-5 Liquid is an alkaline solution that will severely burn eyes 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-5, wash thoroughly before eating, drinking, smoking or other activities.

## **APPLICATION EQUIPMENT**

Blome CP-5 is best mixed with a KOL, pail type mixer or in a pail using a drill motor driven paddle blade. This mixing equipment must be clean, dry and free of any contaminants including Portland Cement, other mortars, resins, etc. When mixed, CP-5 is applied to brick, tile & substrate with a pointing or margin trowel.

## **MIXING AND APPLICATION**

Add approximately 2.5 parts by weight CP-5 Powder to 1.0 part by weight CP-5 Liquid. Mix components using a clean, dry mechanical mixer or trowel for a minimum of 2-3 minutes, making sure there are no lumps or dry pockets of powder. Using a clean, dry pointing or margin trowel, butter brick or tile evenly on 4 or 5 sides. Slide buttered brick or tile into place squeezing excess mortar from joints and striking off. Maximum mortar joint thickness should be 1/8".

## **CLEANUP**

All tools, mixing equipment, gloves and application equipment should be cleaned up immediately using hot, soapy water. Any material that is allowed to cure prior to clean up should be chiseled or chipped off, then dirty items should be soaked in hot, soapy water overnight and then cleaned and dried.

## **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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