

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1. Product identifier: MARMOCEM

Manufacturer / Importer / Supplier:

ANAV INDUSTRIES

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Rohad, Distt. Jhajjar, Haryana-124501

Marketed By:

Marmo Solutions Pvt. Ltd.

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MARMOCEM:

MarmoCem is a certified, eco-friendly, hydraulic, normal-setting and rapid-drying mineral binder for high-performance screeds and heat-radiant slabs, ideal for use in GreenBuilding. With very low volatile organic compound emissions. Recyclable as an inert material at the end of its life. MarmoCem, mixed with inert materials of assorted grain size from 0 to 8 mm, creates screeds of high dimensional stability and constant moisture stability, guaranteeing the rapid, safe laying of ceramic tiles after 24 hours and hardwood floors after just 5 days.

2. Key:

- Category: Inorganic mineral products
- Preparation of the substrates
- Rating: Eco 2
- Very low VOC emissions
- Can be recycled as inert material

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3)Notes: - Can be recycled as mineral inert material, avoiding waste disposal costs and environmental impact

4)Product Strength:

- (a)Internal, external
- (b)Low water/cement ratio
- (c)Mechanical performances superior to those of Portland cements
- (d)High dimensional stability and long-lasting performance
- (e)Prolonged workability both in the manual and mechanical laying
- (f)Suitable for laying ceramic tiles, porcelain tiles, natural stone, hardwood floors and resilient materials using adhesives

5)Usage Area:

(a)Screed with normal setting and rapid drying, adherent to the substrate with thickness ≥ 20 mm, floating screeds with thickness ≥ 40 mm if mixed with suitable inert materials.

(b)Compatible adhesives:

- (a)Gel adhesives mineral adhesives with SAS technology, single and two-component organic adhesives
- (b)reactive-epoxy and polyurethane, single and two-component cement-based adhesives, dispersed in water or solvent solutions

(c)Covering materials:

- (a)homogeneous tiles, ceramic tiles, klinker, cotto, glass and ceramic mosaic, of all types and formats
- (b)natural stone, recomposed materials and marble including those subject to high deformation or rapid staining due to water absorption
- (c)hardwood floors, rubber, PVC, linoleum, carpeting

(d)Substrates:

- (a)insulation castings and flooring in prefabricated concrete or fresh concrete castings, cement-based screeds, lightened concrete, panels for sound-proofing and thermal isolation
- (e)Screeds for internal/external use, in domestic, commercial and industrial applications, also in areas subject to thermal shock and freezing, under floor heating systems.

(f)Do not use : On deformable substrates, without having previously calculated the degree of flexure and having provided for the necessary fractionizing joints on the screed; in adherence on concrete castings which have not yet fully cured.

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6) Usage Instruction:

(a) Preparation of substrates

(a) Substrates must be dimensionally stable, dry, and free from any rising damp, without cracks, free from dust and loose, crumbling parts and must present a degree of stability suitable for its use.

(b) The screed to be covered must be separated from all vertical elements by means of a band of flexible material with a thickness of $\approx 8/10$ mm, along the entire height of the screed.

(c) The structural joints present in the substrate must be created accordingly also in the thickness of the screed.

(b) Anchored screeds:

(a) In the case of irregular substrates with screed thicknesses which are variable or in any case less than 40 mm, it is advisable to prepare the substrate positioning, between the midpoint and lower third of the total thickness of the screed, an electro-welded 50x50-mm mesh of $\varnothing 2$ mm, to be anchored to the substrate.

(b) To improve adhesion to the substrate apply a slurry key "wet on wet", prepared with 2.5 parts MarmoCem, 1 part eco-friendly, water-based Marmo Latex 47/ Marmo SBR-47 and 1 part water.

(c) Floating screeds:

(a) When laying water-sensitive flooring or in the case of substrates with a risk of moisture rising or which are not perfectly cured, it is indispensable to create a vapour barrier over the substrate (which should be smooth and free from rough parts) using sheets of polyethylene or PVC.

(b) The sheets should be laid overlapping one another by at least 20 cm, sealed with adhesive tape and turned up on the walls and vertical elements such as pillars to a height corresponding with the entire thickness of the screed.

(d) Screeds on compressible substrates:

(a) On lightened, low-density substrates or in the presence of layers (also thin layers) of thermal/ acoustic insulating materials, provide for screed thicknesses and possibly also reinforcement calculated on the basis of the deformability class of the materials mentioned.

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7) Preparation:

(a) Marmocem must be mixed with water and inert materials using tilting mixers, mobile concrete mixers, pressure or screw mixers, following the indicated water/MarmoCem mixing ratio, until a semi-dry consistency has been obtained, and using an inert material, with assorted grain size from 0 to 8 mm, free from residual traces of earth or dust, to create screeds with thicknesses between 25 and 80 mm.

(b) With screeds of lower or greater thicknesses use inert materials with a maximum grain size equal to approximately 1/3 of the required thickness.

(c) The percentage of water may vary considerably depending on the grading curve and on the humidity contained in the inert material, therefore it is advisable to start mixing the paste with a small quantity of water and gradually add the remaining part, until the optimum consistency has been obtained.

(d) For laying floors in ceramic and natural stone in residential and commercial buildings not subject to heavy foot traffic or concentrated loads, a dosage of MarmoCem equal to 200 kg/m³ of inert material is recommended; when laying hardwood floors for the same uses the dosage of MarmoCem must be at least 250 kg/m³.

(e) For uses different from those indicated and subject to heavy, concentrated loads, the proportion of MarmoCem must be calculated in each separate case, using the technical characteristics given in this data sheet.

8. Examples of mixing ratios:

Mixing ratio: 4.5 - 5 litres of clean water per 20 kg bag
11.25 - 12.5 litres of clean water per 50 kg bag

(*) Value calculated considering an average density of 1600 kg/m³.

(**) Important: maximum value calculated with dry inert material. Local standards might request different proportions.

Preparing the mix:

- Mix MarmoCem with clean water until a smooth, lump-free paste is obtained.
- Leave to rest approximately 5 minutes and re-stir.
- In a clean mixing container pour in 4.5 - 5 litres of clean water, and then add 20 kg bag/ 11.25-12.5 litres of clean water for 50 kg bag of MarmoCem powder, using an electric mix (approx 300RPM) mix until a smooth, lump free paste is obtained. Leave the mix to rest for approximately 5 minutes and then re-stir.
- Mixed this way, MarmoCem has a pot life of approximately 8 hours.

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9. Application:

- a) MarmoCem can be applied in a practical and safe manner, following the traditional phases required to produce cement-based screeds: i.e. preparation of level belts, casting and compacting the paste, levelling and final smoothing with a float or by mechanical means.
- b) The compacting phase is particularly important to ensure the highest levels of mechanical performance.
- c) The finishing of the screed, carried out by moistening it with water and using a rotating steel disk, can result in the creation of a surface crust which is not very absorbent and will extend the drying time of the screed and worsen the performance of the adhesive.
- d) At the point where tubing is installed, where the thickness of the screed might be finer (minimum 2 cm), it is necessary to insert a tight-mesh, galvanized metal reinforcement cement grid (2/3 cm).
- e) At the point corresponding with day joints caused by interruption of the work process, it is necessary to make a connection between the two castings, inserting iron rod bolts of ≈ 50 cm length and 5 \varnothing with a distance of approximately 20/30 cm between one rod and the next, or a section of electro-welded mesh ($\varnothing 5$ mm, 20x20 cm mesh size) and applying to the wall of the casting, before continuation of the work, a slurry key prepared with 2.5 parts of MarmoCem, 1 part of eco-friendly, water-based Marmo Latex 47/ amrmo SBR-47 and 1 part water.

10. Cleaning: Residual traces of MarmoCem can be removed from machinery and tools using water before the product hardens.

11. Notes:

11.1. Other dosages:

- (a) To obtain higher degrees of mechanical resistance it is possible to prepare screeds with proportions of binder greater than those indicated.
- (b) In these cases greater attention has to be paid to the mix design of the mortar to be prepared, carefully selecting the granulometric curve of the inert material and the water/MarmoCem ratio.

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11.2. Joints:

- (a) screed must be desolidarised around the perimeter, laying the Marmo Taptex compressible tape along the whole perimeter of the room, on the walls and on any other vertical elements protruding from the supporting layer.
- (b) Creating fractionizing surface joints, cutting the screed while still wet up to a depth that is about 1/3 of the thickness and paying attention not to damage the reinforcement grid, if present.
- (c) Their location and space distance must be determined at the design stage. They are typically carried out:
 - (i) in the case of sudden change in the size of flooring,
 - (ii) near doors,
 - (iii) in the presence of elements with loss of continuity,
 - (iv) for the fractionizing of large continuous surfaces:
 - (d) 25 m² with 6 m maximum individual size, in case of external screeds
 - (e) 50 m² with 8 m maximum individual size, in case of internal screeds (40 m² in case of underfloor heating systems).
 - (f) Structural joints located in the substrate must be respected.

11.3. Measurement of humidity: residual humidity can be measured correctly only with a calcium carbide hygrometer. Normal electric hygrometers are not recommended as they will provide unstable and incorrect values owing to the special hydraulic binders used.

11.4. Underfloor heating systems: initial start-up at least 5 days after laying the screed at a supply temperature of between +20 °C and +25 °C, maintain this for at least 3 days then set the maximum project temperature and maintain it for at least another 4 days. Bring the screed back to room temperature and lay (EN 1264-4 point 4.4).

TECHNICAL DATA COMPLIANT WITH MARMO SOLUTIONS QUALITY STANDARD

Appearance	Mixture of binders	
Apparent Volumetric Mass	= 0,96 kg/dm³	UEStc/CSTB 2435S
shelf Life	= 12 months in the original packaging in dry environment	

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Dosages:

(a)Laying ceramic Tiles	= 160 kg/m ³ sand 0-8 mm	EN 13139 – DIN 1045-2:A/B
(b)Laying Hardwood floors	= 200 kg/m ³ sand 0-8 mm	EN 13139 – DIN 1045-2: A/B

Pot life	≥ 3h
Temperature range for application	From +5° C to +35°C

Foot traffic= 8 h

Waiting time before laying (thickness 5cm)

(a)Ceramic Tiles = 24 h

(B)Wood effect tiles = 5 days

Coverage = Coverage per mm of thickness ≈ 1.2 kg/m²

12.Performance:

High-Tech

Compressive strength ≥ 55 N/mm² (binder) after 28 days EN 196/1

Performance: (screed)	160 kg/m ³ kg/m ³	Dosage 200 kg/m ³ kg/m ³	EN 13892-2
(a)Compressive strength after 28 days	≥ 32 N/mm ²	≥ 45N/mm ²	EN 13892-2

(b)Flexural strength after 28 days	≥ 6,5 N/mm ²	≥ 8 N/mm ²
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Residual moisture (thickness 5 cm):

(a)After 24 hours	≤ 3%
(b)After 5 days	≤ 2%

13. PACKAGING:

Marmocem is available in 20 kg and 50 kg bags.

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14. STORAGE:

When stored in dry conditions in the original, unopened bags, Marmocem has a shelf life of 12 months. If stored at high temperature and or high humidity conditions the shelf life may be reduced.

15. Warning:

(a) Product for professional use

(b) abide by any standards and national regulations

(c) use in the recommended dosages

(d) do not add other binders, additives or water to the mixture during the setting phase

(e) low temperatures and high relative humidity lengthen the drying time of the screed

(f) an excessive quantity of water and use of inert materials with a granulometric grading lower than that recommended or non-assorted will reduce strength and the drying time

(g) before laying hardwood floors and resilient materials, check residual moisture with a calcium carbide hygrometer

(h) do not moisten the screed and protect it from direct sunlight and currents of air for the first 24 hrs

(i) if necessary, ask for the safety data sheet

for any other issues, contact the Marmo Solutions Pvt Ltd Contact no. 011-40586081, email id : info@marmosolutions.com

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