

# KEM MORTAR EP 2

## General Purpose Epoxy Resin Mortar

Ref: CR/MR-V3-0712

### Description

KEM Mortar EP 2 is a three component solvent free epoxy based repair mortar, designed for speedy and permanent repairs to concrete. The mixed material is applied to properly prepared surface and cures to form an impermeable layer which has excellent resistance to water and chemical. It is supplied in pre-weighed quantities ready for on-site mixing and use.

### Uses

- For speedy and permanent repairs to concrete structures, where strength, impermeability to water and resistance to aggressive chemicals is essential.
- Emergency repairs to concrete structures, sea walls, industrial floors in plating shops, chemical handling and process areas and bedding of precast concrete beams. It is suitable for use in marine environments.

### Advantages

- **Speed:** Early development of strength and hardness.
- **Quality:** Pre weighed quality controlled materials.
- **Chemical Resistance:** Resistant to a wide range of acids, alkalies and industrial chemicals.
- **Waterproofing:** Cures under damp conditions and cured surface is impermeable to water.
- **Thickness:** Possible to use in high build layers in overhead and vertical situations.

### Typical Properties

**Pot life** : 75 minutes at 25°C,

40 minutes at 35°C.

**Initial Hardness** : 24 hours.

**Full Cure** : 7 days.

Below 20°C the curing time will be increased.

**Minimum Application Temperature** : 5°C.

**Density** : Typically 2050 kg/M<sup>3</sup>

Performance of KEM Mortar EP 2 blocks continually immersed at 25° C.

**Citric Acid 10%** : Excellent

**Tartaric acid 10%** : Excellent

**Acetic Acid 5%** : Satisfactory

**Nitric Acid 10%** : Good

**Hydrochloric acid 25%** : Excellent

**Sulphuric acid 10%** : Very good

**Sugar solutions** : Very good

**Lactic acid** : Very good

**Hydrocarbons** : Very good

**Phosphoric acid 50%** : Very good

**Sodium hydroxide 50%**: Excellent

**Diesel fuel/petrol** : Excellent

### Mechanical properties:

Compressive strength ASTM C-579

7 Days : 75 N/mm<sup>2</sup>

Flexural Strength ASTM C-580

7 Days : 21 N/mm<sup>2</sup>

Tensile Strength - ASTM C 307

10.5 N/mm<sup>2</sup>

Water Absorption - ASTM D 570 0.20%

### Standards

ASTM-C 881 - Type I & Grade 3, Class B&C Passes  
ASTM-C 883 & ASTM-C 884.

ASTM C-579 - Compressive strength.

ASTM C-580 - Flexural Strength.

ASTM C-307- Tensile Strength.

ASTM D-570- Water Absorption.

## Direction for use

**Surface Preparation:** All grease, oil, chemical contamination, dust, laitance and loose concrete must be removed by scabbling or suitable non impact mechanical tools to provide a sound substrate. Metal surface should be cleaned followed by grit blasting to BS 4232: Second Quality or SA 2.5 (SIS 05 59 00).

**Priming:** Prior to the application of KEM Mortar EP 2, a primer must be used. The use of KEM Seal EP 110 is recommended. Refer respective product data sheet for more details.

**Mixing:** The total base and hardener components should be thoroughly mixed and then emptied into the mixer or mixing vessel. Add the filler part slowly with the mixer running and continue for 2 to 4 minutes until homogeneous mix is obtained. The mixed material should be used before it sets. Application should be applied to the primed surface, with wood float, pressing the mortar firmly on to the primer to ensure good adhesion. In areas where application by trowel is difficult, the mortar may be applied and compacted by gloved hands, ensuring that each layer is properly kneaded into previous layers and that no weak interface is produced. Thickness up to 40 - 60mm per layer may be applied. Where large areas are being repaired, a chequerboard application technique may be used. The maximum thickness for smaller repairs may increase to 70 mm where additional support is available from reinforcing bars and concrete shoulders. If subsequent layers need to be applied, they should follow after 8 and 24 hour later at 25° C or after 6 and 8 hours at 35°C. The surface of the first layer should be roughened to provide a mechanical key for subsequent applications. Priming is essential between layers. The compacted repair should be finished with a wood steel float to an acceptable finish.

## Packaging

KEM Mortar EP 2 is available in 16 kgs packs which yield 8 litres giving a theoretical coverage of 1.6M<sup>2</sup> at 5mm thickness.

## Storage and Shelf life

Store in dry conditions up to 20°C. Shelf life is 12 months.

## Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

## Safety precautions

**Cleaning:** Spillages should be absorbed with sand or earth etc. and disposed in accordance with local regulations. Clean tools and equipment with water/solvents immediately after use.

KEM Mortar EP 2 should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of vapours. Some people are sensitive to epoxy resins, therefore, protective gloves, goggles and barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus must be used.

If mixed resin comes in contact with skin, it must be removed before hardening with a resin removing cream, followed by washing with soap and plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting.

### Limitation of Liability:

This information is based on our current level of knowledge. It is given in a good faith but it is not intended to guarantee any particular properties. The users must satisfy themselves that there are no circumstances requiring additional information or precautions or the verification of details given herein.