

## KÖSTER KD-System

Technical guideline / Article - No.  
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**3.01**

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

### Negative side waterproofing for sealing off pressurised water

#### Features

This environmentally friendly system, safely seals off even pressurised water from the negative side and in-rushes of water. 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 KD-system 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, in-rushes of water are sealed within a few seconds.

#### KÖSTER KD 3 Sealer

Water-thin 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

Setting time (20 °C, 65 % relative humidity)      appr ox. 15 min.

##### KÖSTER KD 2

Setting time (when sealing in-rushes)              approx. 20 sec.

##### KÖSTER KD 3 Sealer

Reaction time (20 °C, 65 % relative humidity)      2 - 3 hours

##### KÖSTER KD-System

Waterproof against pressurised water                      up to 7 bar  
(negative side)

#### Fields of application

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

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

#### Substrate

The substrate must be sound and solid (min. tensile strength 1.5 N/mm), free of oil and loose particles. Screed, plaster and the like must be removed down to the solid base building material (masonry/concrete). Masonry joints must be raked out 2 cm deep. Dry substrates must be wetted repeatedly prior to the beginning of the application of the materials. Fill holes and open joints with KÖSTER Repair Mortar or with KÖSTER Waterstop.

On porous concrete or on softer vertically perforated brick, a sound plaster made of KÖSTER Repair Mortar has to be applied.

Unsuitable substrates are:

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

#### Application

##### Sealing of in-rushes

Rub in KÖSTER KD 2 powder firmly until the leakage is stopped.



Water leakages



...stopped



...within seconds!

##### Surface Sealing

After sealing off in-rushes, the surrounding surface has to be sealed:



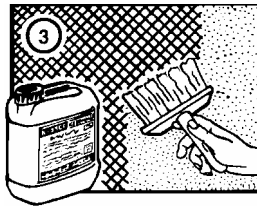
Mix as much KÖSTER KD 1 Base as can be applied within 10 minutes with water into a viscous, spreadable mass (slurry). Lay the slurry onto the substrate using a firm brush.



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 (KÖSTER KD 1 Base).



The max. total thickness must be less than 4 mm.

#### Application of the next layer on walls:

A layer of plaster key made of KÖSTER Restoration Plaster Key (50 % area coverage) can be applied at the earliest after 24 hours. After another 24 hours, KÖSTER Restoration Plasters can be applied.

#### Application of the next layer on floors:

Prior to screeding, apply a cementitious bonding bridge by mixing KÖSTER SB Bonding Emulsion „Concentrate“ with water 1 : 2 and with a cement/sand mixture (1 : 2) into a slurry which is then laid onto the floor using a firm brush.

#### Sealing of joints, cracks and pipe penetrations

##### Elastic sealing: (with KÖSTER Joint Sealant)

1. Prior to the application of the surface sealing, cut joints into the masonry/concrete in the area of cracks, connections and the like; width and depth should be approx. 3 cm or more in cases where strong movements or high water pressure are expected.
2. In the course of sealing the surface, the KÖSTER KD-System is applied also to the opened joints.
3. After a minimum of 24 hours after the application of the KÖSTER KD-System, the side-flanks of the joints (only these) are primed with KÖSTER FS Primer. Bonding to three flanks has to be absolutely avoided. Therefore cover the back-flank with tape.
4. Fill the joints after approx. 3 hours with KÖSTER Joint Sealant FS-V completely.

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

1. Proceed in the same way as with elastic joint sealing, though with a joint depth of min. 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. Then level off the sealed crack flush with KÖSTER KB - Fix 5.

#### Consumption

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

#### Cleaning of the tools

Clean tools immediately after use with water.

#### Packaging

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

#### Storage

Store the material in a dry and frost-free place; in originally sealed packages, it can be stored approx. 12 month.

#### Safety

Wear protective gloves and goggles.

#### Technical guidelines cited

KÖSTER SB Bonding Emulsion "Concentrate"	Art.-No.	2.11
KÖSTER Waterstop	Art.-No.	3.14
KÖSTER KB-Fix 5	Art.-No.	5.015
KÖSTER Repair Mortar	Art.-No.	5.030
KÖSTER Restoration Plaster Key	Art.-No.	5.051
KÖSTER Restoration Plaster	Art.-No.	5.06
KÖSTER Joint Sealant FS-V	Art.-No.	8.031
KÖSTER FS-Primer	Art.-No.	8.039
KÖSTER KB-Flex 200 Sealing Paste	Art.-No.	8.05

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.