KÖSTER

Waterproofing Systems

KÖSTER NB 4000
The hybrid waterproofing

multifunctional, fast, flexible thick coating

UV, sulfate, and frost resistant, bitumen-free

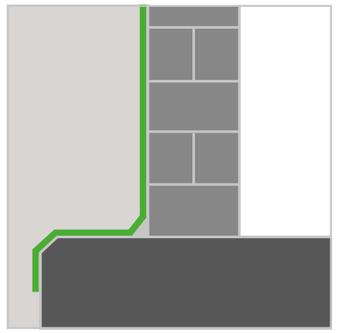
Viscoplastic, crack bridging and radon proof

KÖSTER NB 4000 combines the properties of a polymer modified bitumen thick film sealant (PMBC) and a flexible mineral waterproofing slurry to a polymer-modified thick coating (FPD)

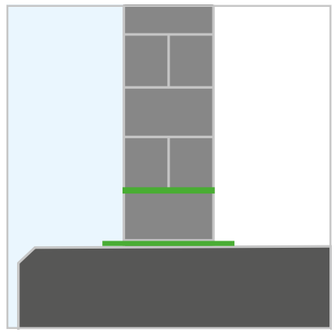
Creamy and homogeneous application – for waterproofing buildings, under tiles and screed, in and under vertical components, as a bonded waterproofing, for waterproofing foundations and plinths etc.

Areas of application

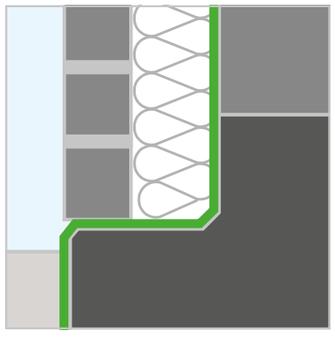
External waterproofing in contact with soil based on the DIN 18 533 according to water exposure class W1-E and W2.1-E



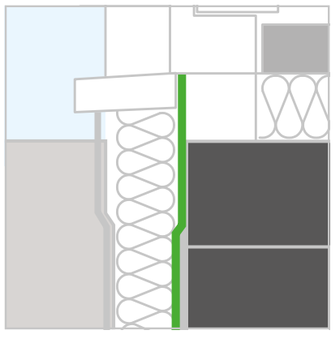
Waterproofing in and under walls based on the DIN 18 533 (cross-sectional waterproofing) in accordance with water exposure class W4-E



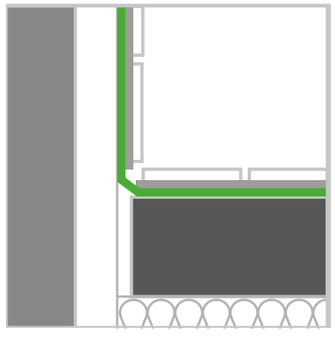
Waterproofing of the base of the exterior shell in double-shell masonry



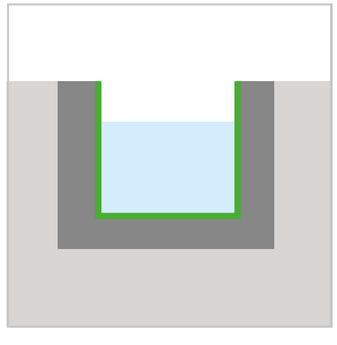
Detail waterproofing of floor-to-ceiling window elements



Waterproofing of tiles and slabs in combination according to DIN EN 14 891



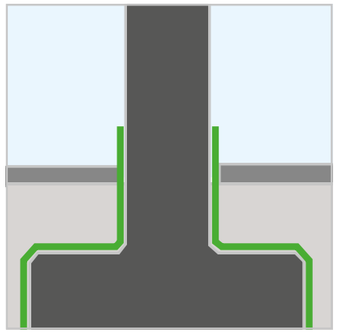
Waterproofing of tanks against water pressing from the inside according to water exposure class W2-B according to DIN 18 535-1 up to a maximum filling height of 10 m.



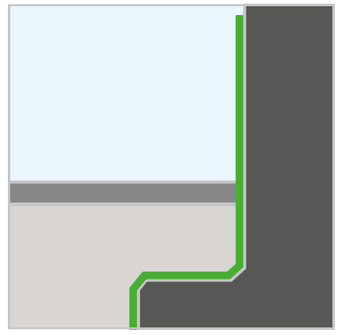
Can withstand water pressure (up to 10 m water column after 24 hours), bridges cracks, can be painted and plastered over

Can also be sprayed with KÖSTER NB 4000 Spray Additive

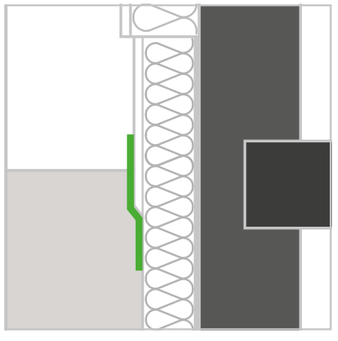
Protection and waterproofing of foundations and supports made of masonry and concrete



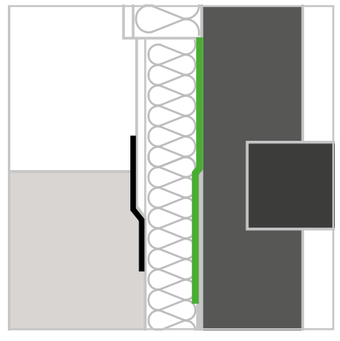
Protection of concrete and masonry, e.g. in underground car parks against the effects of road salt



Waterproofing the plaster edge in base areas (at least 5 cm above the highest floor area)



Waterproofing of foundation surfaces in conventional and timber frame construction



Impervious to radon at a minimum dry layer thickness of 3 mm

Test certificates


Dr. Joachim Kemski
Sachverständiger für Radon

Prüfbericht 20191216011d

zur

Bestimmung des Radondiffusionskoeffizienten und der Radondiffusions-
länge einer Dickbeschichtung,
Produktbezeichnung „KÖSTER NB 4000"

Auftraggeber: KÖSTER BAUCHEMIE AG
Dieselstraße 5 – 10
26607 Aurich

Auftrag vom: 3.4.2019

Bearbeitungszeitraum: 18.11.2019 bis 5.12.2019

Dieser Prüfbericht umfasst 5 Seiten incl. Deckblatt

Sealing against radon

Exposure to radon represents a health hazard and is addressed with the amendment to the Radiation Protection Act of May 12, 2017 to protect against radon in buildings. The specified reference value should not exceed 100 becquerels per cubic meter of room air, otherwise suitable protective measures must be taken.

When examining the samples, a „radon diffusion length" is determined. In order to achieve effective protection against radon, the layer thickness of the KÖSTER NB 4000 must be at least three times as thick as the determined radon diffusion length. KÖSTER NB 4000 meets these requirements and is radon-tight from a dry layer thickness of 3 mm.

Product testing according to the WTA standard

WTA stands for „Scientific-Technical Working Group". The WTA publishes leaflets for the areas of building maintenance and renovation in order to standardize the general quality requirements for waterproofing building materials.

KÖSTER NB 4000 passed the WTA Test 4-6 „Subsequent waterproofing of areas in contact with soil" at the highest load level. To pass the test, no water penetration and no blistering or cracking must be observed after the respective test period. Thus, KÖSTER NB 4000 is certified as an interior waterproofing (negative waterproofing) according to the WTA 4-6:2018 with 3 mm dry layer thickness.

High level of planning security thanks to defined setting and drying times:

- Processing at temperatures from + 2 °C
- rainproof after approx. 2 hours
- refillable after approx. 16 hours

// Scratch coat

General building authority test certificate for a Flexible Polymer Slurry

Flexible polymer-modified thick film coatings (FPD) for waterproofing buildings in accordance with administrative regulation Technical Building Regulations No. C 3.26

The waterproofing of buildings made from KÖSTER NB 4000 is suitable for the areas of application specified in Section 1.2 of the test certificate
• Stable when applied to surfaces inclined at up to 90°, tensile and elastic
• Strong adhesion to mineral substrates, watertight and frost-resistant
• Crack-bridging for cracks up to 1.0 mm in the substrate: fulfilled
• Impermeable to water when cured up to 10 m water column, fulfilled
• When installed, the requirements for class E according to DIN EN 13501-1.
Proof of usability was provided according to the test principles with test report no. 1202/543/20b from the MPA Braunschweig.

General building authority test certificate for a Mineral Waterproofing Slurry (MDS)

Mineral sealing slurries for waterproofing buildings in accordance with administrative regulation technical building regulations serial no. C 3.26

The structural waterproofing made of KÖSTER NB 4000 has been successfully tested for the areas of application specified in the test certificate in section 1.2 and can therefore be used accordingly.

Proof of usability was provided according to the test principles with the test report no. 1202/543/20a of the MPA Braunschweig.

Crack bridging according to the test certificates

Crack bridging requirements (PG = Test Principles)	Crack bridging
PG-FPD, 24 hrs, + 4 °C	up to 2 mm crack expansion at 4 mm DLT*
PG-MDS, 24 hours	up to 0.4 mm crack expansion at 3 mm DLT
DIN EN 14891, 28 d, standard climate	on average > 3.5 mm at 2.0 mm DLT
DIN EN 14891, 28 d, - 5 °C	on average 1.75 mm at 2.2 mm DLT

The PG-FPD and PG-MDS are minimum values that must be achieved during the test. The values according to DIN EN 14 891 represent the values achieved during the test.
*Dry Layer Thickness

Can be used without a primer on damp substrates and old thick bitumen coatings

Important:

KÖSTER NB 4000 has a liquid component that ensures an even and complete curing over the entire layer thickness. After curing, the material is flexible throughout and is able to bridge cracks over 3 mm (at a dry layer thickness of 2 mm, according to the DIN EN 14981, standard climate).

Testing according to the DIN EN 14 891:2012-07

„Waterproof products to be processed in liquid form in combination with ceramic tiles and paving - requirements, test methods, conformity assessment, classification, and designation“

Test results

Testing according to DIN EN 14891	Test conditions	Requirements	Test results
Adhesive strength after contact with lime water (A.6.9)	Pull-off test after 28 days of storage under normal conditions and 7 days	Lime water at + 40 °C ≥ 0.5 MPa	Individual values (MPa) 0.86/0.87/0.86/0.84/0.83 0.82/0.83/0.83/0.83/0 ,79 Average: 0.84 MPa [1)]
Waterproofing (A.7)	Test pressure: 1.5 bar Test duration: 7 d Impermeable to water	Mass increase ≤ 20g waterproof	Mass gain (g) 0.3/1.2/2.3
Crack bridging under normal conditions (A.8.2)	Crack bridging after 28 d Storage under normal conditions Test speed: 0.15mm/min	≥ 0.75 mm	**3.42mm** **3.61mm** **3.72mm** **Mean: 3.58mm**
Crack bridging at low temperatures -5 °C (A.8.3)	crack bridging after 28 d Storage under normal conditions Test speed: 0.15mm/min	≥ 0.75 mm	1.74mm 1.73mm 1.77mm Mean: 1.75mm

[1)] Type of failure: Cohesive failure in the waterproofing material

FPD policy

Guidelines for the planning and execution of waterproofing with flexible polymer-modified thick film coatings (FPD) - 1st edition, February 2020

This guideline contains all relevant information on the reliable use of the KÖSTER NB 4000. Many areas are based on the specifications of the DIN 18533, but they are specifically tailored to the concerns and capabilities of the FPDs. As shown in DIN 18533, the water exposure classes and the associated basics for consumption and dry film thicknesses can be found there.

The FPD guidelines can be downloaded from the Deutsche Bauchemie e.V. website (www.deutsche-bauchemie.de) in the “Publications” section.

Documentation – execution log

In order to document the work on the construction site, we have created a processing protocol, which can easily be downloaded digitally from our homepage onto your PC.

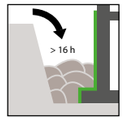
It can be electronically filled out or filled out by hand in printed form. In addition to the general information about the construction project, the company carrying out the work and the climatic conditions, all relevant work steps from substrate preparation to layer thickness control can be documented.

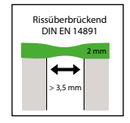
For all surfaces (load-bearing and standard in construction) indoors and outdoors on horizontal and vertical surfaces

Wet and dry layer thicknesses / consumption

Water impact class	Abbreviation of the water impact class	Dry film thick-ness	Wet film thick-ness	Consump-tion
Soil moisture and non-pressurized water based on the DIN 18533:2017-07	W1-E	3.0 mm	3.2 mm	Approx. 3.6 kg
Moderate effect of pressurized water (immersion depth ≤ 3 m) based on the DIN 18533:2017-07	W2.1-E	4.0 mm	4.2 mm	Approx. 4.8 kg
High exposure to pressurized water based on the DIN 18533:2017-07 *	W2.2-E	4.0 mm	4.2 mm	Approx. 4.8 kg
Non-pressurized water on earth-covered ceilings based on DIN 18533:2017-07	W3-E	3.0 mm	3.2 mm	Approx. 4.8 kg
Splash water and soil moisture at the wall base as well as capillary water in and under walls based on the DIN 18533:2017-07	W4-E	2.0 mm	2.1 mm	Approx. 2.4 kg

*W2.2-E not intended for FPD; Consumption values based on the standard, special agreement required





Technical Data KÖSTER NB 4000

Color:	when fresh: grey-green, when cured: dark grey
Density:	Approx. 1.2 g/cm³
Solids:	Approx. 90 wt.-%
Application temperature :	+2 °C to +30 °C
Working time:	Approx. 45 Minutes
Application:	Smoothed or toothed trowel, spray application
Packaging:	25 kg combipackage; 2 x 7.2 kg powder component 2 x 5.3 kg liquid component
Consumption:	2.4 – 4.8 kg/m²

We are there for you – worldwide.

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