

PRODUCT DATA SHEET

SikaCeram[®]-255 StarFlex

CEMENTITIOUS DEFORMABLE FLOOR AND WALL TILE ADHESIVE



DESCRIPTION

SikaCeram[®]-255 StarFlex LD is a polymer modified cementitious powder, floor and wall tile adhesive. It is normal setting, deformable, frost resistant with reduced slip and extended open time.

USES

Bonding the following types of tiles:

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

Bonding tiles for the following applications:

- Swimming pools
- Heated floors (Water and electric systems)
- Industrial and heavily trafficked floors
- Facades
- Balconies and terraces
- Overlaying existing indoor sound PVC sheet, linoleum and vinyl tiled floors
- Interior and exterior use

PRODUCT INFORMATION

Composition	Portland cement, selected aggregates, water retention additives, re-dispersible polymer
Packaging	25 kg bag
Appearance / Colour	White powder
Shelf life	12 months from date of production

CHARACTERISTICS / ADVANTAGES

- Layer thickness: < 15 mm
- Deformable
- No vertical slip, high slump resistance and grab
- Extended open time
- Frost resistant
- Smooth application

SUSTAINABILITY

- VOC emission classification according to French regulation classification A+.

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to EN 12004 - Adhesives for Tiles. Classification: C2 TE S1.

Storage conditions Product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging.

Maximum Grain Size D_{max} : 0,63 mm

Product Declaration EN 12004: C2 TE S1.

TECHNICAL INFORMATION

Tensile Adhesion Strength	Initial	$\geq 1,5 \text{ N/mm}^2$	(EN 1348)
	Water immersion	$\geq 1,0 \text{ N/mm}^2$	
	Heat ageing	$\geq 1,0 \text{ N/mm}^2$	
	Freeze-thaw cycles	$\geq 1,0 \text{ N/mm}^2$	

Transverse deformation $\geq 2,5 \text{ mm}$ (EN 12002)

Slip Resistance $\leq 0,5 \text{ mm}$ (EN 1308)

SYSTEMS

System Structure

For the following substrates, a primer must be used:

Substrate	Primer
Calcium sulphate substrates (gypsum, plaster or anhydrite screed)	Sika® Primer-11W+ (1:1) Sikafloor®-01 Primer (1:1) Sikafloor®-03 Primer
Non and low absorbent substrate (existing ceramic tiles, linoleum, existing vinyl tiles floors)	Sika® Primer-21W Sikafloor®-02 Primer

Tile Adhesive: SikaCeram®-255 StarFlex

APPLICATION INFORMATION

Mixing Ratio 7,00 litres of water per 25 kg bag (28 % \pm 1 %)

Fresh Mortar Density $\sim 1,6 \text{ kg/l}$

Consumption Consumption is dependent on the substrate, surface profile, roughness, size of the tiles, the joints between them and application technique. As a guide for a single adhesive layer:

Size of tiles	Notched* trowel size	Consumption
Small	6 mm	$\sim 2,5 \text{ kg/m}^2$
Medium	8 mm	$\sim 3,5 \text{ kg/m}^2$
Large	10 mm	$\sim 6 \text{ kg/m}^2$

* Square notched

Layer Thickness 15 mm max.

Ambient Air Temperature +5 °C min. / +35 °C max.

Substrate Temperature +5 °C min. / +35 °C max.

Maturing Time ~ 3 minutes

Pot Life ~ 6 hours

Open Time $\geq 0,5 \text{ N/mm}^2$ after 30 minutes (EN 1346)

Adjustability Time ~ 50 minutes

Curing Treatment Protect from adverse weather conditions, such as extremely high or low (freezing) temperatures, rain and direct exposure to sun for at least 12–24 hours after application.

Applied Product Ready for Use

Use	Waiting time
Grouting - floors including foot traffic	24–36 hours
Grouting - walls	4–6 hours
Full traffic	~14 days
Water immersion	~21 days

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

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 must 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 must 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 prefilled and levelled with an additional layer of SikaCeram®-255 StarFlex to a maximum thickness of 15 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 or wet rooms, a suitable Sika® waterproofing product / systems must be applied to the substrate before tiling.

MIXING

Pour the recommended amount of clean cold water into a suitable, clean mixing container. Slowly add SikaCeram®-255 StarFlex powder to the water while mixing using an electric single paddle mixer (~500 rpm) with spiral paddle. Then mix thoroughly 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 must have a creamy consistency, be uniformly coloured and is easy to apply and spread.

APPLICATION

SikaCeram®-255 StarFlex 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. Also apply sufficient adhesive to ensure adequate 'wetting' of the backs of the tiles. Coverage on the back of the tiles must be 100%.

Tiling must be carried out on freshly applied adhesive, exerting adequate pressure to ensure 100% complete and uniform contact with the adhesive to achieve optimum adhesion.

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®-255 StarFlex 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.

SikaCeram®-255 StarFlex LD is suitable for laying absorbent and non-absorbent tiles indoors without any size or support limits.

On cementitious substrates, SikaCeram®-255 StarFlex can be used for laying tiles up to 2'100 cm² (e.g. 45 x 45) on outside walls, up to 3600 cm² (e.g. 60 x 60 cm) outside on floors or inside on walls and up to 10'000cm² (e.g. 100 x 100 cm) on inside floors.

Large tiles ≥ 900 cm² (e.g. 30 x 30 cm), the double-spreading (buttering) technique is always recommended.

CLEANING OF EQUIPMENT

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

IMPORTANT CONSIDERATIONS

- 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 preliminary

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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 exterior ceramic tiles.
- 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.
- Do not use on marble or natural stone tiles if they are sensitive to water.
- If a waterproofing layer is required under the tiles, cement-based and acrylic-based products are suitable for use under SikaCeram®-255 StarFlex .

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.

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 the exact product data and uses.

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.

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