

## PRODUCT DATA SHEET

# SikaCeram<sup>®</sup>-270 MultiFlow

CEMENTITIOUS, FAST SETTING, MULTI-FLOW, HIGH COVERAGE, LOW DUST FLOOR AND WALL TILE ADHESIVE

### DESCRIPTION

SikaCeram<sup>®</sup>-270 MultiFlow is a grey polymer modified, fast-setting, multi-flow, deformable, high-coverage, low dust, frost resistant floor and wall tile adhesive with reduced slip and extended open time. For small, medium, large sized ceramic tiles in residential, industrial, commercial wet and dry environments. Suitable for bonding all types of ceramic, marble, natural stone and mosaic tiles to all types of absorbent / non – absorbent construction material substrates. Layer thickness < 30 mm. Indoor and outdoor use. EN 12004: Classification - C2 FTE S1 in thin bed consistency and C2 FE S1 in flow bed consistency.

### USES

Bonding the following types of tiles:

- All kinds of medium, large-sized tiles
- Gres porcelain
- Ceramic
- Earthenware
- Mosaic
- Marble and other natural stones
- Porcelain
- Stoneware
- Terrazzo
- Unglazed

Bonding tiles for the following applications:

- Balconies
- Bathrooms
- Commercial / Industrial / Residential environments
- Facades
- Heated floors ( Water and electric systems)
- Heavy traffic floors
- Kitchens
- Shopping malls
- Terraces
- Wet areas
- Overlaying existing indoor sound ceramic tiles or stones

### CHARACTERISTICS / ADVANTAGES

- Multi-Flow: from Thin-bed to Flow-bed consistency.
- High coverage
- Fast-setting
- Deformable
- Low dust emission
- No vertical slipping
- Extended open time
- Typical bonding substrates: Anhydrite, cementitious, ceramic, gypsum

### ENVIRONMENTAL INFORMATION

- VOC emission classification GEV-Emicode EC1<sup>PLUS</sup>, license number 5297/24.02.97

### APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 12004 – Adhesives for Tiles

## PRODUCT INFORMATION

|                            |  |
|----------------------------|--|
| <b>Chemical Base</b>       | Portland cement, selected aggregates, water retention additives, re-dispersible polymer, other special additives   |
| <b>Packaging</b>           | 25 kg bag  |
| <b>Appearance / Colour</b> | Grey powder  |
| <b>Shelf Life</b>          | 6 months from date of production.  |
| <b>Storage Conditions</b>  | Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging. |
| <b>Maximum Grain Size</b>  | D <sub>max</sub> : 0,3 mm  |

## TECHNICAL INFORMATION

|                                  |                    |                         |           |
|----------------------------------|--------------------|-------------------------|-----------|
| <b>Tensile Adhesion Strength</b> | Early              | ≥ 1.0 N/mm <sup>2</sup> | (EN 1348) |
|                                  | Initial            | ≥ 2.0 N/mm <sup>2</sup> |           |
|                                  | Water immersion    | ≥ 1.0 N/mm <sup>2</sup> |           |
|                                  | Heat ageing        | ≥ 2.0 N/mm <sup>2</sup> |           |
|                                  | Freeze-thaw cycles | ≥ 1.0 N/mm <sup>2</sup> |           |
| <b>Transverse deformation</b>    | ≥ 2.5 mm           | (EN 12002)              |           |
| <b>Slip Resistance</b>           | ≤ 0.5 mm           | (EN 1308)               |           |

## SYSTEM INFORMATION

|                         |  |                          |
|-------------------------|--|--------------------------|
| <b>System Structure</b> | For the following substrates, a primer must be used:   |                          |
|                         | <b>Substrate</b>   | <b>Primer</b>            |
|                         | Calcium sulfate substrates (gypsum, plaster or calcium sulfate screed)   | Sika® Primer-11 W+ (1:1) |
|                         | Non and low absorbent substrate (mastic asphalt screed, existing ceramic tiles, natural stones sensitive to discoloration) | Sika® Primer-21 W        |

## APPLICATION INFORMATION

|                                |  |  |                        |
|--------------------------------|--|--|------------------------|
| <b>Mixing Ratio</b>            | Thin-set   | ~6.25 litres of water (25 % ± 1 %) per 25 kg bag |                        |
|                                | Flow-bed   | ~7.75 litres of water (31 % ± 1 %) per 25 kg bag |                        |
| <b>Fresh Mortar Density</b>    | ~1.4 kg/l (Thin-bed and Flow-bed fresh mortar consistency)   |  |                        |
| <b>Consumption</b>             | Consumption is dependent on the substrate, surface profile, roughness, size of the tiles, the joints between them and application technique.<br>As a guide for a single adhesive layer : |  |                        |
|                                | <b>Size of tiles</b>   | <b>Notched trowel size</b>                       | <b>Consumption</b>     |
|                                | Small  | 6 mm   | ~2.1 kg/m <sup>2</sup> |
|                                | Medium   | 8 mm   | ~2.5 kg/m <sup>2</sup> |
|                                | Large  | 10 mm  | ~2.9 kg/m <sup>2</sup> |
| <b>Layer Thickness</b>         | 30 mm max.   |  |                        |
| <b>Ambient Air Temperature</b> | +5 °C min. / +35 °C max.   |  |                        |
| <b>Substrate Temperature</b>   | +5 °C min. / +35 °C max.   |  |                        |
| <b>Maturing Time</b>           | ~3 minutes   |  |                        |
| <b>Pot Life</b>                | ~1 hour  |  |                        |

**Open Time**  $\geq 0.5 \text{ N/mm}^2$  after 20 min (EN 1346)

**Adjustability Time** ~40 min

**Applied Product Ready for Use**

| <b>Use</b>                       | <b>Waiting time</b> |
|----------------------------------|---------------------|
| Grouting on floors / walkability | ~3 hours            |
| Full surface traffic / use       | ~3 days             |
| Water immersion                  | ~3 days             |

Values determined at laboratory conditions:  $23 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$ , R.H.  $50 \% \pm 5 \%$ . Higher temperatures will reduce the indicated waiting time, lower temperatures increase them.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

Cementitious substrates must be sufficiently cured and dried (2–6 weeks), All substrates must be structurally sound, able to support the weight of the new tiling and provide a stable and securely fixed background. Surfaces shall be clean, dry, free of any loose or friable particles, contaminants such as dust, dirt, oil, wax, polish grease, cement laitance or efflorescence.

Depending on the substrate condition and contaminants to be removed from the surface, use adequate preparation techniques to remove all traces of any materials that could reduce the product's adhesion to the substrate. Smooth surfaces should be roughened lightly to improve adhesion. To confirm adequate surface preparation and adhesion, carry out a small trial before full application.

Any small surface defects and variations in level, profile, or around exposed aggregates can be pre-filled and levelled with an additional layer of SikaCeram®-270 MultiFlow to a maximum thickness of 10 mm, applied at least 24 hours before full adhesive application. For larger and thicker areas of surface re-profiling and making good, use appropriate mortars from the Sika MonoTop® or Sikafloor® Level range. Cracks in substrates must be identified and sealed appropriately e.g. with Sikadur® epoxy resins.

When laying tiles on non-absorbent or substrates with limited absorbency, such as existing ceramic tiles, painted surfaces etc. Check to confirm these surfaces are all stable, firmly and securely bonded. Then use suitable degreasing/descaling products to thoroughly and completely clean the surface.

For applications in hot climates / environments, or on absorbent substrates, thoroughly pre-dampen the surface immediately prior to product application. Avoid any ponding / standing water on the surface. Surface must not be damp to touch.

For tiling in constantly damp rooms, then a suitable Sika® waterproofing product / systems should be applied to the substrate before tiling using preferably SikaCeram®-260 StarFlex or SikaCeram®-295 StarS2.

### MIXING

Pour the recommended amount of clean cold water into a suitable, clean mixing container.

While stirring, slowly add SikaCeram®-270 MultiFlow powder to the water and then mix thoroughly using a low speed (~500 rpm) electric drill mixer until the material is fully mixed and lump free. Avoid entraining air into the mix by over mixing.

Allow the mixed product to 'mature' for 2–3 minutes before remixing for 30 seconds.

The finished mix should have a creamy consistency, uniformly coloured and it is easy to apply and spread.

### APPLICATION

SikaCeram®-270 MultiFlow is applied using a suitable notched trowel .

Apply sufficient adhesive to the prepared fixing surface with the appropriate trowel and comb to the required bed thickness. Apply sufficient product to ensure adequate 'wetting' of the backs of the tiles.

Tiling must to be carried out on freshly applied adhesive, exerting adequate pressure to ensure complete and uniform contact with the adhesive and thus optimum bond.

If a skin forms on the surface of the adhesive, immediately remove the adhesive layer with the trowel, discard material and apply a fresh layer of SikaCeram®-270 MultiFlow adhesive.

Adjust tiles if required.

Clean off surplus adhesive from tile face and between tile joints before the adhesive has dried.

After the required waiting time apply the appropriate grout into the tile joints.

For large tiles  $> 900 \text{ cm}^2$  (e.g.  $30 \times 30 \text{ cm}$ ), the double-spreading (buttering) technique is always recommended when thin set consistency is used.

## CLEANING OF TOOLS

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

## LIMITATIONS

- Gypsum plaster and anhydrite screed substrates must have a maximum moisture content of 0,5 %.
- For application and consumption details of other system products, refer to the respective Product Data Sheets.
- For natural stone tiles always carry out a small test application first.
- Avoid application in direct sunlight and/or strong wind / draughts.
- Do not apply on metal or wood surfaces
- Do not apply on existing ceramic tiles outdoors.
- Do not add anything to the product that is not specified in this Product Data Sheet.
- Do not use for any applications not explicitly described in this Product Data Sheet.

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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