

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

1.1 Product identifier: MARMOFLEX

Manufacturer / Importer / Supplier:

ANAV INDUSTRIES

Address: Khewat No. 1358/1151, Khatoni
No. 1461, Main NH-9, Near Toll Plaza, Village
Rohad, Distt. Jhajjar, Haryana-124501

Marketed By:

Marmo Solutions Pvt. Ltd.

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2. Marmoflex :

Marmoflex is High-performance cementitious adhesive with no vertical slip and extended open time for ceramic tiles and stone material.

3. CLASSIFICATION IN COMPLIANCE WITH ISO 13007:

Marmoflex is an normal (1) cementitious adhesive (C) slip resistant (T) with extended open time (E) classified as C1TE.

4. WHERE TO USE:

- Bonding of ceramic tiles (double-fired, single-fired, terracotta, klinker, etc.) for internal and external applications.

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5. On the following substrates:

- Cement screeds, as long as they are sufficiently cured and dry
- Bonding small sized tiles in swimming pools and basins
- cement or mortar wall renders
- Bonding floors subject to heavy stress
- Tile on tile of existing flooring
- gypsum or anhydrite after having first applied Marmoflex Primer

6. TECHNICAL CHARACTERISTICS:

Marmoflex is a grey or white powder composed of cement and graded aggregates. It contains a high quantity of special admixtures created according to a formula developed in Anav Industries research laboratories.

- It has high bonding and thixotropic characteristics, so that it may be applied on vertical surfaces without dripping or letting the tiles slip.

7. A mortar with the following features is obtained when mixed with water:

- Easily workable
- Hardens without appreciable shrinkage
- Extended open time

8. RECOMMENDATIONS DO NOT use Marmoflex:

- On walls and floors subject to strong movement or vibration (wood, fibre-cement, etc.)
- On concrete subject to high shrinkage
- On metal surfaces

9. APPLICATION PROCEDURE:**• Preparing the substrate:**

The substrates must be flat, mechanically resistant, free of loose parts, grease, oils, paints, wax, etc. Damp substrates can slow down the setting of Marmoflex. Cement substrates should not be subject to shrinkage after the installation of the ceramic tiles, therefore, during spring and summer, renders must cure at least one week for each cm of thickness and cement screeds must have an overall cure time of at least 28 days, unless they are made with special binders for Marmo Solution Pvt. Ltd. screeds such as Marmocem.

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Dampen with water to cool surfaces which have become heated from exposure to sunlight. Gypsum substrates and anhydrite screeds must be perfectly dry (max. residual moisture 0.5%), sufficiently hard and free from dust. It is absolutely essential that they must be treated with Marmoflex Primer, while areas subject to extreme dampness must be primed with Marmoflex Primer.

10. Preparing the mix:

- Mix Marmoflex 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 Marmoflex powder, using an electric mix (approx 300RPM) mix until a smooth, lumpfree paste is obtained. Leave the mix to rest for approximately 5 minutes and then re-stir.
- Mixed this way, Marmoflex has a pot life of approximately 8 hours.

11. Spreading the mix:

- Marmoflex is applied to the substrate using a notched trowel.
- Choose a trowel that allows for complete coverage of the tile back.
- To achieve a good adhesion, spread an initial thin layer of Marmoflex on the substrate using the flat side of the trowel.
- Immediately after, apply the desired thickness of Marmoflex using a suitable notched trowel, depending on the type and size of the tiles (see "Coverage").
- For external ceramic tile floors and walls, sizes greater than 900 cm², floors subject to heavy loads, when applying in swimming pools and basins filled with water, spread also the adhesive on the back of the tiles (back-buttering) in order to ensure a complete coverage.

12. Installing the tiles:

- There is no need to wet the tiles before installing them. Only with very dusty backs it is recommended to dip the tiles in clean water.
- Tiles should be installed under a firm pressure to ensure good coverage of the adhesive.
- In normal temperatures and humidity conditions, the open time of Marmoflex is approximately 30 minutes.

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- Unfavourable weather conditions (strong sun, wind, high temperatures, etc.) or a highly absorbent substrate can reduce the open time, even to just a few minutes. It is therefore necessary that careful checks be made to ensure that a skin does not form on the surface of the spread adhesive, which should stay fresh.
- If not, refresh the adhesive by re-spreading with a notched trowel.
- It is not recommended to wet the adhesive with water once a skin has formed because, instead of dissolving the skin, the water will form an anti-adhesive film.
- If necessary, tiles should be adjusted within 60 minutes of installation.
- Tiling installed with Marmoflex must not be washed or exposed to rain for at least 24 hours and must be protected from frost and strong sun for at least 5-7 days.

13. GROUTING AND SEALING:

Wall joints can be grouted after 4-8 hours and floor joints can be grouted after 24 hours with the specific Marmo Solutions Pvt Ltd cementitious or epoxy grouts, available in different colours. Expansion joints must be sealed with the specific Marmo Solutions Pvt Ltd sealants.

TECHNICAL DATA (typical values) - European EN 12004 as C1TE
 In Compliance with: - ISO 13007-1 as C1TE

Product Identity

Type: Powder
 Colour: Grey, white
 Bulk density (kg/m³): 1300
 Dry Solids content (%): 100

COMPOSITION AND PROPERTIES OF MIXTURE (at +23°C and 50% R.H.)

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
 Consistency of mix: Pasty
 Density of the mix (kg/m³): 1300
 pH of mix: 13
 Pot life: over 8 hours

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Application temperature:	From +5°C to +40°C
Open time (according to EN 1346)	30 minutes
Adjustability time:	45 minutes
Ready for grouting on walls:	After 4-8 hours
Ready for grouting on floors:	After 24 hours
Set to light foot traffic:	24 hours
Ready for use:	14 days

14. FINAL PERFORMANCES:

Tensile adhesion strength in compliance with EN 1348 (N/mm²):

• Initial tensile adhesion strength (after 28 days):	>1
• Tensile adhesion strength after heat ageing:	>1
• tensile adhesion strength after water immersion:	>1
• tensile adhesion strength after freeze/thaw cycles:	>1
Resistance to alkalis:	Excellent
Resistance to oils:	Excellent (poor to vegetable oils)
Resistance to solvents:	Excellent
Temperature when in use:	From -30°C to +90°C

SET TO LIGHT FOOT TRAFFIC: Floors are set to light foot traffic after approx. 24 hours.
READY FOR USE: Surfaces are ready for use after approx. 14 days. Swimming pools and basins can be filled after 21 days.

Cleaning: Tools and containers should be cleaned with plenty of water while Marmo Flex is still fresh. Surfaces should be cleaned with a damp cloth, before the adhesive dries.

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15. CONSUMPTION:

Coverage per mm of thickness $\approx 1.2 \text{ kg/m}^2$

NOTE:

Coverage shown is approximate and is given for estimating purposes only. Actual job-site coverage may vary according to the tile thickness job conditions and setting practices. For coverage values contact Marmo Solutions Pvt Ltd Technical Services Department on 01140586081.

PACKAGING: Marmoflex white and grey is available in 20 kg and 50 kg bags.

STORAGE: Marmoflex can be stored 12 months in a normal environment in original packaging in a dry, elevated area.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION: Marmoflex contains cement that when in contact with sweat or other body fluids causes an irritant alkaline reaction and allergic reactions to those predisposed. It can cause damage to eyes. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals. In case of contact with eyes or skin wash immediately with plenty of water and seek medical attention. For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

16. PRODUCT FOR PROFESSIONAL USE:

WARNING: Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product. Please refer to the current version of the Technical Data Sheet, available from our website www.marmosolutions.com

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