

KÖSTER KD-System

Technical guideline / Article - No.

3.01

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-Official testing certificate of Law Engineering Inc., Atlanta, USA – Adhesive tensile strength and water permeability (negative and positive side)

Negative side waterproofing against pressurised water

Features

The environmentally friendly KÖSTER KD-System stops active water ingress and safely seals off pressurized water from the negative side. It is resistant to salts which are harmful to the building structure and to aggressive substances which are present in the ground. Salts will not detach the fully cured KÖSTER KD-System coating from the substrate.

The system consists of 3 products:

KÖSTER KD 1 Base

Fast curing mineral sealing slurry with excellent resistance to aggressive ground water and high water pressure.

KÖSTER KD 2

Highly reactive powder with extremely short setting time. With application of the dry powder, active water leakages are sealed within seconds.

KÖSTER KD 3 Sealer

Extremely low viscosity silicifying liquid. The active ingredients penetrate deeply into the substrate and react to form an insoluble compound. The pores are plugged and permanently sealed through the mineralisation process.

Technical data

KÖSTER KD 1 Base

Density of the fresh mortar	1.6 kg / l
Compressive strength (7 days)	> 13 N / mm ²
Flexural tensile strength (7 days)	> 3.5 N / mm ²
Setting time (+ 20 °C, 65 % rel. humidity)	approx. 15 min.

KÖSTER KD 2

Setting time (when sealing active leaks)	approx. 20 sec.
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KÖSTER KD 3 Sealer

Density (+ 20 °C)	1.2 g / cm ³
Reaction time (+ 20 °C, 65 % relative humidity)	2 - 3 hours

KÖSTER KD-System

Waterproof against pressurized water	up to 7 bar (negative side)
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Fields of application

For the post waterproofing of basements from the inside, waterproofing manholes as well as for all other waterproofing against non-pressurized and pressurized water from the positive or the negative side.

KÖSTER KD 2 can also be used for sealing and closing cracks prior to the use of injection resins.

Substrate

The substrate must be sound and solid, free of oil and paint as well as free of loose particles. Screed, plaster and the like must be removed down to a solid base building material (masonry/concrete). Masonry joints must be raked out 2 cm deep. Dry substrates must be wetted thoroughly repeatedly prior to the beginning of the application of the system. Fill holes and open joints with KÖSTER Repair Mortar or with KÖSTER Waterstop.

On porous concrete, Autoclaved Aerated Concrete or on soft brick, a sound plaster made of KÖSTER Repair Mortar has to be applied. Unsuitable substrates are:

- plasters containing lime,
- paint coatings,
- building materials containing gypsum.

Application

The three components of the KÖSTER KD-System are applied according to the instructions below in case of area waterproofing against pressurized water from the negative side. If active leakages (from dripping leaks to flowing water) have to be waterproofed, then first the flow of water has to be stopped before the area waterproofing can be applied. For this purpose, KÖSTER KD 2 can be used.

Stopping active leakages

Depending on the intensity of the active leakage, a sufficient amount of dry powder is applied by hand directly to the active leakage – without adding any extra water. In case of small active leakages where water slowly drips from the wall, the powder is rubbed firmly onto the surface until the leakage is stopped.



Water leakages



...stopped



...within seconds!

If stronger active water leakages have to be stopped, a larger amount of powder is formed into a firm ball. This is done by pressing a larger amount of powder together slowly with ones hands to a firm snowball sized ball. This ball is then pressed onto the leak. Make sure to use the palm of your hand to force the powder onto the leakage. After pressing the powder a few seconds onto the leak, the flow of the water is permanently stopped. We recommend wearing smooth rubber gloves for this application.

Surface Sealing

After stopping the active leakages, the area can be waterproofed:

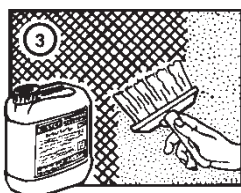


Mix as much KÖSTER KD 1 Base as can be applied within 10 minutes with water into a viscous, spreadable mass (slurry). Apply the slurry onto the substrate using a KÖSTER NB 1 Brush for slurries.

Then immediately rub KÖSTER KD 2 powder into the fresh, moist slurry by hand until the surface is dry.



Without waiting, brush on KÖSTER KD 3 Sealer liquid with a clean brush.



Immediately afterwards and again after approx. 30 minutes, repeat step 1 (application of KÖSTER KD 1 Base).



The maximum total thickness must be less than 4 mm.

Application of the next layer on walls:

A layer of plaster key made of a KÖSTER Restoration Plaster (50 % area coverage) can be applied after 24 hours.

After another 24 hours, KÖSTER Restoration Plasters can be applied.

Application of the next layer on floors:

Prior to installing screeds, apply a cementitious bonding bridge made from 25 kg KÖSTER NB 1 Grey mixed with 6 l of water and 1.5 kg KÖSTER SB Bonding Emulsion. Apply the bonding bridge with a KÖSTER NB 1 Brush for slurries.

Sealing of joints, cracks and pipe penetrations

Elastic sealing: (with KÖSTER Joint Sealant FS)

1. Prior to the application of the area waterproofing, cut grooves into the masonry/concrete along the course of cracks and connections etc. Width and depth should be approx. 3 cm or more in cases where strong movements or high water pressure is expected.
2. In the course of applying the area waterproofing, the KÖSTER KD-System is applied also into the grooves which were cut to open cracks and connections.
3. After a minimum of 24 hours after application of the KÖSTER KD-System, the side-flanks of the joints (only these) are primed with KÖSTER FS Primer. Cover the back of the joint with tape, as bonding to three flanks has to be absolutely avoided.
4. Completely fill the joints after approx. 3 hours curing time with KÖSTER Joint Sealant FS-V.

Plastic sealing: (with KÖSTER KB-Flex 200 Sealing Paste)

1. Proceed in the same way as with elastic joint sealing, but with a minimum joint depth of 10 cm.
2. Proceed in the same way as with elastic joint sealing.
3. After a minimum of 24 hours after the application of the KÖSTER KD-System, the prepared areas are filled with KÖSTER KB – Flex 200 up to approx. 10 mm below the surface of the wall.
4. Level off the sealed crack flush with KÖSTER KB - Fix 5.

Consumption

KÖSTER KD 1 Base	approx. 1.5 – 2.5 kg / m ²
KÖSTER KD 2	approx. 1.0 – 2.0 kg / m ²
KÖSTER KD 3 Sealer	approx. 0.5 kg / m ²

Cleaning of the tools

Clean tools immediately after use with water.

Packaging

KÖSTER KD 1 Base:	15 kg and 6 kg bucket, 1 kg can
KÖSTER KD 2:	15 kg and 6 kg bucket, 1 kg can
KÖSTER KD 3 Sealer:	12 kg and 6 kg jerry can, 0.5 kg bottle
System-package:	KÖSTER KD 1 Base 1.0 kg
	KÖSTER KD 2 1.0 kg
	KÖSTER KD 3 Sealer 0.5 kg