

## PRODUCT DATA SHEET

# SikaCeram<sup>®</sup>-255 StarFlex LD AE

CEMENT BASED, DEFORMABLE, HIGH PERFORMANCE TILE ADHESIVE



### DESCRIPTION

SikaCeram<sup>®</sup>-255 StarFlex LD AE is a cement-based, high performance, polymer containing, deformable, one-pack tile adhesive. It can be used in layers up to 10 mm. SikaCeram<sup>®</sup>-255 StarFlex LD AE is suitable for setting all kind of tiles on both floors and walls, inside and outside for residential and commercial areas on heated floors, balconies, terraces and swimming pools. Suitable for use in hot and tropical climatic conditions.

### USES

- Suitable for bonding of high absorption ceramic tiles, earthenware, extruded and refined porcelain tiles
- Suitable for bonding of large size tiles used in industrial environment, wet areas, swimming pools, etc.
- Suitable for bathrooms, kitchens, balconies, terraces, etc.
- Indoor and outdoor application over concrete, cement mortars, bricks and plaster
- Suitable for indoor application over various types of drywalls
- Suitable for moisture tolerant natural stone
- Suitable to tile directly on various Sika waterproofing products

### CHARACTERISTICS / ADVANTAGES

- Very good adhesion
- Easy to mix and use
- Excellent workability and thixotropic consistency
- Water resistant
- Extended open time
- Single component system
- Deformable
- No vertical slipping
- Smooth application

### SUSTAINABILITY

- SikaCeram<sup>®</sup>-255 StarFlex LD AE is certified according "Low Emitting Materials as per Al Sa'fat - Dubai Green Building Evaluation System" by Dubai Central Laboratory (DCL), certificate No. CL17020432
- California Department of Public Health (CDPH) Method - VOC emission test: PASS

### APPROVALS / CERTIFICATES

SikaCeram<sup>®</sup>-255 StarFlex LD AE follows the main requirements of EN 12004 and ISO 13007-1 for class C2 TE S1 and main requirements of ANSI 118.15, ANSI 118.4 and ANSI 118.1.

### PRODUCT INFORMATION

<b>Composition</b>	Portland cement, selected aggregates and polymers
<b>Packaging</b>	25 kg bag
<b>Shelf life</b>	12 months minimum from date of production
<b>Storage conditions</b>	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.
<b>Appearance and colour</b>	Grey powder
<b>Maximum grain size</b>	0.6 mm

## TECHNICAL INFORMATION

Transverse deformation	<b>Value</b>	<b>Requirements EN 12004-1,</b>	(EN 12002-2)	
	w/p=0.29 ≥2.5 mm	<b>class S1</b> ≥2.5 mm		
Tensile adhesion strength	w/p = 0.29	<b>Value</b>	<b>Requirement EN</b>	(EN 12004-2)
	Initial	≥ 1.3 N/mm <sup>2</sup>	<b>12004, class C2</b>	
	After water immersion	≥ 1.0 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>	
	After heat ageing	≥ 1.0 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>	
Shear adhesion strength	w/p=0.29	<b>Value</b>	<b>Requirements</b>	(ANSI 118.15)
	7 days water immersion Glazed wall tile	≥ 250 psi	≥ 250 psi	
	w/p=0.29	<b>Value</b>	<b>Requirements</b>	(ANSI 118.4)
	28 days Pocelain mosaic tile	≥ 200 psi	≥ 200 psi	
Skid / slip resistance	<b>Value</b>	<b>Requirements EN 12004-1,</b>	(EN 12004-2)	
	w/p=0.29 ≤0.5 mm	<b>class T</b> ≤0.5 mm		

## SYSTEM INFORMATION

System structure	In normal conditions no primer is required. However for uncommon substrates please refer to Sika Technical Department.
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## APPLICATION INFORMATION

Mixing ratio	7.0 to 7.5 L of water per 25 kg bag
Fresh mortar density	~1.60 kg/l (25 °C)
Consumption	<p>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").</p> <p>As a guide: For 1 mm thickness over 1 m<sup>2</sup> area, approximately 1.2 kg of powder is required.</p> <p>For small sized tiles (side ≤30 cm), use small squared notch size trowel (4-6 mm) and progressively increase for medium tiles (side ≤45 cm, trowel 6-8mm) or large tiles (side ≤60 cm, trowel 8-10 mm)</p> <p>This figure is 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.</p>
Layer thickness	<p>Min. 2 mm</p> <p>Max. 5 mm on vertical areas</p> <p>Max. 10 mm (locally up to 12 mm thickness possible, for leveling purpose)</p>
Ambient air temperature	+5 °C min. / +35 °C max.
Substrate temperature	+5 °C min. / +35 °C max.

<b>Pot Life</b>	~6 h (23 °C)	
<b>Open Time</b>	~30 min. (23 °C)	(EN 1346)
<b>Adjustability time</b>	~50 min. (23 °C)	
<b>Applied product ready for use</b>	Floor tiles can be grouted	After 24 - 36 h
	Wall tiles can be grouted	After 4 - 6 h
	Full traffic / use	After 14 d
		After 21 d - for swimming pools

## 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.

## 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.
- White version of tile adhesive is recommended for translucent natural stone tiles.
- It is usually not necessary to pre-dampen the tiles.

SikaCeram®-255 StarFlex LD AE shall not be applied on the following cases:

- On metal surfaces and wood
- On old outdoor ceramic tiles
- For any situations or applications not explicitly described in this Product Data Sheet.

## 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

### 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

## 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 firm and securely fixed background.
- 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, such as water-jet washing or blastcleaning, to remove from the substrate 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. Prefill and level with an additional layer of SikaCeram®-255 StarFlex LD AE to a maximum thickness of 10 mm, applied at least 24 hours before full adhesive application.
- For larger and thicker areas of substrate re-profiling and making good, use suitable mortars from the Sika MonoTop® or Sikafloor® Level range.
- For any repairs of the substrate materials of 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 and not with a dark-matt / wet surface appearance i.e. it must be saturated surface dry (SSD).
- For tiling in constantly damp or wet rooms, a suitable Sika® waterproofing product / systems must be applied to the substrate before tiling.
- The substrate must be perfectly flat, tight and free from easily removable parts, non-deformable and correctly aged.

## 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, and up 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.
- After blending, leave the product curing for 5 minutes in the mixing container and then briefly stir the mix 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®-255 StarFlex LD AE 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 large tiles and permanently submerged areas, the double spreading ("buttering/floating") technique is always recommended.

### Adhesive application

1. Apply sufficient adhesive to the prepared fixing surfaces with the notched trowel to the required bed thickness.
2. Adjust tiles if required.
3. Clean off surplus adhesive from tile face and between tile joints before the adhesive has dried.

## CLEANING OF EQUIPMENT

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

## 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.

### SIKA NORTHERN GULF

Bahrain / Kuwait  
Tel: +973 177 38188  
info@bh.sika.com  
gcc.sika.com

### SIKA SOUTHERN GULF

UAE / Oman / SIC  
Tel: +971 4 439 8200  
info@ae.sika.com  
gcc.sika.com

### Sika Saudi Arabia

Riyadh / Jeddah / Dammam  
Tel. +966 11 217 6532  
info@sa.sika.com  
gcc.sika.com



ISO 9001: Sika UAE LLC,  
Sika Gulf B.S.C. (C),  
Sika Saudi Arabia Limited,  
Sika International Chemicals LLC  
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Sika Gulf B.S.C. (C),  
Sika Saudi Arabia Limited,  
Sika International Chemicals LLC,  
ISO 45001: Sika UAE LLC,  
Sika Gulf B.S.C. (C),  
Sika International Chemicals 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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