

## PRODUCT DATA SHEET

# SikaCeram<sup>®</sup>-401

(formerly MTile 401)

### CEMENTITIOUS FLOORING MORTAR FOR MEDIUM TO THICK BED FIXING OF TILES AND PAVERS

#### DESCRIPTION

SikaCeram<sup>®</sup>-401 is a 1-component, cementitious powder formulated with aggregates for high performance thick bed fixing in a wide range of floor tiling and paving applications.

Suitable for use in hot and tropical climatic conditions.

#### USES

- Suitable for internal and external floor applications.
- Can be used as a pourable mortar, making it easier to achieve a solid bed for high traffic applications.
- Can also be used to pre-level localized areas before fixing of tiles or pavers.
- Suitable for use in kitchens, showers and wet process areas.

#### FEATURES

- Easy to use
- Good adhesive bond strength
- For horizontal application only

#### PRODUCT INFORMATION

Composition	Blend of Portland cement, graded aggregates and organic polymer.
Packaging	25 kg bag
Shelf life	12 months from date of production
Storage conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight, heat and moisture.
Appearance and colour	Grey or white powder
Density	Grey: ~1.9 kg/l (mixed, at 25°C) White: ~2.0 kg/l (mixed, at 25°C)

#### TECHNICAL INFORMATION

Tensile adhesion strength	≥ 0.5 N/mm <sup>2</sup> (Initial, 28 days cured at +23°C)
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## APPLICATION INFORMATION

<b>Consumption</b>	Powder consumption and coverage depends on the surface profile and roughness of the substrate, size and reverse profile of the tiles.  As a guide: For 1 mm thickness over 1 m <sup>2</sup> area approximately 1.6 kg of grey powder or approximately 1.7 kg of white powder, is required.  These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment. Above consumption indications refer to the installation of slightly profiled, non-vitrified or vitrified tiles on flat substrate e.g. render or cement screed.	
<b>Layer thickness</b>	Min. 4 mm / Max. 40 mm	
<b>Ambient air temperature</b>	+5°C min. / +40°C max.	
<b>Mixing ratio</b>	<b>Powder colour</b>	<b>Water per 25 kg bag</b>
	White	3.75 - 4.35 L
	Grey	4.0 - 4.5 L
<b>Maturing time</b>	~2 min. (Slake time at 25°C)	
<b>Pot Life</b>	~3 hours (25°C)	
<b>Open Time</b>	~20 min. (25°C)	

## BASIS OF PRODUCT DATA

- All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
- Internal Reference - Version: MBS\_CC-UAE/Tile\_401\_05\_15/v1/09\_19

## FURTHER DOCUMENTATION

General Method Statement (GMS)

## IMPORTANT CONSIDERATIONS

- Protect from adverse weather conditions, such as extremely high or low temperatures, rain, direct exposure to sun, wind, etc. for at least 24 hours from application.
- Avoid application in direct sunlight and/or strong wind / draughts.
- Make a test area prior to carrying out any work with natural stones.
- Never add water or dry powder to reconstitute a SikaCeram®-401 mix which has already begun to set.
- For natural stones or artificial stones subject to staining and/or deformation please use suitable tile adhesive. It may be necessary to apply a suitable sealer, e.g. SikaTop®-550 Seal (acrylic reinforced cementitious, flexible waterproof coating) to the back of moisture sensitive natural stone or agglomerate tiles. Please consult Sika Technical Service Department for recommendation.

- Do not use SikaCeram®-401 for vertical (wall) applications.
- Do not apply over an area greater than that which can be covered within the open time of the product.
- SikaCeram®-401 should be buttered on the backs of tiles to ensure full adhesive contact.
- Movement joints should be provided in accordance with normal practice. Refer to published local standards or BS 5385.
- Tiles should not be soaked in water prior to application.
- Gypsum based substrates must be subjected to pre-treatment - Please consult Sika Technical Service Department for recommendation.
- Additional latex additive may be required for tiles and pavers with low porosity - Please consult Sika Technical Service Department for recommendation.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

# APPLICATION INSTRUCTIONS

## SUBSTRATE PREPARATION

All surfaces must be clean, dimensionally stable, sound and free from all traces of oil, grease, mould release agents and curing compounds. It should be ensured that tiles and pavers are dry, and free of contaminants that could impair adhesion. Concrete and screeds should be cured sufficiently that all shrinkage movement has occurred.

## MIXING

- Mix a bag with the necessary, above mentioned, amount of water, for 3 minutes using an electric blender with a suitable mixing spiral at low speed, in a clean bucket, to obtain a smooth paste free of lumps.
- Use a blender at 400 rpm maximum; do not mix at faster rate because of mechanical strength decay of the cured product.
- Allow a maturing time (slake time) of approx. 2 minutes for SikaCeram®-401 in the mixing container, then remix briefly prior to application.
- Always start with minimum recommended quantity of water (water/powder ratio), only if required, gradually add water to desired consistency. Do not exceed the maximum allowed limit of water per bag weight.
- Higher volumes should ideally be mixed in a forced action mixer.

## APPLICATION

Apply SikaCeram®-401 to a uniform thickness of 4 mm to 40 mm or sufficient to cover the studs or keys on the tile back, on a working area of not more than 1 m<sup>2</sup>. Tiles / pavers should be dry and fixed by pressing into place with slight twisting motion, ensuring the tile back achieves full contact with the adhesive.

Solid bed fixing is recommended for all applications of SikaCeram®-401 Thick Bed Mortar. This is achieved by applying a coat of adhesive to the back of the tiles to ensure full adhesive contact.

Adjustments to tiles should only be made during the adhesives open time.

Remove excess adhesive from the face of the tile with a damp sponge or cloth before it sets.

Similarly, joints must be raked out to be ready for grouting.

Leave adhesive to cure for a minimum of 24 hours before grouting.

Select the appropriate grout from the SikaCeram® range depending from joint size, service and use.

## CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be removed mechanically.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability 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 and purpose. Sika 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.

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ISO 9001, 14001, 45001 – SGS  
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-Sika MB Construction Chemicals LLC  
-Sika MB Construction Chemicals for Manufacturing LLC  
-Master Builders Solutions LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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