

# ARMOCEM

## Hydraulic Binder for Normal Setting Fast Drying Non Shrinking Screed

### Description:

ARMOCEM is a special bonding cementitious based binder, that when mixed with aggregate and water, it creates a controlled shrinker screed that dries in a short period of time. The mix would allow the screed flooring with thickness from 10 to 100 mm to harden in 24 hours and to dry in 4 days. ARMOCEM will provide a high mechanical strength to the screed which allows to fix any type of flooring, such as ceramic, stone, marble, PVC and wood.

### Applications:

ARMOCEM is used for forming bonded, unbonded and floating screed, on old or new concrete substrates prior to installation of ceramic tiles, PVC, carpet, parquate, marble, or any other flooring finishing product.. It is suitable to cast screed which permits pedestrian traffic after 24 hours from the time of casting and perfectly dry after 4 days.

### Advantages:

- Formulation of screeds which sit to accept light foot traffic after 12-16 hours & completely dry after 4 days for laying of ceramic tiles and natural stone; wooden flooring.
- High strength for pedestrian traffic and medium loads.
- Applicable in thicknesses from 40 mm to 100 mm.
- High bonding to substrate.
- Compatible with all cementitious substrate.

### Instructions for Use:

#### Surface Preparation:

ARMOCEM can be applied on any type of support if not subject to rising humidity. In such case it is essential to fix polythene sheets, tarred paper or any other vapour barrier product. In case of adherent screed with thickness from 10 to 40 mm, the

substrate must be clean and dry, free from inconsistent parts and grease substances.

#### Unbonded screed with thickness 40 mm.

The mixed obtained with ARMOCEM should be handled as a normal concrete mix. All precautions and practices that are applied on normal cement screed casting should be followed. Pour the mix on the substrate floor covered with polythene or isolating sheets to create a separation layer between the screed and the substrate. In case that water pipelines electrical conduits or cooling / heating coils exist within the screed, it is recommended to reinforce the top part of the pipes with wire mesh.

In case that casting cannot be completed and should be interrupted for more than one hour, it is necessary to fix 6.0 mm dia and 25 cm long steel dowels at 30 cm spacing between the old and the new screed.

For the preparation of mixture, put into a blender or cement mixer ARMOCEM, graded aggregate from 0 to 6 mm and water, then mix for 3 minutes. Once the mixture becomes homogeneous and consistent, cast it immediately and trowel within 30 to 40 minutes. Quantity of water in the mix should be adjusted according to water content in the sand (if wet sand is used). The right water content is essential to allow a complete hydration of the binder and to achieve the right workability in order to get a smooth surface without cracks after troweling.

#### Mixing dosage:

|                                  |  |
|----------------------------------|--|
| ARMOCEM                          | 20 Kg. bag   |
| Graded aggregates from 0 to 6 mm | 160-180 kg   |
| Water                            | 11 - 13 Kg.<br>The amount of water could vary Depending on moisture content in the aggregate |

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## **bonded screed with thickness from 10 to 40 mm.**

For the preparation of mixture the same steps described float unbonded screed must be followed, with a difference that an anchorage mortar must be applied on the floor substrates before applying ARMOCEM mixture. To ensure proper adhesion with the substrate, prime the substrate with ARMOPRIME AC and cast the screed mix while the prime is still tacky. Bonding slurry can also be used to bond the screed with the substrate.

### **Bonding slurry mix design:**

MEGASEAL SBR PLUS : 1 Part  
Water : 1 Part  
Cement : 3 Parts

### **Floating Screeds (min. 55 mm thick)**

The screed is prepared and applied in the same way as an unbonded screed.

The insulation should have a high resistance to compression and not depress more than 3mm under the anticipated final load. Where underfloor heating pipes are incorporated, they should be located a minimum of 25mm below the surface of the screed. Additionally reinforcing mesh should be placed over the pipes.

The underfloor heating may be commissioned after 4 days.

After mixing, apply with a brush the anchorage mortar on the substrate and cast fresh on fresh the ARMOCEM screed, in order to guarantee a perfect adhesion.

### **Standards:**

- BS 8204-1
- EN 13813

*When mixed in correct proportions of graded aggregate mixed with the right W/C ratio.*

### **Packaging:**

ARMOCEM is available in 20 Kg bags.

### **Storage:**

Store in original packing in dry conditions away from direct sunlight and high humidity levels.

## **TECHNICAL PROPERTIES**

|                                 |  |
|---------------------------------|--|
| Appearance                      | : Powder   |
| Color                           | : Grey   |
| Density                         | : 850 Kg.m <sup>3</sup>  |
| Mix Density                     | : 2,100 Kg.m <sup>3</sup>  |
| Pot-life of mixture             | : 60 min.  |
| Final Hardening                 | : After 4 days   |
| Temperature of Application      | : From +5°C to +40°C   |
| Harmfulness EEC 88/379          | : No   |
| Waiting time before insulation  | : 24 hours for ceramic tiles<br>2 days for stone and marbles tiles<br>4 days for PVC and wood flooring |
| <b>Performance after curing</b> |  |
| Resistance to alkalis           | : Excellent  |
| Resistance to solvents          | : Excellent  |
| Temp. when in use               | : From -20 °C to +90 °C  |

### **Shelf Life:**

ARMOCEM can be utilized within 12 months of production date if stored in proper conditions in unopened original packing.

### **Cleaning:**

Clean tools and equipment with water before material harden.

### **Remarks:**

- During summer season or temperature higher than 40°C, working area should be covered to prevent the direct sun effects. Keep equipment cool and use cold water for mixing the product.
- Protect the freshly applied screed from direct sunlight and/or strong drying wind.
- Screed should be cured for minimum 3 days with clean water.
- For large areas and/or external application, consult with structural engineer for approved expansion joint applications.
- Do not use where negative hydrostatic pressure is evident (i.e. rising damp).
- Do not mix excessive quantity of water as it will extend the time of drying and will, when dries, create uneven surface with cracks,
- Do not wet the top of applied screed for the purpose of smoothing it with the trowel.
- Where it is necessary to for lay Electrical conducts or piping in the screed, the mortar on

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top of the conduct or pipe should not be less than 25mm thick, and should be reinforced with wire mesh.

- Around the parameter of the area and around columns it is recommended to make an expansion joint with minimum 10mm wide using a flexible material.
- If the casting of the screed is interrupted, make a straight cut at the end of the casted screed and inserts 25 cm steel dowels of 4 to 6 mm dia at a 30 cm spacing to ensure a perfect bonding and to avoid cracks at the construction joint.
- Use drum mixer, ordinary concrete mixer or screw mixer. Mixing manually with shovel is not recommended as it will not allow a good dispersion of the mix components.
- Do not mix ARMOCEM with other cement, lime, plasticizer or any other product.
- Do not mix ARMOCEM with sand only. Use aggregate graded from 0 to 6.0 mm.

## Health and Safety:

- Use goggles and gloves during application. Do not breathe vapor of products.
- Avoid contact with eyes or skin.

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This technical data sheet is not considered as local building codes. It shall be used as general reference for the product, based on our current knowledge and experience. However the company do not accept any liability arising from the use of its products as it has no direct control on how and where the product is applied.

