BUILDING TRUST

PRODUCT DATA SHEET

SikaCeram® FLX 23

(formerly MTile FLX 23)

Flexible tile adhesive for all types of ceramic tiles, porcelain, fully vitrified tiles, mosaic and moisture tolerant natural stone

DESCRIPTION

SikaCeram® FLX 23 is a high performance, one-pack, flexible polymer containing, water resistant, premixed adhesive.
Consisting of portland cement, sand and specific additives, used as thin bed tile adhesive for permanent fixing of ceramic tiles.
Suitable for use in hot and tropical climatic conditions.

USES

- Suitable for indoor and outdoor use on walls and floors
- Suitable for bonding of ceramic tiles, porcelain mosaic, brick tiles, clinker bricks, fully vitrified tiles and moisture tolerant natural stone
- Suitable for swimming pools, pool surroundings, wet rooms and cold storage depots
- Suitable to be applied on cement screeds, ground anhydrite and/or gypsum based floated screeds, precast concrete elements, aerated concrete, heated screeds, plasterboards, gypsum fibre boards, dry screeds, insulation boards and plaster
- For laying ceramic on the bonded waterproofing product from Sika® range

CHARACTERISTICS / ADVANTAGES

- Easy to mix and use
- Smooth application
- Single component system
- Water resistant
- No vertical slipping, non sag
- Flexible

APPROVALS / STANDARDS

- SikaCeram® FLX 23 meets the requirements of EN 12004-1 for **class C2TE**.
- SikaCeram® FLX 23 adhesive conforms to the following requirements of ANSI A118.4 for latex Portland cement mortar:

Initial Set (4.2.1)	Open Time (4.4)
Adjustability (4.5)	Sag (4.6)
Glazed Wall Tile Shear Bond (5.1.5; 5.1.6)	Impervious Mosaic Shear Bond (5.2.3; 5.2.5; 5.2.6)
Quarry Tile Shear Bond (5.3.2; 5.3.3; 5.3.4; 5.3.5)	

PRODUCT INFORMATION

Chemical Base	Powder mixture modified with elastifying polymers. Contains no asbestos or other mineral fibres and does not generate harmful silica dust during application.
Packaging	▪ 20 kg bag ▪ 25 kg bag Refer to the current local price list for available packaging variations.
Appearance / Colour	Grey or white powder

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.

TECHNICAL INFORMATION

Tensile Adhesion Strength (EN 12004-2)

w/p = 0.25	Value:	Requirements EN 12004-1, **class C2**
Initial	≥ 1.0 N/mm²	≥ 1.0 N/mm²
After water immersion	≥ 1.0 N/mm²	≥ 1.0 N/mm²
After heat ageing	≥ 1.0 N/mm²	≥ 1.0 N/mm²

Slip Resistance (EN 12004-2)

Value:	Requirements EN 12004-1, **class T**
≤ 0.5 mm	≤ 0.5 mm

Service Temperature	-30 °C min. / +80 °C max.

APPLICATION INFORMATION

Mixing Ratio	▪ 4.8 to 5.0 L of water per 20 kg bag ▪ 6.0 to 6.25 L of water per 25 kg bag
Consumption	Powder consumption and coverage depends on the surface profile and roughness of the substrate, size and reverse profile of the tiles and the placing technique (simple placing "floating" or back to back “buttering-floating”). As a guide for solid bed application: For 1 mm thickness over 1 m² area approximately 1.4 kg of powder is required. This figure is theoretical and does 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. For small sized tiles (side ≤ 30 cm), use small squared notch size trowel (4–6 mm) and progressively increas for medium tiles (side ≤ 45 cm, trowel 6–8 mm) or large tiles (side ≤ 60 cm, trowel 8–10 mm).
Layer Thickness	Max. 10 mm
Ambient Air Temperature	+5 °C min. / +40 °C max.
Maturing time	~3 min. (Slake time)
Pot Life	~1 hour at +23 °C
Open Time	≥ 30 min. at +23 °C, r.h. 50 %, Extended open time: **Class E** (EN 1346)

Applied Product Ready for Use

Tiles can be grouted	~24 h
Foot traffic	~24 h
Able to bear weight	~7 days
Fully cured	~28 days

Values determined in laboratory conditions: +23 °C ± 2 °C, R.H. 50 % ± 5 %. Higher temperatures will reduce the indicated waiting times, lower temperatures will increase the indicated waiting time.

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.

FURTHER DOCUMENTS

General Method Statement (GMS)

LIMITATIONS

- 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.
- White version of tile adhesive is recommended for translucent natural stone tiles.
- Substrates made of precast concrete elements and/or in-situ concrete must be sufficiently cured as per common industry practice.
- The open time may be reduced in case of absorbent substrates.
- Never add water or dry powder to reconstitute a SikaCeram® FLX 23 mix which has already begun to set.
- When laying tiles outdoors use SikaCeram® FLX 23 in the combined method (buttering-floating).
- After laying mosaic tiles it is required to remove the adhesive from the joints down to a uniform depth to ensure proper, stain-free grouting afterwards. This also applies to front-sided paper-faced mosaic.
- For natural stones or artificial stones subject to staining and/or deformation please use suitable tile adhesive. Please contact Sika Technical Service for recommendation.
- For facade tiles installation and fixing, follow the recommendations stated in BS 5385 and/or DIN 18 515-1 “Outwall claddings” standards.
- In normal conditions on cement based substrate, no primer is required. However, for very high absorbent substrates (e.g. drywalls) or non-absorbent substrates, please contact Sika Technical Service for recommendation.

SikaCeram® FLX 23 shall not be applied on the following cases:
- On metal surfaces and wood
- On old ceramic tiles, without suitable primer.
- For stone wares and porcelain tiles in extra large size (area of tile > 1 m²)

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 Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

Select the most appropriate equipment required for the project:

Substrate preparation equipment:
- Grinding equipment
- Abrading equipment
- Power washing equipment
- Sandblasting equipment

Mixing equipment:
- Low speed electric single or double paddle mixer (300–400 rpm) with a spiral mixing paddle.

Application equipment:
- Notched trowel, various sizes

SUBSTRATE QUALITY

Minimum age of the substrate:
- SikaScreed® or SikaLevel® range – 3 days
- Cement screed - 28 days

Note: The screed drying time is subject to the screed thickness and site conditions. For applications before 28 days, contact Sikas Technical Service Department.

Newly applied cement screeds must not have a residual moisture content over 4 %, anhydrite and/or gypsum-based screeds not more than 0.5 % (measured with a CM meter).

SUBSTRATE PREPARATION

- Cementitious substrates must be sufficiently cured and dried.
- All substrates must be structurally sound, able to support the weight of the new tiling and provide a firm and securely fixed background.
- The substrate must be flat, tight and free from easily removable parts, non- deformable and correctly aged.
- Substrates must be clean, dry, free of any loose or friable particles, contaminants such as dust, dirt, oil, wax polish, grease, cement laitance or efflorescence.
- Use adequate mechanical preparation techniques to remove from the substrate, all traces of any materials that could reduce the product's adhesion to the substrate.
- The substrate must be plumb and flush in accordance with BS 5385. Plaster substrates must be approved by the plaster manufacturer for fixing ceramic tiles and must be suitable for the intended area of use.
- Smooth surfaces must be lightly roughened to improve adhesion.
- To confirm adequate surface preparation and adhesion, carry out a small trial before full application.
- For larger and thicker areas of substrate re-profiling, use suitable mortars from the Sika MonoTop® or SikaEmaco® range. Level concrete floors with SikaScreed® or SikaLevel® range of products.
- For any repairs of the substrate materials of SikaEmaco®, SikaRep® or Sika MonoTop® range should be used, applied at least 24 hours before laying the ceramic tiles.

- Identify cracks in the substrate and seal appropriately with Sikadur® epoxy resins.
- For applications in hot climates / environments, or on absorbent substrates, thoroughly pre-dampen (saturate) the substrate before product application. Avoid any ponding / standing water on the substrate. Surface must not be damp to touch.
- For tiling in constantly damp or wet rooms, a suitable Sika® waterproofing product / systems must be applied to the substrate before tiling.
- Prime very absorbent cement based substrates and aerated concrete with SikaCeram® P 302, diluted 1:1 with water, anhydrite and/or gypsum based floated screeds as well as gypsum based substrates inside of buildings with undiluted SikaCeram® P 302. Allow the primer to dry.

MIXING

- Mix a bag with the necessary, above mentioned, amount of water, 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 500 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. 3 minutes for SikaCeram® FLX 23 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 maximum allowed limit of water per bag weight.
- The obtained mix results should be very creamy, easily spreadable and thixotropic.
- Do not mix more material than can be used within 60 minutes.

APPLICATION

SikaCeram® FLX 23 is applied using notched trowel. The amount of product should be enough to ensure complete wetting of the tiles rear. Tiling has to be carried out on fresh glue, exerting an adequate pressure to ensure contact with the adhesive, and thus the perfect bonding.
In case a surface film is formed on the adhesive, it is necessary to wipe the trowel on the adhesive layer previously applied. Avoid wetting already applied adhesive with water, as it may negatively affect its properties.
Note: For tiles > 900 cm^2 (30 x 30 cm), the double spreading ("buttering") technique is always recommended.

Adhesive application:

- Apply a thin scratch coat to the substrate with the smooth edge of the trowel.
- Comb mortar onto the fresh scratch coat with a notched trowel.
- Apply sufficient adhesive to the prepared fixing surfaces with the notched trowel to the required bed thickness, in one direction.
- Place the tiles in the adhesive bed with a twist and slide motion and adjust to correct position.
- Adjust the tiles if required.
- Clean off surplus adhesive from tile face and between tile joints before the adhesive has dried.

CLEANING OF TOOLS

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

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.

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.

SIKA HONGKONG LTD.
Rm.1507-12, Blk A, New Trade Plaza,
6 On Ping Street, Shatin, N.T., H.K.
Phone: +852 26868108
Fax: +852 26453671
Mail: marketing@hk.sika.com
Website: www.sika.com.hk