



KEMASAN 590

Drying plaster based on Roman lime

- ▶ For permanent drying of very damp walls
- ▶ Diffusion open
- ▶ For manual application
- ▶ Conforms to the requirements for R plasters, in accordance with the standard EN 998-1:2004
- ▶ Resistant to weather and salt
- ▶ Environment friendly



PRODUCT DESCRIPTION **Drying plaster based on Roman lime with high content of special open micro pores.**

FIELD OF USE Used for permanent restoration of walls with high moisture consist. Base course plaster, internal plaster for cellars, plaster for cellar arches under the ground level, for all kinds of moisture-damaged walls (mixed walls included) and especially for moist, salt-impregnated walls. Extra recommended for restoration of historical buildings and buildings under protection of cultural heritage. Recommended also for renovation of horizontal isolation, where other methods are not suitable.

- PRODUCT PROPERTIES**
- For permanent drying of very damp walls
 - Diffusion open
 - For manual application
 - Conforms to the requirements for R plasters, in accordance with the standard EN 998-1:2004
 - Resistant to weather and salt
 - Environment friendly

PRODUCT DATA

BASIC INFORMATION

Appearance Grey-brown powder mixture

Packing 25 kg in bag (plastificated) / 1200 kg (48 x 25 kg) on pallet

Storage and expiration date 12 months from date of production if stored properly in undamaged original sealed packaging in dry and cool conditions. Date of production is printed on packaging.

TECHNICAL DATA

Type of product Roman lime based mortar

Bulk density of powder 1,29 kg/dm³ EN 1015-1:1999

Weight of fresh mortar 1,7 kg/dm³ EN 1015-7:1999

Weight of hardened mortar 1,48 kg/dm³ EN 1015-11:1999

Grain size D_{max}: 2,5 mm EN 1015-1:1999

Layer thickness 2-5 cm

Contents of air pores in fresh mortar ~ 20% EN 1015-7:1999

pH (at 20°C) 11-13,5

Water vapour permeability coefficient (μ) 9,3 EN 1015-19:2001

Value Sd (m) 0,19 (minimum layer thickness d=20 mm) EN 1015-19:2001

Flexural strength after 28 days 0,82 MPa EN 1015-11:1999

Compressive strength after 28 days >= 1,5 MPa (CS II) EN 1015-11:1999

INSTRUCTIONS FOR USE

CONSUMPTION 30 kg/m² for a layer thickness of 2 cm

BASE KEMASAN 590 drying plaster adheres to any base surface (concrete, brick wall, stone walls or concrete block walls, ...).

BASE The old plaster, coatings and layers of other materials have to be completely removed up to the prescribed height.

PREPARATION The mortar in joints, which is usually full of salt, has to be scraped up to the depth of 1-2 cm. Finally all the residues of mortar are removed by a wire-brush. Dusty particles are removed with compressed air.
Waste plaster has to be transported away from the structure in order to prevent oozing of water-soluble salts back to the wall due to capillary forces.

DECIDING UPON THE HEIGHT UP TO WHICH THE KEMASAN 590 DRYING PLASTER SHOULD BE BUILT-IN
The height up to which the KEMASAN 590 drying plaster should be built-in depends on the wall thickness and the degree of humidity. It can easily be calculated in such a way that approximately 0.7 m (the thickness of the wall multiplied by 1 – 1.5) is added to the visible humidity level on the existing plaster.

MIX RATIO Approx.: 4,5 l water per 25 kg of dry mixture

MIX TIME KEMASAN 590 drying plaster is a ready made mixture to which exclusively water may be added during the preparation. When using a 80 l mixer, the best results are obtained when three sacks of KEMASAN 590 drying plaster are mixed with 13,5 l of water. Add 90% of the mixing water to the mixer and add two bags of dry mixture and stir about ca. 2 minutes. After this time, the mortar must pass into a soft, creamy consistency. If this does not happen, add the remaining 10% of the mixing water if and mix the mortar to the total time of 10 minutes.

Exceptionally, an electric mixer (with attachment for mixing mortars) can also be used for mixing. Pour into the bucket ca. 4.5 liters of water, add 25 kg of dry mixture and stir at low turns for 3 minutes until a slight, creamy consistency is formed.

MIX TOOL Regular construction mixer. Exceptionally, an electric mixer (with attachment for mixing mortar) for mixing mortars can be used.

INSTALLATION The surface to be plastered has to be intensely moistened with water about half an hour before plastering. Long-term experiences have shown, that the binding spraying can be omitted and that the first layer of the plaster, approx. 1 cm thick, can be directly plastered on the moistened wall without being smoothed. In the case that spraying is nevertheless performed, it may be prepared exclusively from the KEMASAN 590 drying plaster. Eventual holes in the wall are filled-in with brick or stone morsels, using KEMASAN 590 drying plaster as the binding media – this time used as mortar. During the following days the first layer of the plaster is intensely re-moistened and than KEMASAN 590 drying plaster is plastered on it again, up to the total thickness of at least 2 cm of the plaster. If thicker plaster is required, the plaster is built-in in layers of 1 cm up to the desired thickness. The thickness of a layer is regulated by previously prepared lathing or plastering leaders made of KEMASAN 590 drying plaster. The last layer of KEMASAN 590 drying plaster is leveled by a screed board from the bottom upwards. Too intense smoothing is to be avoided. Lathing is then removed and the resulting grooves are filled-in with KEMASAN 590 drying plaster before the last layer of plaster hardens.

According to the required appearance of the surface, the following treatment is possible:

(a) upon hardening (after 2-3 hours) the last layer of KEMASAN 590 drying plaster is finished by a wooden or a plastic finishing trowel until medium smooth structure is achieved,

(b) a structure resembling the surface of old walls can be finished by a trowel,

(c) for a totally smooth surface approx. 2mm of KEMASAN 590 F fine plaster can be applied and classically smoothed with slight moistening, as the fine plasters. The final layer of HYDROMENT fine plaster is applied after one to two days to a well moistened surface (see the technical sheet for KEMASAN 590 F fine plaster).

After three weeks the drying plaster KEMASAN 590 may be painted with a facade paint. Using a facade paint which has at least the same or even higher vapor-permeability as KEMASAN 590 drying plaster ($S_d < 0.16 \text{ m}$) is very important. The required vapor-permeability is achieved by silicate or silicone mineral paints, lime whitewash and similar.

TOOL For spraying is trowel suitable.
For multiple layers is notched trowel suitable.
For final layer is wooden or plastic finishing trowel suitable.

CLEANING OF TOOL Clean tools immediately after the use before adhesive hardens. Hardened material on tools can only be removed mechanically.

USAGE TIME approx. 90 minutes

COAGULATION /

LIMITATIONS

BASE TEMPERATURE +5°C min./ +30°C max.

AIR TEMPERATURE +5°C min./ +30°C max.

MATERIAL TEMPERATURE +5°C min./ +30°C max.

- WARNINGS**
- When plastering facade surfaces, direct sunshine, rain, strong wind or fog are to be avoided. KEMASAN 590 drying plaster has to be cured in the same manner as other facade surfaces against unfavorable weather conditions (most frequently classical protective curtains are used).
 - Stopping between particular layers of KEMASAN 590 drying plaster is possible, but the last laid plaster layers have to be well moistened before continuing the work.
 - Lime or other chemical additives must never be added to the plaster. The plaster is mixed to appropriate consistency for plastering. It must not be stirred for too long, as too many air pores create that cause the strength to decrease. For the same reason, it is not allowed to subsequently stir the plaster after it has been already stirred.
 - During plastering and binding the air and surface temperature must not drop below 0°C. Protect freshly installed material from freezing, rain and other weather conditions. The material should not be used at (surface, air, material) temperatures lower than +5°C.
 - In order to prevent the plaster from drying too quickly while binding, the direct sunshine has to be avoided as well as strong wind. The facade surface has to be protected with protection curtains or sprinkled with water. As well the surface has to be protected from rain while binding.
 - Times specified in the technical sheet were measured at the temperature of +23°C and relative air humidity of 50 %. Higher temperatures reduce, while lower temperatures prolong those times.
 - KEMASAN 590 drying plaster can not be considered as hydroinsulation and should not be used for walls exposed to water under pressure or trickling water. In cellars with high air humidity sufficient ventilation has to be provided for optimal effectiveness of KEMASAN 590 drying plaster.

Recommendation: Remains of unhardened/unset material had to be removed in accordance with the legislation.

Data source: All technical data in this technical sheet was obtained by laboratory research. Actual data may differ due to different working conditions.

Local restrictions: Due to specific local regulations the installed product can differ from country to country. For exact instructions for use a country specific technical sheet should be obtained.

PROOFS

NORMS/STANDARDS In accordance with European standards 998-1:2004



SAFETY DATA

Irritating. Contains lime. Irritating to eyes, skin and respiratory tract. In case of eye contact wash thoroughly with water at once and consult a doctor. In case of skin contact flood with a lot of water. Keep away from the reach of children. More data on storage, handling and use of mixture can be found in the safety sheet which contains safety, toxicological and ecological data. Warnings on the original packaging should also be considered.

LEGAL BASE

Information and recommendations related to use of KEMA products are presented in good faith and believed to be correct. The later is based on our knowledge and experience with the products. Information is supplied upon the condition that products are stored and used according to the recommendations and the persons receiving the same will make their own determination as to its suitability for their purposes prior to use. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to Information or the product to which information refers. In no event will KEMA be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information or the product to which Information refers. Nothing contained herein is to be construed as a recommendation to the use any product, process, equipment or formulation in conflict with any patent, and KEMA makes no representation or warranty, expressed or implied that the use thereof will not infringe any patent. All orders fall under current sales and supply conditions. The user should always check the latest technical sheet available upon demand.