

Method Statement

Sealing compound for pipe & cable penetrations with KÖSTER KB-Flex 200



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1 General information

1.1 Scope

This method statement is intended for use by developers, contractors and applicators as a general guideline for the application of the waterproofing system KÖSTER KB-Flex 200.

While this document describes the tools, equipment, materials and step by step process for preparing and installing the waterproofing system, it must be used and referred to, in combination with all other relevant technical information available for the product and its components.

1.2 Manufacturer

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KÖSTER
Waterproofing Systems

1.3 Definitions

Adhesion

Adhesion refers to the ability of different substances or materials to stick or bond to one another when they come into contact. It is the attractive force that exists between the surfaces of two materials, causing them to cling together.

Damp surface

A "damp surface" is a surface that is slightly wet or moist, typically due to the presence of moisture, humidity, or a recent exposure typically to water. It is not fully saturated with water but contains a noticeable amount of dampness.

Water pressure

Water pressure refers to the force exerted by a volume of water in a confined space.

Watertight

Closely sealed, fastened, or fitted so that no water enters or passes through.

Flowing water

The amount of water passing through a pipe at any given time is described as water flow.

Permanently plastic compound material (moldable)

This means that the material does not shrink or dry out, but can be formed to fit a desired shape.

2 System Description

2.1 System features

KÖSTER KB-Flex 200 is a permanently plastic, vapor and watertight sealant compound for sealing pipe and cable penetrations, cavities, and for custom detail waterproofing solutions against damp and pressurized water. The material does not shrink and does not dry out. Therefore, it remains permanently moldable. It adheres very well to dry and moist substrates.

KÖSTER KB-Flex 200 is a 1-component sealing compound and can therefore be directly applied from the tubular bag using KÖSTER Special Caulking Gun with attachment.

2.2 Characteristics/Advantages

- Excellent adhesion to multiple dry and damp substrates (e.g., concrete, masonry, mortar, plaster and all other mineral construction materials).
- Also bond to ceramic, PVC, polyethylene, polypropylene, metal and steel.
- One component material, no mixing necessary.
- Easy application from tubular bags or with the hand.
- Moldable material allows easy replacement of pipes or cables.
- Horizontal and vertical (overhead) applications are possible.
- Irregular shapes can be sealed.
- Good chemical resistance.
- Resistant to pressurized water.
- Applicable even in the case of flowing water.

2.3 Main products and components



Waterproofing

KÖSTER KB-Flex 200

Sealant for pipe and cable penetrations, even in the case of pressurized water. KÖSTER KB-Flex 200 is a 1-component, permanently plastic material and can therefore be directly applied from the foilbag – even in the case of flowing.

[See online](#)

Protection layer

KÖSTER KB-Fix 5

Waterproof, weatherproof, fast curing mortar with high compressive strength (sets after approx. 5 minutes) for fast installations as well as for small repairs of masonry and concrete. Free of soda and chlorides.

[See online](#)

2.4 Associated products



KÖSTER Universal Cleaner

[See online](#)



KÖSTER Spatula

[See online](#)



KÖSTER Special Caulking Gun with attachment

[See online](#)

2.5 Associated literature

- [Technical Data Sheet](#)
- [Abdichtungsreport 1-2005 \(only German\)](#)
- [Application video KÖSTER KB-Flex 200](#)
- [Product Flyer KÖSTER KB-Flex 200 Sealing Paste](#)
- [References](#)

3 Tools and Cleaning

3.1 Tools



Backing foam



KÖSTER Connecting Hose and Nozzle for Caulking Gun



KÖSTER Cleaning Brush



Abrasive scrubbing pad (not in our product range)

3.2 Cleaning

Clean tools and any residues with a cloth or paper towels, oily residue can be removed with KÖSTER Universal Cleaner.



4 Environmental, health and safety

4.1 Personal Protection Equipment (PPE)

The following is a short overview of Personal Protective Equipment and serves only as a guideline. Contractors and employers are responsible for meeting the occu-

pational safety guidelines in their countries, states, and localities.



Eye protection

Employers must be sure that their employees wear appropriate eye and face protection and that the selected form of protection is appropriate to the work being performed and properly fits each worker exposed to the hazard.

Head protection

Employers must ensure that their employees wear head protection if any of the following apply: Objects might fall from above and strike them on the head; they might bump their heads against fixed objects, such as exposed pipes or beams; or there is a possibility of accidental head contact with electrical hazards.

4.2 Material safety & First Aid

Every KÖSTER product is labeled with specific information and symbols as to the related dangers. Please consult the respective Material Safety Data Sheet for specifics.

After inhalation:

Provide fresh air.

After contact with skin:

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

Foot and leg protection

Employees who face possible foot or leg injuries from falling or rolling objects or from crushing or penetrating materials should wear protective footwear.

Hand protection

When selecting gloves to protect against exposure hazards, always check with the manufacturer or review the manufacturer's product literature to determine the gloves' effectiveness against specific workplace chemicals and conditions. Gloves commonly used are: Coated fabric gloves and chemical - and liquid - resistant gloves.

Hearing protection

Suitable hearing protection must be provided for the job environment.

You can access the Material Safety Data Sheets by scanning the QR codes on the packagings.

After contact with eyes:

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion:

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting.

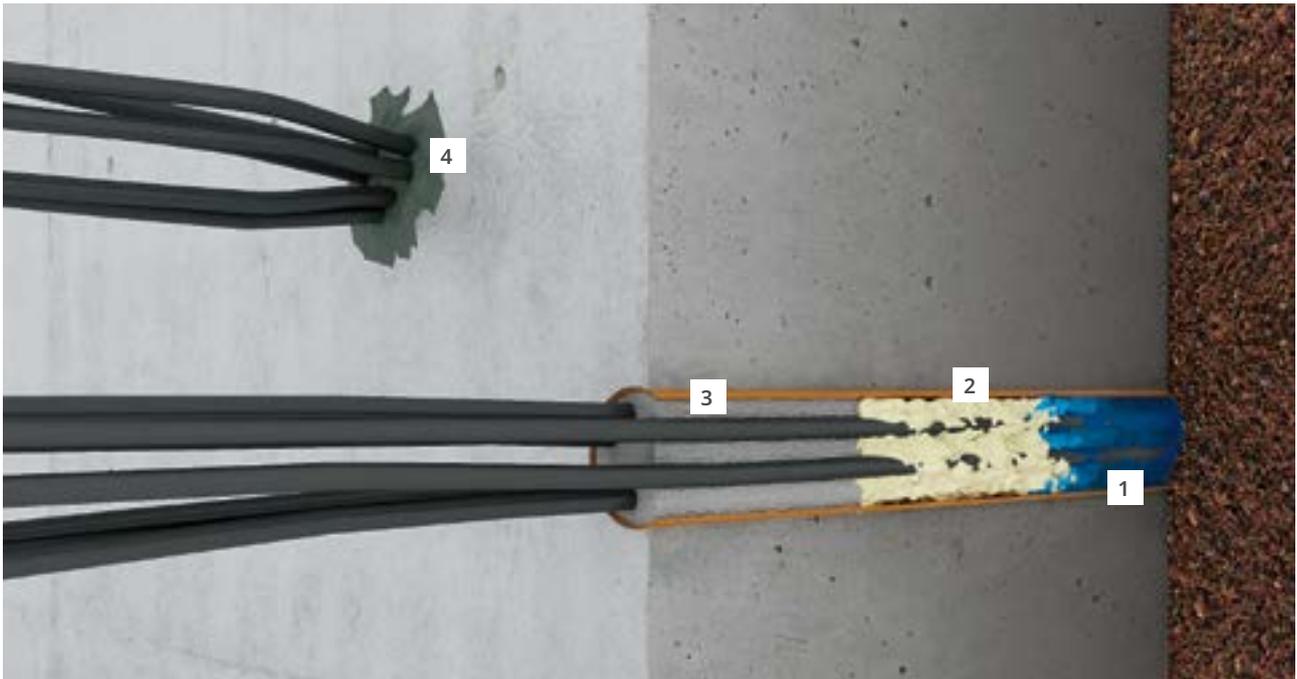
5 Fields of application

5.1 General examples

To seal pipe and cable penetrations and provide custom solutions in underground structures within residential and commercial buildings, as well as engineering projects like bridges, tunnels, and infrastructure systems. It can also effectively seal leaks, even when pressurized water is involved.

- Sealing inside cable and pipe penetrations
- Sealing voids between the structure and pipe penetrations

5.2 Example: Waterproofing of cable and pipe penetrations



- | | |
|---------------------|--------------------|
| 1. Penetration | |
| 2. Backing | Backing foam |
| 3. Waterproofing | KÖSTER KB-Flex 200 |
| 4. Protection layer | KÖSTER KB-Fix 5 |

Installation process:

Cable and pipe penetrations such as electrical, water and data cables, must be permanently and securely waterproofed against penetrating water.

Typically, rigid mortars or foams are used, which prevent the installation of other cables. Using KÖSTER KB-Flex 200, a permanently plastic material, is a robust and easy way to waterproof against penetrating water, while allowing the installation of further cables at a later stage. The material accommodates cable movements, does not tear, and is permanently resistant against common substances found in soil and groundwater.

Before applying the material, the substrate must be clean and free of loose particles. The substrate can be dry, moist or wet.

A backing foam is installed in the penetration at a depth

corresponding to the installation depth (1.5:1/length:-diameter) using a common PU foam. During the installation of the sealing compound, it is important to make sure that it is installed free from voids.

Finally, the sealing compound is recessed approx. 1 cm from the wall surface, and smoothed with a metal spatula.

As a protection layer and to hold the pipe/cable centered, the exposed material is covered with KÖSTER KB-Fix 5. KÖSTER KB-Flex 200 has good adhesion to all commonly used building materials such as concrete, masonry, mortar, plaster, brick, and all other mineral construction materials, as well as ceramic, PVC, polyethylene and polypropylene. A primer is not necessary.

6 Application/Installation instructions

6.1 Preparing the KÖSTER KB-Flex 200

If applying in cooler temperatures, warm the KÖSTER KB-Flex 200 prior to application for at least 30 minutes by placing in warm water (+35 °C to +40 °C). This ensures that the material has the optimal consistency for application.



6.2 Applying KÖSTER KB-Flex 200 inside pipe penetrations



1 The application area flanks must be thoroughly cleaned with an abrasive pad and with KÖSTER Cleaning Brush from the inside so that they are free of dust, sand and other loose particles.



2 Before applying KÖSTER KB-Flex 200, a backing is installed in the penetration at a depth corresponding to the installation depth (consult Technical Data Sheet) using e.g. a common PU foam.



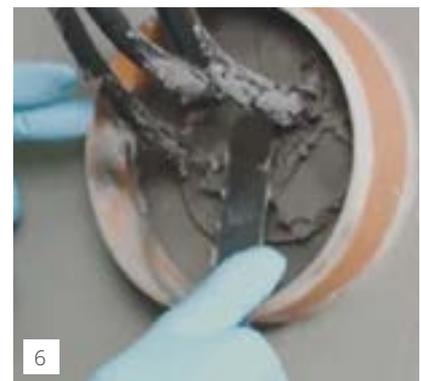
3 Remove the KÖSTER KB-Flex 200 tubular bag from the warm water (maximum +40 °C) and cut off the front clip of the tubular bag.



4 Insert it in the KÖSTER Special Caulking Gun.



5 The KÖSTER KB-Flex 200 material is pressed into the penetration from back to front. Waterproofing made of KÖSTER KB-Flex 200 must be dimensioned so that the ratio of the depth (d) to the width (w) of the installed material is not below 1.5:1. The minimum depth should not be below 8 cm. The maximum diameter of the waterproofing is 300 mm.



6 When sealing cable penetrations, jiggle the cables to reveal voids and re-press KÖSTER KB-Flex 200 into any eventual voids created. Ensure that the cable is tension free after finishing the sealing.



The sealing compound is recessed 1-5 cm (depending on cable thickness and weight) from the wall surface and smoothed with KÖSTER Spatula.



As an additional safeguard and to hold the pipe/cable centered, the exposed material is covered with KÖSTER KB-Fix 5.

6.2.1 Installation of a new cable



If a new cable is to be installed in this penetration later on, the KÖSTER KB-Fix 5 plug is first removed with a hammer and chisel.



The new cable is pushed through the (existing) KÖSTER KB-Flex 200.



Finally, the penetration is resealed by pressing additional KÖSTER KB-Flex 200 around the cables.

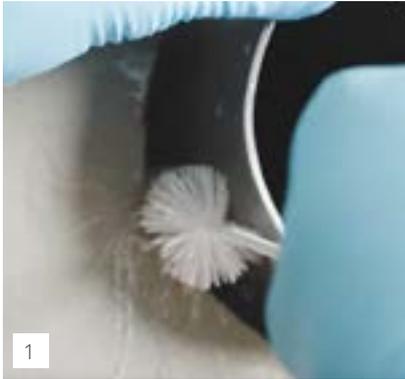


As an additional safeguard and to hold the pipe/cable centered, the exposed material is covered again with KÖSTER KB-Fix 5.

6.3 Applying KÖSTER KB-Flex 200 between the structure and pipe penetrations

KÖSTER KB-Flex 200 is a versatile solution for sealing gaps between structures and pipe penetrations, ensuring a watertight system that prevents water from seeping through.

To achieve this, follow these steps:



1
Begin by thoroughly cleaning the area between the structure and the pipe penetration using a KÖSTER Cleaning Brush or an abrasive scrubbing pad.



2
Next, insert a backing rod into the penetration, ensuring it reaches a depth that corresponds to the installation depth given in the Technical Data Sheet. Maintain a depth to width ratio of at least 1.5:1, with a minimum depth of 8 cm.

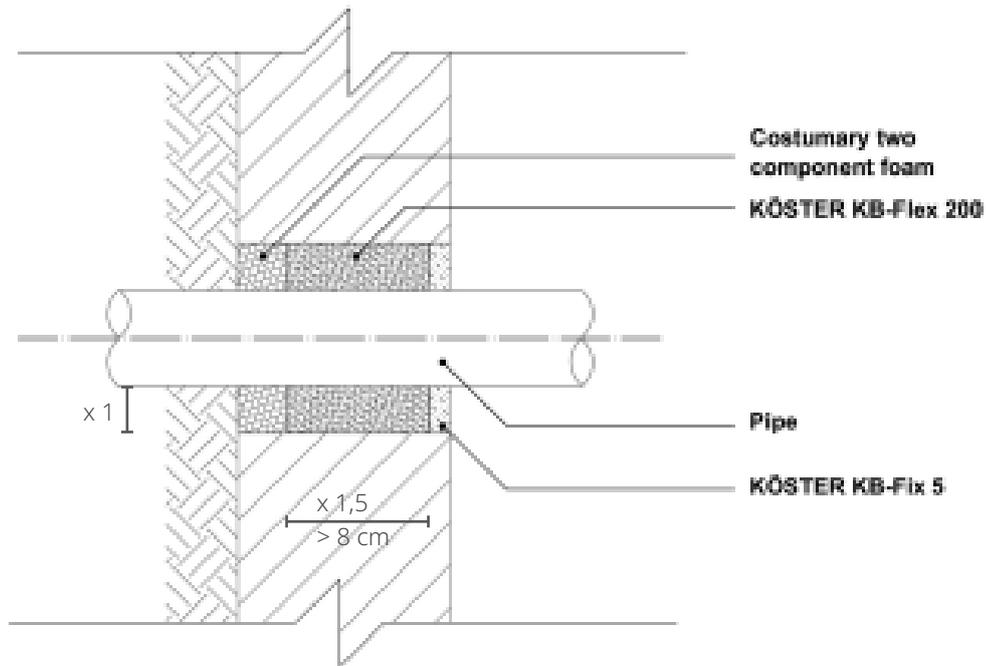


3
Apply KÖSTER KB-Flex 200 using a KÖSTER Special Caulking Gun equipped with a nozzle suitable for narrow spaces. Ensure the material is pressed evenly into the gap, either manually or with a KÖSTER Spatula.



4
Finally, cover the exposed material with KÖSTER KB-Fix 5 to complete the sealing process.

These steps will help create an effective and reliable seal, preventing water infiltration in the specified area.



7 General notes

7.1 Consumption rate

Approx. 1.6 kg/l void

7.2 Material packaging



530 ml/850 g tubular bag

7.3 Material storage

Store the material in a dry environment at temperature below +30 °C. In originally sealed packages it can be stored for a minimum of 24 months.

7.4 Important considerations

- Protect the material from mechanical abuse with KÖSTER KB-Fix 5.
 - Prewarm the material in water for an easier installation.
 - To enhanced adhesion to the pipes, roughen the surface with sand paper.
- KÖSTER KB-Flex 200 can be delivered in alternative packaging sizes upon request, such as: 10 kg bucket.

7.5 Limitations

- Do not apply the material on installations subject to constant high temperatures above +50 °C.
 - Recommended application temperature between +5 °C and +30 °C.
- If large amounts of material need to be installed due to large pipe diameter or size of the opening (larger than 300 mm), contact the KÖSTER Technical Support for consultation on application techniques.

8 Certifications

Application-technological testing for sealing annular gaps KÖSTER KB-Flex 200; MFPA Leipzig

9 Legal disclaimer

This method statement reflects general cases with standard parameters. It is not suitable as a step-by-step guide for all and each waterproofing project as the conditions on site at the moment of the application cannot be foreseen. It is solely the applicator's responsibility to

decide on the actual procedure considering the specific situation on the construction site. In any case, KÖSTER's Terms of business are valid and can be viewed under www.koester.eu 