



KÖSTER 21

Technical Data Sheet W 210 020

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MPA TU Braunschweig (5190/203/12-1) Test according to DIN EN 1504-2 (Surface Protection System for concrete)
 MPA Bremen (PZ 50846-11) Determination of the CO₂ permeability according to DIN EN 1062-6:2002-10
 Determination of the Solar Reflectance Index (SRI) Fraunhofer Institute (Test Report P15-018e/2013)
 MPA Braunschweig (5190/203/12-3) Testing according to DIN EN 1062-7 (Crack bridging capability)
 Test Report 130567 / P00857/13 from the Croatian Institute for Public Health Appropriate for Drinking Water

White, 2 component, solvent free, multiple use crack bridging waterproofing, resistant to pressurized water, oil resistant

 0761	KÖSTER BAUCHEMIE AG Dieselstraße 1-10, 26607 Aurich 13 W 210 EN 1504-2: 2004 Surface protection products - Coating EN 1504-2: ZA. 1d und ZA. 1e
Crack-bridging ability Cross cut CO₂ permeability Water vapor permeability Capillary absorption and permeability to water Freeze - thaw with chloride attack Adhesion strength by pull off test Reaction to fire Artificial weathering	Category 1: 0.4 mm NPD SD ≥ 200 m SD ≥ 7.3 m (Class II) w = 0,011 kg/(m² * h^{0.5}) MW = 0.9 N / mm² MW = 1. 2 N / mm² Class E NPD

Features

KÖSTER 21 is a 2 component, solvent-free, liquid applied, elastic, crack bridging waterproofing material with excellent adhesion to dry and moist substrates. It is liquid applied and therefore seamless, which greatly eases application to complicated architectural details. Due to its UV stability it is suitable for indoor and outdoor use.

The white color reflects sunlight and reduces building surface temperatures. The fast curing coating is highly flexible, resistant to occasional foot traffic, aging, hydrolysis, UV-rays, frost, and salt.

KÖSTER 21 seals against synthetic oils and aliphatic hydrocarbons with high boiling points (up to 2 bar). KÖSTER 21 is not resistant against substances with high aromatic hydrocarbon contents such as benzene, xylene, toluene, etc. In case of questions contact our technical support team.

KÖSTER 21 does not contain volatile organic compounds (VOC content = 0), is free of polyurethanes, isocyanates, and bitumen.

Advantages:

- Elastic and crack-bridging.
- For indoor and outdoor application: resistant to UV-radiation, salt, hydrolysis, and freeze / thaw effects.
- Good adhesion to slightly moist mineral substrates.
- Good adhesion to a wide variety of materials.
- Easy to apply.
- Resistant to pressurized water.
- Hydrophobic (water repelling effect).

- Free of solvents and volatile organic compounds (VOC).
- Does not contain isocyanates or bitumen.
- 2-component, fast-curing.
- White color, reflects thermal radiation (saves energy).
- Versatile application per brush, trowel, roller, or spraying.
- Viscosity and workability can be adjusted with water according to jobsite requirements.

Technical Data

Color	white
Consistency	pasty
Mixing ratio (by weight)	2 : 3 (A : B)
Application temperature	+ 5 °C to + 35 °C
Substrate temperature	min. + 5 °C
Pot life (1 kg of mixed material) at + 23 °C	45 min.
Thickness per layer	0.5 mm – 2.0 mm
Crack bridging	0.4 mm
Density	1.55 g / cm ³
Values are given from the test report for CO ₂ diffusion	
Sd Value CO ₂	924 m
CO ₂ permeability	8.28 g/m ² · 24 h
μ value	7.35 · 10 ⁻⁵

Final mechanical strength and chemical resistance is reached after 7 days (at + 23 °C and 65 % rel. humidity).

Fields of Application

KÖSTER 21 is a waterproofing material for the positive side waterproofing of basements, concrete slabs, in tanks, on flat roofs, underneath tiles, on terraces or balconies, and similar applications.

KÖSTER 21 is also suitable as a protective coating against mineral oils and aliphatic hydrocarbons. KÖSTER 21 is suitable for the protection of surfaces in facilities with chemical and mechanical demands on the coatings, such as containment and skimming tanks. KÖSTER 21 bonds well to a wide variety of substrates, including: masonry, concrete, screed, plastics, metal, and bitumen.

- Waterproofing balconies and terraces, also before installing ceramic tiles.
- Waterproofing Basements.
- Waterproofing Roofs (with occasional foot traffic).
- Waterproofing Tanks and basins.
- Carbonisation inhibiting.
- Protection against aliphatic oils.
- Waterproofing old bituminous surfaces (renovation).
- Waterproofing concrete slabs.

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.

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Substrate

The substrate can be dry or moist, (no puddling water), and must be free of loose particles or other bond inhibiting substances. Soiled substrates must be cleaned down to a solid layer. Clean off dust completely. On interior corners, install a fillet made of KÖSTER Repair Mortar Plus approx. 24 hours prior to the application of KÖSTER 21. Exterior corners must be broken and rounded.

Application Procedure

Preparation of the product and application

The surface must be thoroughly cleaned prior to the installation to be free of any laitance, oil, curing agents, paints or any foreign material. After cleaning the surface, cracks and expansion joints must be treated accordingly. In case of surface roughness of less than 5 mm, use KÖSTER NB 1 Grey with the addition of KÖSTER NB 1 Flex in the mixing water to smooth the surface. Apply with KÖSTER Brush for Slurries and / or trowel.

Dilation joints, cracks, and construction joints must be treated with KÖSTER Joint Tape 20/30 (according to the size of the joint) adhered with KÖSTER KB-Pox Adhesive. Make an Omega Profile in the joints to allow further movements of the joint. Alternatively KÖSTER FS-joint sealant or KÖSTER PU 907 can be used.

Around pipe penetrations, apply KÖSTER KB Flex 200 after cleaning thoroughly and flush up the cavities with KÖSTER KB-Fix 5. Install fillets made from KÖSTER Repair Mortar Plus at least 12 hours before treating the surfaces with the waterproofing coat on all wall-floor and wall-wall junctions. Blowholes and cracks on the surface caused by shrinkage must be treated with a homogeneous and uniform scratch coat of KÖSTER 21. Prime the surface with KÖSTER Polysil TG 500 to insure and maximize the chemical and mechanical resistance of the substrate, especially on salt burdened substrates. Embedding a layer of KÖSTER Glass Fiber Mesh on the area and KÖSTER Superfleece on the details into the fresh first layer of KÖSTER 21 is required. Wait 24 hours before trafficking for the application of the second layer. This time can vary according to the climate situation or the environment temperature and humidity.

KÖSTER 21 is water soluble and must be protected from rain before it reaches the full cure. The minimum waiting time before backfilling or the application of screed is 48 hours. The minimum temperature for application and until final cure is +5° C.

Application

The powder component is slowly added into to the liquid component while mixing it with a slowly rotating electrical mixer (below 400 rpm) so that a lump free, homogenous consistency is achieved. Up to 0.8 liters of water can be added to each 20 kg combi-package to achieve a brushable or sprayable consistency. Use only clean and potable water. Mixing time is a minimum of 3 minutes.

KÖSTER 21 is applied with a brush, roller, trowel, or other customary mason's tools. The material can also be spray applied. We recommend using the KÖSTER Peristaltic Pump.

KÖSTER 21 is applied in two coats. The waiting time before application of the second coat depends on the load of conditions of the waterproofed area:

- min. 3 hours without foot traffic (e.g. vertical areas)
- 24 hours before walking on the first layer

On areas which are likely to crack, embed KÖSTER Glass Fiber Mesh into the fresh first layer. At intersections and details (e.g. wall floor junctions, pipe penetrations), embed KÖSTER Superfleece. Roofs and balconies are always completely reinforced. The fresh coating is water soluble and must be protected from rain until it has fully dried.

In hot climates (+35°C) up to 2 litres of water per package can be added in order to extend the time of application. Also it is recommended not to mix more than one bucket at a time while working with the peristaltic pump.

Consumption

Approx. 2.5 - 3.0 kg / m²

Do not exceed layer consumption by more than 100%.

Cleaning

Clean tools immediately after use with water. Cured material must be mechanically removed.

Packaging

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20 kg Combi-package; 1 x 8 kg Powder; 2 x 6 kg Liquid

Storage

Store the material frost free at temperatures between + 5 °C and + 25 °C. In originally sealed packages, the material can be stored for a minimum of 12 months.

Safety

The powder component contains cement. Avoid contact with skin. Observe all governmental, state, and local safety regulations when processing the material.

Related products

KÖSTER KB-FIX 5	Prod. code C 515 015
KÖSTER KB-Pox Adhesive	Prod. code J 120 005
KÖSTER FS Primer 2C	Prod. code J 139 200
KÖSTER Joint Sealant FS-V black	Prod. code J 231
KÖSTER Joint Sealant FS-H black	Prod. code J 232
KÖSTER Joint Sealant FS-V grey	Prod. code J 233
KÖSTER Joint Sealant FS-H grey	Prod. code J 234
KÖSTER PU 907	Prod. code J 235
KÖSTER KB-Flex 200	Prod. code J 250
KÖSTER Joint Tape 20	Prod. code J 820 020
KÖSTER Joint Tape 30	Prod. code J 830 020
KÖSTER Polysil TG 500	Prod. code M 111
KÖSTER Glass Fiber Mesh	Prod. code W 411
KÖSTER Repair Mortar	Prod. code W 530 025
KÖSTER SB Bonding Emulsion	Prod. code W 710
KÖSTER NB 1 Flex	Prod. code W 721 008
KÖSTER Brush for Liquids	Prod. code W 912 001
KÖSTER Peristaltic Pump	Prod. code W 978 001
KÖSTER Universal Cleaner	Prod. code X 910 010

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Technical Data	Product Name: KÖSTER 21
Material Class	Universally applicable liquid waterproofing
Temperature range for application	+ 5°C to + 35°C
Consumption approx.	2.5 – 3.0 kg / m ²
Layers	2 / no primer (W)
Color	Pasty White
Solvent-Free	Yes
Can be plastered over	+
Crystallizing properties, penetrates into substrate	No
Mode of application	Trowel, brushable / sprayable
Suitable for negative side waterproofing	Sandwich-Waterproofing
Waiting time until backfilling	>48 hours
Simplicity of application	++
Sd Value Co ²	924 m
Thickness per layer	0.5 mm – 2.0 mm
Density	1.55 g / m cm ³
SRI value	0.93
Substrate	
Masonry	++
Cementitious plaster	++
Concrete	++
Polystyrene	+
Old Bitumen membranes / coatings	++
Plaster	++
Concrete or ceramic bricks	+++
Screeds	+++
Old ceramic substrates	+++
Gypsum	Should be removed
Moisture condition of surface	Dry or slightly damp (not wet)
Performance	
Waterproofing against max. load condition	Retained seepage
Time until rainproof	Approx. 3 hours
Chemical resistance	Good
Permeability to vapor diffusion	Medium
UV-resistance	Yes
Abrasion resistance	++
Crack bridging	+++
Embedding of a mesh	Yes

Lower+ Medium++ High+++

In case of highly absorbent substrates prime with KÖSTER Polysil TG 500

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