

KÖSTER Restoration Plaster "E" Grey

Technical guideline / Article number **5.068**

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Water repellent restoration plaster for salt- and water damaged masonry

Features

KÖSTER Restoration Plaster "E" Grey is a salt and pressure resistant restoration plaster for the restoration of heavily moisture and salt burdened substrates. Due to its high porosity and hydrophobicity, KÖSTER Restoration Plaster "E" Grey allows for the damage free drying and de-salting of masonry even in the case of high salt contents. It improves the insulative properties of the wall and therefore helps prevent the formation of condensate. Due to the hydrophobic characteristics of KÖSTER Restoration Plaster "E" Grey water in liquid form is not absorbed. KÖSTER Restoration Plaster "E" Grey requires no further surface treatment prior to the application of breathable paints or wallpaper which is open to vapor diffusion.

Technical data

Density of fresh mortar	1.6 kg / l
Porosity of fresh mortar	> 25 V-%
Compressive strength (7 days)	> 3.5 N / mm ²
Flexural tensile strength	> 1.4 N / mm ²
Porosity of cured plaster	> 40 V-%
Setting time	approx. 3 hours

Field of application

KÖSTER Restoration Plaster "E" Grey is suitable for the repair of moisture and salt damaged masonry, also after the post installation of a horizontal barrier with KÖSTER Crisin® 76, KÖSTER Mautrol®, KÖSTER Mautrol® 2C, or KÖSTER Mautrol® Flex 2C. It can be applied to reduce the formation of condensate after waterproofing rooms with high humidity using mineral sealing slurries such as the KÖSTER KD-System or KÖSTER NB 1 Grey.

KÖSTER Restoration Plaster "E" Grey can also be used as a water repellent exterior plaster. In the case of exterior application we recommend the application of KÖSTER Repair Mortar on the base area up to 30 cm above ground level.

Substrate preparation

Suitable substrates include concrete, masonry consisting of brick, natural stone, porous concrete block, perforated brick, mixed masonry, etc., sealing slurries such as KÖSTER NB 1 Grey, KÖSTER NB 2 White, or the KÖSTER KD-System. Prior to the application of KÖSTER Restoration Plaster "E" Grey, the substrate is primed with KÖSTER Polysil® TG 500 with a minimum consumption of 120 g / m². Apply the KÖSTER

Polysil® TG 500 until the surface is saturated. In the case of strongly absorbent substrates the consumption can be up to 250 g / m². Loose particles and salt efflorescence should be removed mechanically prior to the beginning of the restoration. Substrates containing gypsum are not suitable substrates and the gypsum must be removed.

Preparing a Restoration Plaster Key

A plaster key is a thin slurry which is used as a bonding bridge between the substrate and the Restoration Plaster. To make a plaster key mix one bag of KÖSTER Restoration Plaster "E" Grey with approximately 4.5 liters of water and 500 ml of KÖSTER SB Bonding Emulsion until a thin slurry is achieved. The exact amount of mixing water can be higher or lower depending on the temperature, humidity, and absorbency of the substrate. The plaster key has the proper consistency when it can be easily cast onto the surface but does not run off. The slurry is cast onto the substrate with a brush or a trowel so that the plaster key is no thicker than 5 mm and covers approximately 50% of the area. After 24 hours the Restoration Plaster can be applied. On rough surfaces or on walls where the joints have been scratched out no Restoration Plaster Key is required.

Mixing

One 30 kg bag is mixed with 4.2 l to 4.8 l of clean potable water. Put 3.6 l of water in a clean mixing vessel and add the powder in portions while continually mixing using a slow speed mechanical compulsory mixer (under 400 rpm). Add in portions as much of the remaining water as necessary to achieve the desired consistency and mix until the mortar has a homogeneous texture. Mixing time is 3 minutes after all powder has been added to the liquid.

Application

Directly after priming the substrate with KÖSTER Polysil® TG 500 the Restoration Plaster Key is applied (consumption: approx. 3 kg / m²) After 24 hours of waiting time the KÖSTER Restoration Plaster "E" Grey is applied. The plaster is usually applied in two coats with a total layer thickness of approx. 2.5 cm; the thickness should be at least 2 cm. After casting the plaster onto the substrate, it is trued using a feather edge, a straight edge, or a long float trowel. Once the plaster starts to set it is smoothed using a float. If several layers of plaster are

to be applied, the lower layer is roughened thoroughly by scratching immediately after it begins to set.

Interior surfaces can be smoothed using KÖSTER Restoration Plaster Coat. KÖSTER Restoration Plaster Coat must be applied either within 48 hours after the application of the last coat of KÖSTER Restoration Plaster "E" Grey or after the restoration plaster has cured for 28 days.

Restoration against rising damp:

Prior to the restoration of areas using the KÖSTER Restoration Plaster System, the waterproofing against rising damp (capillary wicking moisture in the wall) must be completed. For this refer to the following technical guidelines: KÖSTER Mautrol[®], KÖSTER Mautrol[®] 2C, KÖSTER Mautrol[®] Flex 2C, or KÖSTER Crisin[®] 76. Immediately after closing the boreholes with KÖSTER KB-Fix 5, the salt treatment and substrate strengthening using KÖSTER Polysil[®] TG 500 is carried out (minimum consumption is 120 g / m², in the case of strongly absorbent substrates up to 250 g / m²). Directly after that, the Restoration Plaster Key is applied (Consumption: approx. 3 kg / m²) on top of which - after another 24 hours of waiting time - KÖSTER Restoration Plaster "E" Grey is applied in one or two layers with a minimum thickness of 2.0 cm.

Reduction of condensate formation (subsequent measure when using the KÖSTER KD-System and KÖSTER NB 1 Grey)

The waterproofing against pressurized and actively flowing water is carried out using the KÖSTER KD System. Approx. 24 hours after finishing the waterproofing, the Restoration Plaster Key is applied. After another 24 hours, KÖSTER Restoration Plaster "E" Grey can be applied on top of the Restoration Plaster Key.

After smoothing and curing, the surface of the restoration plaster can be covered with paints and wallpapers which are open to vapor diffusion without further pre-treatment.

When waterproofing against non-pressurized water and pressurized water without active leakages using KÖSTER NB 1 Grey and KÖSTER Polysil[®] TG 500, the restoration plaster is thrown directly onto the last not yet cured layer of slurry without prior application of a plaster key.

Consumption

Approx. 12 kg / m² per cm of layer thickness of the plaster. On uneven surfaces additional consumption may have to be considered for levelling the surface.

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.

Cleaning of tools

Clean tools immediately after use with water.

Packaging

30 kg bags, 42 bags per pallet. Only sold in full pallets.

Storage

Store the material in a dry place. In originally sealed packages the material can be stored for 6 months.

Safety precautions

Wear protective gloves and goggles when processing the material.

Technical guidelines cited

KÖSTER KD System	Art. No. 3.01
KÖSTER Waterstop	Art. No. 3.14
KÖSTER NB 1 Grey	Art. No. 3.021
KÖSTER Mautrol [®] Liquid Sealant	Art. No. 3.041
KÖSTER Mautrol [®] 2C	Art. No. 3.061
KÖSTER Mautrol [®] Flex 2C	Art. No. 3.062
KÖSTER Crisin [®] 76	Art. No. 3.081
KÖSTER Polysil [®] TG 500	Art. No. 4.011
KÖSTER Repair Mortar	Art. No. 5.030
KÖSTER SB Bonding Emulsion	Art. No. 2.11
KÖSTER Restoration Plaster Coat	Art. No. 5.069