



## KÖSTER SL Flex

Technical Data Sheet SL 284 025

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Classification report K-2300/762/16-MPA BS: Classification of reaction to fire according to DIN EN 13501-1:2010-01

### Flexible self-levelling underlayment for wood, and mastic asphalt

#### Features

KÖSTER SL Flex is a high quality, fast setting, mineral based underlayment with excellent bonding characteristics also on smooth and dense substrates. KÖSTER SL Flex is applicable to a wide variety of substrates and hardens hydraulically and tension free within a few hours. It hardens to a level, high strength surface that allows for a change in building use, such as carpet or tiles on top of old wooden floors and floor heating. Over wooden floors and floor heating it must have a minimum uninterrupted layer thickness of 10 mm.

KÖSTER SL Flex is easy to mix and install, is pump- and pourable, and during its pot life has a low viscosity and is self-levelling. KÖSTER SL Flex can be applied in layer thicknesses between 5 and 15 mm, be feathered out to 2 mm, and installed in depressions up to 30 mm. It hardens quickly and crack free with up to 90 % reduced shrinkage.

KÖSTER SL Flex is not intended as a decorative finished flooring. Varying shades due to processing and finishing are considered normal and are covered by the final floor covering, for example carpet, tiles, resilient flooring, or parquet.

#### Technical Data

Pot life (DIN EN 16945)	approx. 20 minutes (+ 20 °C)
Application temperature	+ 5 °C - + 30 °C
Bulk density (powder)	1.3 g/cm <sup>3</sup>
Max. aggregate size	approx. 0.4 mm
Initial set	after approx. 60 min.
Final set	after approx. 120 min.
Compressive strength (28 days)	approx. 30 N/mm <sup>2</sup>
Bending tensile strength (28 days)	approx. 10 N/mm <sup>2</sup>
Tensile strength (depending on substrate)	up to 3 N/mm <sup>2</sup>
Resistant to foot traffic	after approx. 4 hours*
Can be tiled over	after approx. 6 hours*
Trafficable (soft tires)	after 24 hours*
Application of Parquet, carpet synthetic flooring	after 48 – 72 hours*
Layer thickness	5 - 15 mm
in depressions up to	30 mm
on levelled substrates up to	15 mm
Can be feathered out to	2 mm
Water requirement	5.2 L per bag

\*depending on temperature

#### Fields of Application

KÖSTER SL Flex is designed for the fast, time saving levelling of uneven indoor surfaces. KÖSTER SL Flex is an early loadable, self-levelling underlayment for concrete, screed, mastic asphalt, tiles, and wooden substrates. It is an excellent material for the repair and levelling of substrates before the installation of tiles, carpet, resilient flooring, and laminates. Wooden board floors on wooden joists can be carpeted or tiled after the installation of KÖSTER SL Flex. Do not install KÖSTER SL Flex on exterior areas or areas around swimming pools.

#### Substrate

The substrate has to be sound and solid as well as free of bond inhibiting agents such as grease and oil. Remove all bond breaking substances such as laitance, loose particles, dust, formwork release oil, etc. The substrate can be prepared according to need by shotblasting, grinding, or sweeping. Do not acid etch substrates or clean the substrate with chemicals. Joints in the substrate have to be re-created in each successive layer; do not bridge expansion joints with KÖSTER SL Flex. Concrete and screed substrates are primed with KÖSTER SL Primer to reduce absorption before application. Old tile substrates, as well as mastic asphalt, are primed with KÖSTER VAP I 06 Primer. Do not apply over adhesive residue. Non-absorbent, non-slip mineral substrates such as KÖSTER NB 1 Gray can be coated immediately after curing. KÖSTER SL Flex serves as a protective coating for the negative side waterproofing.

#### Application

##### Application over wooden substrates

When applying over tongue and groove wooden floors, cleaning agent and care product residues such as wax must be completely removed, if necessary sanded off. Painted areas must be sanded and vacuumed clean. Floor boards must be firmly attached to the joists with screws. Open or wide joints between the boards, defects, and hollows must be filled with an acrylic jointing compound.

The prepared wooden substrate is then treated with the bonding bridge KÖSTER VAP I 06 Primer, consumption approx. 100 g/m<sup>2</sup>.

When installing ceramic tiles over a wooden substrate we suggest mechanically fastening KÖSTER Glass Fiber Mesh onto the floor after priming. When installing ceramic or natural stone floors onto a wooden substrate the KÖSTER SL Flex is installed with a minimum thickness of 10 mm. Tiles should not exceed a size of 60 cm x 60 cm.

Wooden floor constructions must be permanently dry in order to avoid damage caused by deformations, moisture, and mould. Sufficient ventilation must be guaranteed, especially when installing vapor tight flooring.

Do not install on top of wooden floor systems where moisture from the bottom of the construction is expected.

##### Application

Mix each 25 kg bag of KÖSTER SL Flex with 5.2 l of potable water. The water is placed in a clean mixing vessel and the powder added while constantly mixing. Use an electrical paddle mixer and mix intensively for 3 minutes until a flowable, lump free consistency is reached. Ideally, two bags are mixed at once with 10.4 liters of water. Distribute the material in the desired layer thickness directly after mixing. Mix and distribute the material in a constant work flow to avoid visible work edges. The material is self-levelling when working "fresh in fresh". While working larger areas use a KÖSTER Gauging Rake to distribute the material. Rolling the surface with a KÖSTER Spiked Roller immediately after distribution creates a very smooth surface through better de-airing. Install the KÖSTER SL Flex within 20 minutes.

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

Do not delay successive pours by more than 10 minutes to avoid visible work edges.

The surface quality of the underlayment depends on workmanship, layer thickness, and curing parameters so that variations from a sample surface may occur. Moisture sensitive floor coverings and sealers may not be applied before the material has fully cured. Depending on the temperature it may take between 48 and 72 hours for the material to attain a residual moisture content of less than 3 M%.

In areas around columns or other rising components, an edge insulation strip must be installed in the case of floating structures.

#### Required tools

Drill with basket mixer, BEBA mixer, compulsory mixer, mortar pump with compulsory mixer, transport and pouring tools, buckets, gauging rake, spiked roller.

#### Aftertreatment

Curing can be aided by covering the hardened material with polyethylene sheets. This reduces surface shrinkage tension especially when the material has been applied in thick layers.

#### Consumption

approx. 1.6 kg powder / m<sup>2</sup> / mm layer thickness

#### Cleaning

Clean tools immediately after use with water.

#### Packaging

SL 284 025    25 kg bag

#### Storage

Store the material in a dry environment at temperatures between +10 °C and +30 °C. In originally sealed packages, the material can be stored for a minimum of 6 months.

#### Safety

Wear protective gloves and goggles when processing the material. Observe all governmental, state, and local safety regulations while processing the material.

Eye contact – Flush immediately with water and consult physician.

Do not rub eyes.

Skin contact – Wash off immediately with soap and water.

#### Other

Only apply at temperatures between + 5 °C and + 30 °C. Low temperatures will increase the pot life and high temperatures will decrease the pot life. Protect KÖSTER SL Flex from premature drying through sun and drafting air currents. When installing in wet areas apply a protective coating or system.

The surface appearance of the underlayment is dependent on the workmanship, layer thickness, and curing parameters. There may be differences in appearance to test areas. Do not install moisture sensitive floorings and coatings before the underlayment has completely cured to a residual moisture content of less than 3 M %, depending on layer thickness and environmental conditions between 24 and 72 hours.

#### Related products

KÖSTER Spiked Roller	Prod. code CT 914 001
KÖSTER Gauging rake	Prod. code CT 915 001

KÖSTER VAP I 06
KÖSTER SL Primer
KÖSTER SL Premium
KÖSTER SL
KÖSTER SL Flow Test Board
KÖSTER NB 1 Grey
KÖSTER Glass Fiber Mesh

Prod. code SL 131 009
Prod. code SL 189 005
Prod. code SL 280 025
Prod. code SL 281 025
Prod. code SL 900 001
Prod. code W 221 025
Prod. code W 411

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