

KÖSTER

KD-System

Techn. Leaflet /Product Code **3.019**

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Off. Test Certificate of Law Engineering Inc., Atlanta, USA – Compressive & Water Permeability Test (negative and positive side)

NEGATIVE SIDE WATERPROOFING SYSTEM FOR SEALING OFF PRESSURISED WATER

DESCRIPTION

The KÖSTER KD System consists of 3 components that are applied separately to form a 5 layer system. The KD-System was developed especially to waterproof from the negative side such as basement and tunnel leakages.

KD 1 BASE

is a fast setting mineral sealing slurry that produces a coating with high resistance to aggressive ground moisture and pressurised water. KD 1 Base will penetrate deeply into the capillaries, react with the free lime, crystallise and thus block all pores, which in return prevents water from penetrating the substrate.

KD 2 BLITZ

is a highly reactive powder with extremely short setting time. The Blitz powder serves 2 purposes; it acts as a curing agent for the freshly applied KD 1 Base and thus ensures a dense and hard compressed layer that is instantly cured. KD 2 Blitz is also used for sealing active leaks simply by forcing the loose powder (by hand) to the leakage source and waiting a few seconds.

KD 3 SEALER

is a thin silicifying liquid. It penetrates deeply into the substrate and forms an insoluble compound. It thus seals the pores and blocks the flow of water permanently by its continuous crystallisation process.

This method is environmentally friendly, safe and it seals off pressurised and running water on the negative side effortlessly. It has an excellent resistance to salts and aggressive compounds in the soil. Once cured, the KD-Coating will not be forced off from the substrate by salts.

TECHNICAL DATA

KD 1	Base	
Setting time (20°C /68° F, 65 % rel. air moisture)		app. 15 minutes
KD 2	Blitz	
Setting time (for active leaks)		app. 20 seconds
KD 3	Sealer	
Setting time (20°C /68°F, 65 % rel. air moisture)		2-3 hours

FIELD OF APPLICATION

The KD System is used for negative side sealing in basements, tunnels, shafts, and all other applications where sealing of active leakages on negative (or positive) side is required.

KD 2 Blitz is also used to temporarily seal and waterproof cracks prior to injection with injection resins.

The KD System can also be used in combination with Köster NB I Sealing Slurry to form an integrated complete solution for waterproofing large negative side areas such as entire tunnels. Please contact your Köster supplier for more details on this combination.

PREPARATION OF SUBSTRATE

The substrate has to be sound (minimum tensile strength 1.5 N /mm²), free of oil and loose particles. The surface has to be sound and solid, free of laitance, paint, form oil and other contaminants that might affect the bonding adversely. This also includes plasters and skim coats where the bond strength cannot be verified. Suitable tools and methods are wire brushes, high-pressure water jets, sand and shot blasting. Cracks and surface honeycombs should be chiselled open so that application of an even uniform coat can be achieved. Cracks and depressions larger than 5 mm should be filled with Köster Repair Mortar and be left for curing for at least 24 hours. Joints in masonry should be scratched out 2 cm deep where possible. For improved bonding, strengthening and water resistance, we always recommend the use of Köster Polysil. Existing plaster must always be removed unless it can be verified that its bond to the substrate is adequate to withstand the water pressure.

Unsuitable substrates:

- Light-weight- and large bricks (e.g. Poroton) following DIN 105, P. 2.
- Porous concrete
- Lime containing plasters
- Coloured paints and coatings

The above mentioned information and instructions are given to the best of our knowledge and belief based on tests and our long experience in this field. A correct and successful application is not subject to our control. Therefore, a guaranty can only be given for the quality of our products within our normal business terms but not for a successful application. With this technical leaflet previous ones are no longer valid.

APPLICATION

LEAKAGES

Rub in KD 2 Blitz until the water stops flowing.



Water leakages . . .stopped... . . .within seconds!

SURFACE

The leakage sealing must be followed by a surface sealing:

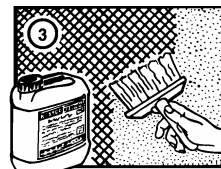
Mix as much KD 1 Base with water into a viscous mass, as is applicable within 10 minutes. Wet down the substrate thoroughly. Apply the slurry with a brush to the surface.



Immediately after applying the KD 1 Base, hand-rub dry KD 2 Blitz into first coat, while the KD 1 Base is still wet until the surface is dry. Start at the bottom, so that excess material can be scooped up and reused.



Dust away loose powder with a dry brush and apply KD 3 Sealer with a clean brush without waiting.



Without waiting, repeat step 1, and after 30 minutes, repeat step 1 (KD 1 Base) again.



The maximum total layer thickness must not exceed 4 mm. For a successful application is it important that the waiting time between the steps one and four is minimised thereby not allowing water to penetrate the unfinished treatment.

APPLICATION OF FOLLOWING COATINGS:

After a minimum curing time of 24 hours, apply a bonding bridge made of SB-Bonding Emulsion (diluted 1 : 2 with water) and KÖSTER Restoration Plaster Key (50 % covering). Apply KÖSTER Restoration Plaster after a further waiting period of 24 hours.

FLOORS:

After a waiting time of 24 hours apply a cementitious bonding bridge made of KÖSTER SB-Bonding Emulsion mixed with water 1 : 2, with a cement /sand mixture (1 : 2) into a slurry with a firm brush to floors that are supposed to be coated with screed.

JOINT-, CRACK- AND PIPEWAY SEALING:

Mortise joints into the masonry or concrete around cracks, pipe connections etc. 4 cm wide and deep or more if heavy movements or water pressure is expected. Apply the KD-System over the entire joint. Coat the sides of the joints (only them) with KÖSTER FS-Primer at least 24 hours after applying the KD-System. Cover the bottom with a protective strip to priming the area. Fill the joints with KÖSTER Joint Sealant FS-V after app. 3 hours.

CONSUMPTION

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

CLEANING OF TOOLS

Immediately after use with water

PACKAGING

KD 1:	15 kg and 6 kg pail, 1 kg can
KD 2:	15 kg and 6 kg pail, 1 kg can
KD 3	12 kg and 6 kg can, 1 kg bottle

Shelf Life

12 months when stored dry in unopened containers

SAFETY PRECAUTIONS

Wear protective gloves and goggles.

Please contact your Köster dealer for information on other Köster products referred to herein.

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