BUILDING TRUST

PRODUCT DATA SHEET

SikaScreed®-1 (GR)

READY TO USE SCREED FOR LAYING CERAMIC TILES, PARQUET AND FOR RESILIENT FLOORING SYSTEMS

DESCRIPTION

SikaScreed®-1 (GR) is a pre-mixed product for quick drying, shrinkage-free screeds in indoor and outdoor applications.

USES

- 2 to 6 cm thick screeds in civil or industrial environments. It can be covered with tiles, parquet or resilient coverings.
- Heated screeds, by embedding radiating coils in the layer.
- Applicable in industrial environment, offices, commercial centers.

CHARACTERISTICS / ADVANTAGES

- Ready-to-use, ideal in areas where raw material supplying can be a problem (i.e. confined spaces, historical city centers, e.t.c.)
- Cures without shrinkage
- Very good finishing
- Quick hardening

SUSTAINABILITY

VOC emission classification GEV-Emicode EC1PLUS

APPROVALS / CERTIFICATES

CE Marking and Declaration of Performance according to EN 13813 - Cementitious floor screed material, CT-C30-F6

PRODUCT INFORMATION

Composition	Hydraulic binders with selected minerals and additives	
Packaging	25 kg bags	
Appearance and colour	Granular grey powder	
Shelf life	12 months	
Storage conditions	Store in undamaged and unopened sealed packaging in cool and dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight and frost.	
Density	Fresh mortar density: ~2.0 ± 0.1 kg/lt	(EN 1015-6)
Maximum grain size	approx. 2.5mm	
Bulk density	approx. 1.7 kg/lt	
Product declaration	CE Marking and Declaration of Performance as Cementitious floor screed material, CT-C30-F6, according to EN 13813:2002, based on type testing and factory production control.	

TECHNICAL INFORMATION

Compressive strength (EN 13892-2)

Age	Value
7 days	~13 MPa
28 days	≥ 30 MPa

Tensile strength in flexure (EN 13892-2)

Age	Value
28 days	≥ 6 MPa

Reaction to fire $A1/A1_{fl}$ (EN 13501-1)

System structure

Primer/ Bonding agent:

Sikafloor®-01 Primer	Universal dispersion primer
Sikadur®-32 EF	Epoxy based structural bonding agent, acc. to EN 1504-4

Flooring screed:

SikaScreed®-1 (GR)	Cementitious floor screed, Class CT-C30-F6 acc. to EN 13813

APPLICATION INFORMATION

Mixing ratio
1,75 - 2,0 L of clean water per 25 kg bag

Consumption
~1,80-2,00 kg/m² of powder per 1 mm thickness. This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage, etc.

Yield
25 kg of powder yields approximately 12.5-14.0 lt of mortar

Layer thickness
20 mm min. / 60 mm max.
Minimum thickness guidelines:

Bonded screed	20 mm
Unbonded screed	40 mm
Floating screed	40 mm*

* Loading/ use of the floor and the presence of underfloor heating will determine the thickness of the screed. Minimum thickness indicated is for unheated and lightly loaded floors.

Ambient air temperature
min. +5°C / max. +35°C

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

Pot Life
~ 45 min. at +23°C & 50% RH

Waiting time to overcoating

Walkable	~ 12 hours *
Laying of ceramic tiles:	~ 24 hours *
Laying of natural stone or marble	~ 72 hours **
Laying of parquet:	~ 7 days***

* Times have been measured in ambient temperature +23°C and R.H. 50%. Higher temperatures reduce those times; oppositely, lower temperatures increase them.
** For stones and marbles sensitive to humidity the time must be extended to 7 days.
*** Times have been measured in ambient temperature +23°C and R.H 50%, screed thickness ≤ 5 cm and ventilation ≥ 2 m/sec.

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.

IMPORTANT CONSIDERATIONS

- SikaScreed®-1 (GR) must never be mixed or blended with OPC cements or other binders (lime, gypsum, etc.). When hardened, SikaScreed®-1 (GR) can be overcoated with standard OPC cement based products after the required surface preparation.
- Do not spray water onto the surface while finishing as this will reduce surface strength and may induce surface cracking.
- Do not use SikaScreed®-1 (GR) for parquet that must be laid in less then 7 to 10 days.
- In case of parquet flooring, position the vapor barrier before casting the screed.
- Before parquet laying, check with a carbide hygrometer to make sure that the residual humidity is < 2%.
- Do not use the product after it has started setting. Prepare a fresh mixture.
- SikaScreed® products are not designed to be watertight and completely crack-free.
- Existing static surface cracks in substrate require pretreating with Sikadur® or Sikafloor® resins.
- Existing joints in the substrate must always be brought through SikaScreed®-1 (GR) and appropriately formed and sealed as required.
- Take precautions during application and curing to prevent crazing and cracking caused by external factors such as wind, sunlight, low humidity, fluctuating climatic environmental conditions, temperature stresses, variable thicknesses, etc.
- Opened bags have to be used immediately.
- For exterior use, SikaScreed®-1 (GR) must be overcoated.
- If tiles are laid within a short time (24 h), the joints' width must be at least 3-4 mm.
- Do not apply at temperatures lower than 5°C or higher than 35°C.
- Protect the freshly applied mortar from early dehydration and/ or premature drying by using the relevant curing methods (at least for 24 hours), e.g. curing compound such as Sika® Antisol® or Sikafloor® Proseal once surface water has evaporated. Use suitable curing covers such as jute and water, plastic sheets or other suitable membranes.

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 containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

BONDED SCREED

The substrate must be structurally sound, thoroughly clean and free from dust, dirt, and loose material, surface contamination such as oil or grease, cement laitance which reduce bond or prevent suction or wetting. As a guide, substrate's tensile adhesion strength should be ≥ 1,5 N/mm² or as specified in contract documentation. For critical adhesion applications it is recommended that preliminary site trials incorporating adhesion pull-off tests to confirm substrate's tensile adhesion strengths are carried out to verify values are acceptable for the application.
Cementitious substrates must be prepared mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance, coatings or other surface treatments preferably by vacuum extraction equipment and achieve an open textured gripping surface profile suitable for the overlying SikaScreed®. Concrete and cementitious substrates surface preparation using Sikadur®-32 EF or Sikafloor®-01 Primer, applied by brush or roller. Another option is to produce a slurry made by a part by volume of SikaLatex® Max and a part of water, mixed with Portland cement and apply it by brush. The screed must be laid on the slurry or on the epoxy bonding bridge "wet on wet". Minimum substrate roughness of 0,5 mm according to EN 1766 or ≥ CSP 3 (International Concrete Repair Institute) or equivalent. Construction joints, vertical connections, cutting edges or connections to third-party components such as shafts, rails, profiles, etc, must be primed in all situations with Sikadur®-32 EF.

UNBONDED SCREED

Use a separation layer in between, i.e. PVC membrane; In this case, SikaScreed®-1 (GR) application thickness must be at least 4 cm. If thickness will not exceed 4 cm, it is necessary the product to be applied as bonded screed.

FLOATING SCREED

No requirements.

MIXING

SikaScreed®-1 (GR) can be mixed with a low speed (~ 500 r.p.m.) electrical hand drill mixer. Pour the water in the correct desired proportion into a suitable mixing container. While stirring slowly, add the powder gradually to the water and mix thoroughly at least for 3 minutes, adding additional water during the mixing time if necessary up to the maximum specified amount, until a homogeneous lump-free required consistency is reached. For larger mixes the mixing time could be extended (up to 5 minutes or as necessary) until the mortar is homogenously mixed with no lumps and no remaining dry powder. Mix full bags for best results. 25 kg of SikaScreed®-1 (GR) powder is mixed with 1.75 - 2.0 lt of water depending on the required consistency.

Large volumes:
Pour the minimum recommended clean water quantity into the forced action mixer/ rotating pan or continuous mortar mixer and integral delivery pump. Slowly, add the powder to the water and mix thoroughly for at least 3 min. adding additional water if necessaray to the maximum specified amount and adjust to the required consistency to achieve a smooth consistent mix. The consistency must be checked after every mix and compared to mixing by drill and mixing paddle technique.

APPLICATION

Compressible material must be positioned all around the edges of the room and around any pillar, column, etc., so as to create insulation joints.
Primer/ Bonding bridge for bonded screed:
On a well prepared and roughened substrate, a bonding bridge is always recommended. Apply Sikadur®-32 EF on a dry or matt damp substrate without any standing water and overcoat by using the 'wet on wet' technique with SikaScreed®-1 (GR) during Sikadur®-32 EF open time, depending on temperature. In case of using Sikafloor®-01 Primer, apply the product on dry substrate and then wait, according to Sikafloor®-01 Primer waiting time, prior to application of SikaScreed®-1 (GR). Always refer to Sikadur®-32 EF & Sikafloor®-01 Primer Product Data Sheets.
Bonded, unbonded and floating screeds:
Pour mixed SikaScreed®-1 (GR) onto prepared substrate and apply evenly to the required thickness using appropriate spreading equipment. The product must be applied in the same way as a normal cementitious screed, by preparing the level strips, which will then serve for spreading with a striker. Laying is carried out as for a normal cementitious screed. Spread the mixture, taking care to compact the surface to obtain an homogeneous layer. Float finishing must be carried out immediately after the product has been spread or within 60 minutes. When this operation is carried out, the surface of the screed can be sprinkled with water from a brush, so as to make the job easier and faster, especially if a machine with a steel disc is used.

CLEANING OF EQUIPMENT

Removal of fresh remnants from tools and application equipment can be carried out using water immediately after use. Hardened material can only be mechanically removed.

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.

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