

# **WATERPROOFING OF WET ROOMS**



**KÖSTER**  
**WATERPROOF**

## Waterproofing under tiles

For longterm enjoyment of a wetroom area a complete and resistant waterproofing system is an important precondition. Most tiles are by themselves waterproof but quite frequently the jointing materials are not. Thus, it is important to install a waterproofing layer underneath the tiles in order to keep the structure dry and free of damages.

A European guideline on “watertight covering kits for interior wet room floors and / or walls”, the “ETAG 022”, has been published by the European Organization for Technical Approvals. The watertight covering is placed on the inner surface of the wet room floor or wall, e. g. underneath ceramic tiles, which serve as a wearing surface.



## Requirements

The “ETAG 022” requires that in normal use conditions, the waterproofing system under tiles shall at least resist stresses caused by movements of construction elements acting as substrate and resist the influence of water, temperature variations and alkalinity of concrete and ceramic tile mortars. The system is to be used for indoor applications where the waterproofing system is not exposed to temperatures (i. e. temperatures of the structure) below 5 °C and above 40 °C, in the following uses:

- floor and / wall surfaces with only occasional direct exposure to water (e.g. at a good distance from shower or bathtub)
- floors and / or walls in shower areas or around bathtubs used for a few showers daily e. g. in ordinary dwellings, multi-family houses and hotels
- floor and/or wall surfaces with exposure to water more frequent or of longer duration than normally anticipated in dwellings, e. g. public wet rooms, schools and sport facilities

## KÖSTER Products for waterproofing under tiles



### KÖSTER BD 50 Primer

Water dilutable, deep penetrating primer concentrate for creating of bonding bridges to the substrates. Consumption: approx. 0.05 - 0.1 kg/m<sup>2</sup> depends on the substrate.



### KÖSTER BD Flex Tape K 120

Thin elastomer joint sealing tape for connecting the waterproofing of different areas in zones which are in danger of cracking in combination with waterproofing systems under ceramic tile. Packing: 10 m roll, 0.6 mm x 120 mm, 50 m roll, 0.6 mm x 120 mm.



### KÖSTER BD Floor Sleeve

Elastic floor sleeve made of NBR-rubber for waterproofing of floor drains in combination with waterproofing systems under ceramic tile. Gross dimensions 35 cm x 35 cm, thickness: 0.6 mm



### KÖSTER BD Wall Sleeve

Elastic waterproofing sleeve made of NBR-rubber for waterproofing of pipe penetrations in combination with waterproofing systems under ceramic tile.



### KÖSTER BD Outside Corner

Elastic moulded part made of NBR-rubber for waterproofing of outside corners in combination with waterproofing systems under ceramic tile. Width: 6 cm, side length: 7.5 cm, thickness: 0.6 mm



### KÖSTER BD Inside Corner

Elastic moulded part made of NBR-rubber for waterproofing of inside corners in combination with waterproofing systems under ceramic tile. Width: 6 cm, side length: 10.5 cm, thickness: 0.6 mm



### KÖSTER BD 50

Highly elastic, watertight, acrylic based waterproofing. For walls and floors, e.g. under tiles in wet rooms.



### KÖSTER Flexible Tile Adhesive

Single component, mineral flexible adhesive for all mineral building materials in construction. Consumption: approx. 1.7 kg / m<sup>2</sup> per mm layer thickness

## Advantages of the KÖSTER BD System

- fully waterproof
- flexible, crack bridging system
- waterproofing of joints and pipe penetrations
- easy to apply
- perfect surface for tiling with standard tile adhesives
- compatibility with under floor heating
- easy to connect or to make repairs
- good bond to the substrate
- not flammable
- odor free
- resistant to physical and chemical stresses (hydrolysis, alkalis, chemicals)
- scratch resistant

# Application of the KÖSTER BD System

## Application of KÖSTER BD 50 Primer



KÖSTER BD 50 Primer is applied to the substrate by roller or brush. Different substrates require different consumptions of the KÖSTER BD Primer. For priming gypsum board, dilute KÖSTER BD 50 Primer with water in a ratio of 1 : 3. Consumption of that mixture is approx. 240 g / m<sup>2</sup>. For details on other substrates, refer to the technical data sheet of KÖSTER BD 50 Primer.

## Preparing the application of KÖSTER BD 50



The first step is to stir up KÖSTER BD 50. Use a slowly rotating electrical mixer (400 rpm) to stir the material in the bucket for 1 minute.

## Application of the KÖSTER BD Inside Corner



1. Apply a covering coat of KÖSTER BD 50 to the area in the inside corner where the KÖSTER BD Inside corner is going to be installed approx 10 cm up onto the wall and 10 cm onto the floor.

2. Embed the KÖSTER BD Inside Corner into the fresh coat of KÖSTER BD 50.

3. Overcoat the fabric edges of the KÖSTER BD Inside Corner with KÖSTER BD 50 so that the fabric on the edge of the corner element is completely covered with KÖSTER BD 50.

## Application of the KÖSTER BD Outside Corner



1. Apply a covering coat of KÖSTER BD 50 to the area on the outside corner where the KÖSTER BD Outside corner is going to be installed approx 10 cm up onto the wall and 10 cm onto the floor.

2. Embed the KÖSTER BD Outside Corner into the fresh coat of KÖSTER BD 50.

3. Overcoat the fabric edges of the KÖSTER BD Outside Corner with KÖSTER BD 50 so that the fabric on the edge of the corner element is completely covered with KÖSTER BD 50.

## Application of the KÖSTER BD Wall Sleeve



1. Slide the KÖSTER Wall Sleeve over the pipe penetration.

2. Apply a covering coat of KÖSTER BD 50 to the area around the pipe penetration where the KÖSTER BD Wall Sleeve is going to be installed and embed the KÖSTER BD Wall Sleeve into the fresh coating.

3. Overcoat the fabric edges of the KÖSTER BD Wall Sleeve with KÖSTER BD 50 so that the fabric on the edge of the corner element is completely covered with KÖSTER BD 50.

## Application of the KÖSTER BD Flex Tape K 120



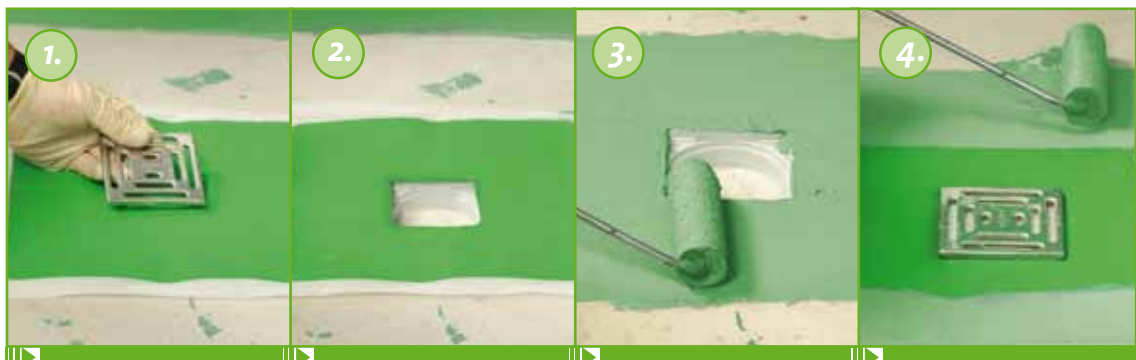
1. Apply a covering coat of KÖSTER BD 50 to the area where the KÖSTER BD Flex Tape K 120 is going to be installed.

2. Embed the KÖSTER BD Flex Tape K 120 into the fresh coat of KÖSTER BD 50.

3. Overcoat the fabric edges of the KÖSTER BD Flex Tape K 120 with KÖSTER BD 50 so that the fabric on the edge of the corner element is completely covered with KÖSTER BD 50.

4. Use the KÖSTER BD Flex Tape K 120 to connect all bordering area waterproofings. Install the tape in wall/floor junctions and along inside and outside corners.

## Application of the KÖSTER BD Floor Sleeve



1. Position the KÖSTER Floor Sleeve over the floor drain on which it is applied.

2. Cut a hole of the shape of the opening of the inside area of the floor drain into the KÖSTER BD Floor Sleeve. The hole should be smaller than the drain so that it overlaps approx. 3 mm.

3. Apply a covering coat of KÖSTER BD 50 to the area around the floor drain where the KÖSTER BD Floor Sleeve is going to be installed.

4. Embed the KÖSTER BD Floor Sleeve into the fresh coat of KÖSTER BD 50. Overcoat the fabric edges of the KÖSTER BD Floor Sleeve with KÖSTER BD 50 so that the fabric on the edge of the floor element is completely covered with KÖSTER BD 50.

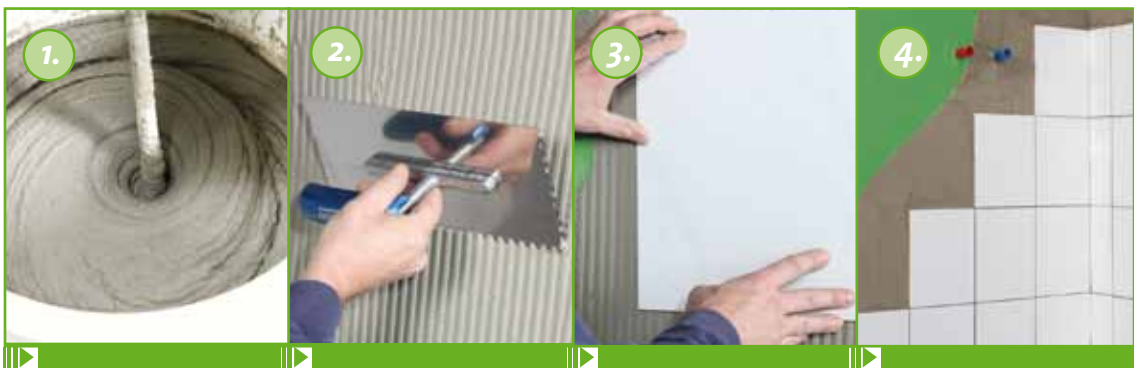
## Application of KÖSTER BD 50



KÖSTER BD 50 is applied to the area using a roller or a brush. Application of waterproofings is always done in at least 2 coats. Consumption per coat is approx. 0.5 to 0.6 kg / m<sup>2</sup> leading to a total consumption of approx. 1.1 kg / m<sup>2</sup>. Waiting time between coats is at least 3 hours.

The finished coating should be checked for optical defects before tile is applied. After application of the second coat, the coating must be allowed to cure for approx. 20 hours before tiles can be applied.

## Laying tiles using KÖSTER BD Tile Adhesive.



Put 6l of clean potable water into a clean mixing vessel, then add the powder in portions to the liquid while continually mixing with a slow rotating mechanical stirrer.

After the waterproofing has cured KÖSTER BD Flexible Tile adhesive is applied. The consumption depends on the utilized tile. Please refer to the technical guidelines for details.

Finally tile is pressed into the fresh tile adhesive.

Wet room waterproofed using the KÖSTER BD System.

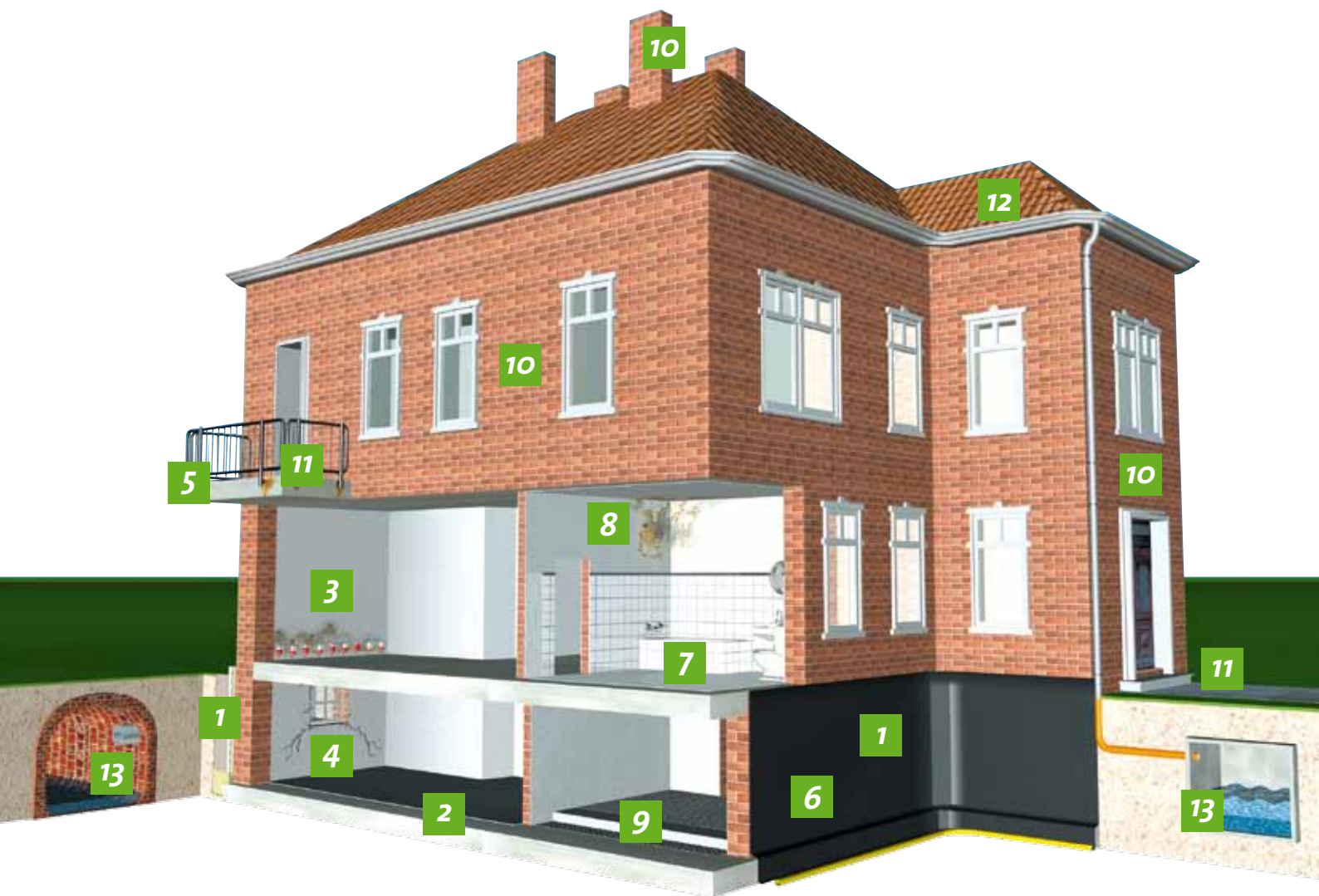
## European Technical Approval

The KÖSTER BD system was tested by the DIBt, the Deutsches Institut für Bautechnik which issued in June 2009 the European technical Approval ETA-09/199 to KÖSTER BAUCHEMIE AG.



## KÖSTER Product Range

- 1 External basement waterproofing
- 2 Internal basement waterproofing
- 3 Horizontal barriers/  
Restoration of masonry
- 4 Crack and hose injection
- 5 Concrete protection and repair
- 6 Sealing of expansion joints
- 7 Bathroom and wet room waterproofing
- 8 Mould control
- 9 Floor coatings
- 10 Façade protection
- 11 Balcony and terrace waterproofing
- 12 Roof waterproofing
- 13 Water tank and reservoir waterproofing



KÖSTER BAUCHEMIE AG develops, produces and supplies a comprehensive range of special construction materials in the areas of waterproofing and concrete repair. Being founded in 1982 in Germany, the KÖSTER Group consists meanwhile of 24 companies which are represented in more than 45 countries. It is our policy to offer construction materials of highest quality, durability and general performance.



*Service you can depend on*

*With our service and distribution network in many countries world-wide we can offer you professional advice and technical support immediately and on the spot. Your required waterproofing materials can be delivered promptly and will protect your property efficiently and lastingly.*

*For further information, please contact:*

**KÖSTER**  
*Waterproofing Systems*

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