

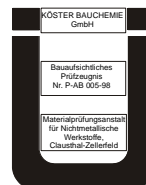
KÖSTER NB 1 Grey

Technical guideline / Article number

3.021

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- Official test certificate, Institute for Hygiene, Gelsenkirchen – Tank and tank-lining, according to the regulations of the DVGW, Tech. regulations for potable water
- Test Certificate for approval by the building authorities by the MPA Braunschweig



Mineral waterproofing system for sealing against pressurized water

Features

KÖSTER NB 1 Grey is a mineral coating containing crystallising and capillary-plugging agents. It can be used for waterproofing against ground moisture, and for non-pressurized and pressurized water. Waterproofing done with KÖSTER NB 1 Grey is characterized by excellent resistance to pressure and abrasion as well as excellent chemical resistance. Applied as a closed layer, KÖSTER NB 1 Grey is absolutely waterproof to pressurized water up to 13 bar. Due to its penetration into the structural member, the slurry develops an intense bond to the substrate and the capillaries are plugged. Besides the hydraulic curing of the sealing slurry, crystallizing reactions are activated in the slurry, which can lead to a self healing effect when microcracks develop.

Waterproofing with KÖSTER NB 1 Grey should only be carried out on substrates that are free of moving cracks. Moving cracks should be considered construction joints and treated accordingly with KÖSTER Joint Tape, KÖSTER Injection resins, or KÖSTER Joint Sealant FS. KÖSTER SB-Bonding Emulsion introduces flexibility to the material.

Advantages

- positive and negative side waterproofing against pressurized water
- resistant against Chlorides, Sulphates and Phosphates
- certified for drinking water environments
- penetrates into the surface where crystallization leads to inseparable waterproofing-substrate bond
- does not contain corrosion promoting ingredients
- no VOC, no emissions of environmental harmful ingredients
- works also on masonry and on very porous substrates like shotcrete, aerated concrete and cinderblock
- substrate does not have to be continually "wetted" to cure
- inhibits salt movement in the substrate when used as a system together with KÖSTER Polysil TG 500
- easy application, long pot life
- seamless application

Technical data

Fresh mortar density	1.85 kg / l
Compressive strength (7 days)	> 20 N / mm ²
Compressive strength (28 days)	> 35 N / mm ²
Flexural tensile strength (7 days)	> 4.5 N / mm ²
Flexural tensile strength (28 days)	> 5.5 N / mm ²
Adhesive tensile strength	> 1.5 N / mm ²
Waterproof against pressurized water (positive and negative side)	up to 13 bar
Coefficient of water vapour diffusion resistance (μ)	60
Pot life	approx. 2 hours
Resistant to foot traffic	after approx. 2 days
Full cure	after approx. 2 weeks

Fields of application

KÖSTER NB 1 Grey can be used in new building and repair for horizontal and vertical waterproofing of concrete, masonry or cementitious plaster, on porous concrete, on shotcrete, in wet rooms, bathrooms, showers, new basements, inside of basements, inside elevator shafts, tunnels, leaking retaining walls, underside of leaking ceilings, tanks, silos, sewage treatment plants, manholes, drinking water tanks etc..

Substrate preparation

The mineral substrate has to be sound and solid as well as free of bonding inhibiting agents such as grease and oil. Remove all bond breaking substances such as laitance, loose particles, dust, formwork release oil etc. The substrate must be open pored so that the KÖSTER NB 1 can penetrate..Substrates have to be wetted (avoid standing water) or treated with KÖSTER Polysil® TG 500 prior to the application of KÖSTER NB 1 Grey. Dusty or salt-damaged substrates have to be brushed off and primed with KÖSTER Polysil® TG 500 prior to the application of KÖSTER NB 1 Grey.

Mixing

The material must be mixed using a slow speed mixer whereby the powder should be added to the mixing water or respectively to the polymer liquid. A 25 kg bag of KÖSTER NB 1 Grey is mixed with:

- 6 l of water plus 2 l KÖSTER SB Bonding Emulsion or
- 1 jerry can (8 l) of KÖSTER NB 1 Flex or
- 8 l of water

The addition of KÖSTER SB-Bonding Emulsion or KÖSTER NB 1 Flex to the mixing water raises the ability of the material to retain water and prevents a premature drying of the coating in cases of unfavorable weather-conditions (warm, dry, windy).

Application

The material is applied in at least two coats with a brush or a suited spraying device. Make sure that the coating is not exposed to heat, frost and strong wind during the application and for at least 24 hours afterwards. The material should be brushed vertically and horizontally to work it into the substrate.

Application Examples

Highly effective waterproofing with bituminous building materials.

When applying a combined waterproofing system made of KÖSTER NB 1 Grey and bituminous coatings (KÖSTER Bikuthan®, KÖSTER Deuxan® or KÖSTER KBE Liquid Film), KÖSTER NB 1 Grey can be applied directly to a void free masonry with flush-filled joints. After a curing time of 24 hours, the bituminous coating is brushed, troweled or sprayed on. The substrate preparation with KÖSTER NB 1 Grey increases the safety of the system significantly. It is an additional waterproofing layer. It prevents lateral movement of water and at the same time it functions as a negative side waterproofing during the construction phase.

Negative side waterproofing in case of repair of widespread moisture penetration

Active leakages and water weeping down the wall can be stopped with the KÖSTER KD System. Brittle and loose material has to be cleaned out of joints and joints have to be closed flush with KÖSTER Repair Mortar Plus. After a waiting time of approx. 2 hours, the surface, which is going to be sealed, has to be primed with KÖSTER Polysil® TG 500 (Consumption: min. 120 g / m², in case of strongly absorbent substrates up to 250 g / m²). After a waiting time of 30 minutes, the first coat of KÖSTER NB 1 Grey is

applied (Consumption: 1.5 kg / m²). This coat is immediately afterwards hardened by applying KÖSTER Polysil® TG 500 (Consumption: min. 150 g / m²). When the first coat of KÖSTER NB 1 Grey has set sufficiently so that it is not damaged by the application of a second coat, a second coat of KÖSTER NB 1 Grey is applied (Consumption: 1.5 kg / m²). The final hardening is carried out by application of a coat of KÖSTER Polysil® TG 500 (Consumption: min. 150 g / m²).

Consumption

Positive side water proofing: Minimum 3 kg / m² in 2 coats
 Maximum 4 kg / m² (in 2 - 3 coats)
 Negative side water proofing: 3 kg / m² (in 2 coats)
 Against pressurized water: 4 kg / m² (in 2 – 3 coats)
 Combined system-waterproofing with bituminous building materials: Min. 1.5 kg / m² (1 coat)

Cleaning of tools

With water immediately after use

Packaging

25 kg bag

Storage

Store the material dry. In originally sealed packages, the material can be stored for approx. 12 months.

Safety precautions

Wear protective gloves and goggles during processing of the material.

Technical guidelines cited

KÖSTER KBE-Liquid Film	Art.-Nr.	1.13
KÖSTER Bikuthan®	Art.-Nr.	1.14 – 1.15
KÖSTER Deuxan® 2C	Art.-Nr.	1.16
KÖSTER Deuxan® Professional	Art.-Nr.	1.161
KÖSTER SB Bonding Emulsion	Art.-Nr.	2.11
KÖSTER NB 1 Flex	Art.-Nr.	3.0211
KÖSTER Polysil® TG 500	Art.-Nr.	4.011
KÖSTER Repair Mortar Plus	Art.-Nr.	5.032
KÖSTER KD Blitz Powder	Art. Nr.	3.01
KÖSTER Joint Tape 20	Art. Nr.	8.10
KÖSTER Joint Sealant FS	Art. Nr.	8.03
KÖSTER KB-Pur Injection Resins	Art. Nr.	6.13 – 6.19

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.