

ReArm CMS 2K

(Formerly known as MYK Crete CMS 4500)

Two Component Structural Grade Polymer Modified Cementitious Repair Mortar and Screed



TECHNICAL DATA SHEET

Product Description

ReArm CMS 2K is based on carefully blended cement, graded fillers and chemical additives and is polymer modified to provide a mortar with good handling characteristics, while minimizing water demand. The hardened product exhibits excellent thermal compatibility with concrete and outstanding water requirement ensures fast strength gain and long term durability. ReArm CMS 2K is supplied as a grey powder along with a liquid Polymer (ReArm CMS 2K Liquid part) and has to be mixed with water on site to produce a highly consistent, high strength repair mortar / Screed.

Uses

- For the reinstatement of concrete in small localized patch repairs.
- ReArm CMS 2K is alkaline in nature and will protect embedded steel reinforcement.
- It is specially designed for location where high compressive strengths are required like Factory Floors/Internal Concrete Roads.
- The mortar is suitable where superior resistance is required to Chlorides and carbon dioxide.

Features and Benefits

- High strength
- Can be applied by hand, like conventional mortars
- Extremely low permeability provides maximum protection against carbon dioxide and chlorides
- Excellent bond to the concrete substrate
- Contains no chlorides.
- Shrinkage Compensated

Application Methodology

Step no. 1: Surface Preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 10mm to avoid feather edging and to provide a square edge. Break out the complete repair area to a minimum depth of 10mm up to the saw edge. Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae. Where breaking out is not required, roughen the surface and remove any laitance by light scabbing or grit sand blasting. Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should then be assessed by a pull off test. Expose fully, any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit blasting is recommended for this purpose. Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water immediately after grit sand blasting to remove corrosion products from pits and imperfections within its surface.

Reinforcing Steel Priming:

Apply one full coat of FloArm Coat ZP and allow to dry before continuing.

Substrate Priming:

The substrate should be thoroughly soaked with clean water and any excess removed prior to applying one coat of ReArm SBR primer and scrubbing it well into the surface. ReArm CMS 2K can be applied as soon as the primer becomes tacky. If ReArm SBR is too wet, vertical build up of the ReArm CMS 2K mortar may be difficult. In exceptional circumstance, e.g. where a substrate/repair barrier is required or where the substrate is wet or likely to remain permanently damp, ReArm Bond EBA bonding aid should be used.

Step no. 2: Mixing

Care should be taken to ensure that ReArm CMS 2K thoroughly mixed. A forced-action mixer is essential. Mixing in a suitable sized drum using an approved spiral paddle in a slow speed (500 rpm) heavy duty drill is acceptable for the occasional one bag mix. Free fall mixers must not be used. For normal application, use 3.25 to 3.50 litres of drinking quality water per 25 kg bag of ReArm CMS 2K. Always add polymer in to water and mix for 2 minutes. Then add powder slowly and mix for 3 minutes until homogeneous material results. Depending on the ambient temperature and the desired consistency, the amount of water required may vary slightly but should not exceed 3.5 litres per 25 kg bag of ReArm CMS 2K under any circumstances.

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Steel Reinforcement Primer

The steel reinforcement primer shall be ReArm Coat ZP, a two component zinc rich epoxy primer. The primer shall be an 'active' type capable of avoiding the generation of incipient anodes in the immediately adjacent locations. It shall be fully compatible with the ReArm CMS system of concrete repair.

Repair Mortar

The polymer modified shrinkage compensated reinstatement mortar shall be ReArm CMS 2K, a two component cement based blend of powder and a liquid polymer to which only the site addition of clean water shall be permitted.

Step no. 3: Application

Exposed steel reinforcing bars should be firmly secured to avoid movement during the application process as this will effect mortar compaction, build and bond. Apply the mixed ReArm CMS 2K to the prepared substrate by gloved hand or trowel. Thoroughly compact the mortar on to the primed substrate and around the exposed reinforcement. ReArm CMS 2K can be applied from a minimum of 10 mm to 15mm thickness in smaller pockets or with the use of form work. If form work is used it should have properly sealed faces to ensure that no water is absorbed from the repair material. In horizontal locations ReArm CMS 2K can be applied up to 100 mm thickness.

Note

The minimum applied thickness of ReArm CMS 2K is 10 mm.

Finishing

ReArm CMS 2K is finished by striking off with a straight edge and closing with wooden or plastic floats, or damp sponges may be used to achieve the desired surface texture. The completed surface should not be over worked.

Low Temperature Working

In cold conditions down to 15°C, the use of warm water (up to 30°C) is advisable to accelerate strength development. Normal precautions for winter working with cementitious materials should then be adopted.

High Temperature Working

At ambient temperatures above 35°C, the material should be stored in the shade and cool water used for mixing.

Curing

ReArm CMS 2K is cement based mortar. In common with all cementitious materials ReArm CMS 2K must be cured. Large areas should be cured as Trowel ling progresses (0.5 m at a time) without waiting for completion of the entire area. In fast drying conditions, supplementary curing with polythene sheeting taped down at the edges must be used. In cold conditions, the finished repair must be protected from freezing.

Over coating with protective decorative finishes

ReArm CMS 2K is extremely durable and will provide excellent protection to the embedded steel reinforcement within the repaired locations. The surrounding parts of the structure will generally benefit from the application of a barrier/decorative coating to limit the advance of chlorides and carbon dioxide, thus bringing them up to the same protective standard as the repair itself. MYK arment recommends the use of FloArm Coat Anticarb range of protective, anti carbonation coatings. These products be applied over the repaired area after removal of the curing membranes.

Cleaning

Mixed material should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Limitations

ReArm CMS 2K should not be used when the temperature is below 10°C and falling. The product should not be exposed to moving water during application. Exposure to heavy rainfall may result in the surface scour. The material should not be applied on large continuous areas in single application as a render. If any doubts arise concerning temperature or substrat conditions, consult MYK arment.

Design Criteria

ReArm CMS 2K is designed for use in vertical or horizontal applications. It can be applied from a minimum of 10 mm to 15mm thickness in vertical sections. Higher thicknesses can be achieved by the use of formwork. Thicker sections can be built up in layers. In horizontal locations ReArm CMS 2K can be applied up to 50mm thickness. The material should not be applied at less than 10 mm thickness.



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Technical Data

The following results were obtained at Water Powder ratio of 0.13 and temperature of @ 30°C

Fresh wet density	Approx 2100 kg/m ³
Mixing ratio	ReArm CMS 2K powder 25 kg+ ReArm CMS 2K liquid part 1 Kg Water: 3.25 liters
Compressive strength	1 Day -12 N/mm ² 28 Days -40 N/mm ²
Flexural strength 28 days	8 N/mm ²
Percentage water absorption (immersion test)	After 24 hrs: 0.45
Chloride ion diffusion (Accelerated Electrochemical chloride ion diffusion test) (in mg/litre after 24 hours)	NIL
Depth of carbonation, in mm: 2 hours (Accelerated carbonation test)	Nil
Coefficient of thermal expansion	7 to 12 x 10 ⁻⁶ / 00C
Setting time@ 30°C	
Initial set	Approx.6 hrs 15 mins
Final set	Appox.8 hrs 30 mins

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Chemical Resistance:

The low permeability of ReArm CMS 2K severely retards chemical attack in aggressive environment. The cured mortar is highly impermeable to acidic gases chloride ions, oxygen and water.

Packaging

ReArm CMS 2K is available in 26 kgs kit packed.
(ReArm CMS 2K, Powder Part:- 25 kg + ReArm CMS 2K liquid part : 1 kg)

Coverage And Yield

ReArm CMS 2K yield Approximately 13 litres/per 26 kgs pack (Mixing ratio: ReArm CMS 2K Powder: 25 kgs + ReArm CMS 2K liquid part: 1 kg + Water: 3.25 litre)

Note: The actual yield per bag of ReArm CMS 2K will depend on the consistency used. The coverage figures for liquid products are theoretical. Due to wastage factors and the variety and nature of possible substrates, practical coverage figures may be reduced.

Storage and Shelf Life

ReArm CMS 2K has a shelf life of 6 months if kept in a dry store in the original, unopened bags or packs. If stored at high temperature and/or high humidity conditions shelf life may be reduced.

Note: Points

1. For every three meter by three meter the construction point(5 mm width) is required to put in grid type at the time of constructing with floor ReArm CMS 2K and then it will be fill by SealArm EMS.
2. If the vibrations are more than it is suggested to use ReArm bond EBA as a primer to avoid any deboning issue due to high vibrations (road etc repair)

Health & Safety

ReArm CMS 2K contain cement powder which when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipments. The use of barrier cream provides additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately.

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Product Categories Available



Legal Note

The information, and, in particular, the recommendations relating to the application and end-use of MYK Arment products, are given in good faith based on MYK Arment current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with MYK Arment's recommendations. In practice, the difference in materials, substrates and actual site conditions are such that no warranty in respect of merchant ability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application & purpose. MYK Arment reserves the right to change the properties of its products. the proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local product data sheet for the product concerned, copies of which will be supplied on request.