

PRODUCT DATA SHEET

Sikafloor[®]-421 Therm Screed

LIGHTWEIGHT INSULATION SCREED

DESCRIPTION

Sikafloor[®]-421 Therm Screed is a lightweight insulating screed suitable for floors of houses, buildings, or other structures. It is applied in the same way as floor screed and is processed by hand and/or machine.

USES

- Insulation lightweight screed on roofs
- Lightweight protective screed
- Lightweight floor underlayment, under carpets and tiles

CHARACTERISTICS / ADVANTAGES

- Pre-packed lightweight insulated screed, ready-to-use
- Chemically stabilized to avoid EPS beads from floating upwards
- Low thermal conductivity
- Allows reduction in structural dead load
- Acoustic insulation
- Water repellent to avoid loss of insulation properties after rain
- Non-flammable
- Certified Green Label by Singapore Green Building Council

PRODUCT INFORMATION

Chemical Base	Cementitious mixture and EPS beads	
Packaging	17 Kg/bag	
Shelf Life	12 months from manufacture date	
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.	
Density	Crushed EPS Beads 200 - 250 kg/m ³	Virgin EPS Beads 320 - 340 kg/m ³

TECHNICAL INFORMATION

Tensile Adhesion Strength	Adhesion to Concrete 0.33 N/mm ²	(BS EN 1015-12: 2016)
Resistance to fire	Non-combustible, Class A2-s1, d0	(BS EN 13501-1: 2018)
Thermal Conductivity	0.0621 W/mK	(ASTM C518: 2021)

APPLICATION INFORMATION

Mixing Ratio	Material	Weight	
	Sikafloor®-421 Therm Screed	1 x 17 kg	
	EPS Beads	Crushed (0 - 4 mm)	Virgin (2 - 3 mm)
		100 ltr	100 ltr
	Water	Crushed (0 - 4 mm)	Virgin (2 - 3 mm)
		18.5 - 20.5 ltr	12.0 - 16.0 ltr
Yield	Approx. 100 Litres equivalent to 100 mm thick/m ²		
Ambient Air Temperature	+6 °C min/ +40 °C max.		
Substrate Temperature	+6 °C min/ +40 °C max.		
Pot Life	60 - 120 min		

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.

LIMITATIONS

Insulation properties are directly dependent on the thickness and density of the insulated screed.

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.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must be clean, sound, dust free without any traces of oil, laitance, curing compound and other contaminants. The substrate must be fully cured and is sound enough to receive the weight of Sikafloor®-421 Therm Screed.

Deeply contaminated substrate must be abraded to clean and sound surface.

MIXING

Pan Mixing

- Mixing blade should be about 2 mm above the base of the drum.
- Pan mixer with a minimum capacity of 150 Ltr is required for mixing.
- Prepare a clean empty container and pour in 80% of the required water.

- Pour the Sikafloor®-421 Therm Screed powder into the container, use the hand mixer to mix until a homogenous slurry is achieved. Small quantity of EPS beads can be added to ease the mixing.
- Load the remaining EPS beads followed by the slurry into the pan mixer.
- Start the pan mixer and mix continuously for 5 – 10 minutes until homogenous consistency is achieved. Remaining 20% water can be used to adjust the consistency of the mixture.

Hand Mixing

- Prepare a flat bottom container with 75 Ltr capacity.
- Pour 80% of the required water into the container.
- Pour in Sikafloor®-421 Therm Screed into container and start hand mixer to mix until homogenous slurry is achieved.
- Pour the EPS beads into the container and mix until a homogenous consistency.
- Ensure that the hand mixer is moved around to have proper mixing.
- Remaining 20% water can be used to adjust the consistency of the mixture.

IMPORTANT: If mixing in partial batches, ensure the measurement of powder, EPS beads and water ratio are accurate.

APPLICATION

Primer

Prime with a slurry scratch coat/key coat by mixing Davco 751 with cement and fine sand at 1:1:1 ratio. Apply a thin coat to form key coat.

Pour the light-weight insulation screed onto the primed substrate, apply it wet to wet to the key coat. Then use a straightedge to level-off the screed to the required thickness and levels. (Max. Thickness 100 mm)

Additional layers: Allow the previous layer of light-weight screed to cure for up to 7 days or until it cures. Apply another layer of primer and leave it to dry before adding the additional layer of lightweight screed.

Sealing layer (Optional): After the insulation screed has hardened, use a steel trowel to smoothen the surface with a sealing layer Sikafloor®-412 Level FR @ 10 mm thick).

Concealed roof: Apply Sika waterproofing solution (liquid or sheet membrane) according to the related Sika Method Statement.

- Pour the lightweight insulation screed directly on top of the waterproofing layer. Then use a straightedge to level-off the screed to the required thickness and levels. (Sarnafil PVC membranes must be protected with a layer of geotextile).

- *Sealing layer.* After the insulation screed has hardened, use a steel trowel to smoothen the surface with a sealing layer. After the sealing layer has hardened, it is recommended that induce/control joints are saw-cut at the required intervals base on engineer's requirement. Seal the joints with Sika approved sealants.

Lightweight floor underlayment

Leave the final layer of lightweight screed to cure for 24 hours.

Apply a slurry key coat using Davco 751 onto the lightweight screed. Then apply a layer of 20 mm Davco Floor Screed before application of tiling, carpet or parquet work. A Use Sika approved tile adhesive or leveling compound.

CURING TREATMENT

Protect the lightweight screed from early hydration using a blanket wet hessian

CLEANING

- Clean mixing and application equipment with water immediately following use.
- Remove splatter or spills with water before material sets.

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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Product Data Sheet

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