

Restoration mortar

1. Product characteristics

The **SANOFIX H** restoration mortar is extraordinarily porous and exhibits highly water repellent properties. It is intended for the restoration of moist brickwork and walls of both the interiors and exteriors. Its composition ensures natural diffusive drying out of brickwork, retention of salts within its highly porous structure and protection from external moisture. As a result of these combined properties it protects renderings, plasters and even top paint coats from damage due to moisture. Modifications H1, H2, H3 and H4 meet the requirements of EN 998-1 for remediation mortars. The H0 modification meets the requirements of EN 998-1 for ordinary mortar.

- meets requirements of WTA 2-9-20/D
- applied by manual trowelling or by plastering machines
- exhibits high diffusive permeability
- high absorption capacity for salts
- contains dispersed polypropylene fibrous reinforcement
- long-term ability to suppress the effects of moisture on load-carrying and self-supporting walls and structures
- have excellent thermal insulation properties

2. Use

SANOFIX H core restoration plasters are single-component dry mortars, produced in five modifications where modifications of H1 + H4 satisfy the requirements WTA 2-9-20/D.

SANOFIX H0 is the basic, high porous leveling mortar, capable of retaining any salts contained in the brickwork for long periods of time. Its formulation is based on Portland cement, lime, classic and lightweight aggregates, a number of special admixtures and polypropylene fibers which substantially improve its durability. Leveling **SANOFIX H0** mortar is not inherently water repellent.

SANOFIX H1 is suitable for application to both exteriors and interiors. Its formula is based on Portland cement, lime, classical and lightweight aggregates, a number of special admixtures, especially water-repellent ones that suppress its water absorption, and polypropylene fibers that substantially improve its durability.

SANOFIX H2 has a distinctly increased volume of its porous system and is primarily suitable for extreme interior conditions.

SANOFIX H3 is formulated on the basis of lime and white Portland cement, and has a high capacity porous system that is capable of long-term resistance to the effects of transported salts. This modification is especially suitable for the restoration of historical monuments.

SANOFIX H4 is a dry mortar mix based mainly on a lime binder, particularly suitable for the restoration of historical monuments.

3. Physical and mechanical properties

Requirements / results according to EN 998-1 for remediation mortars

Properties	Requirements for remediation mortars	Declared values for individual modifications			
		H1	H2	H3	H4
Reaction to fire	-	Class A1			
Compressive strength (MPa)	Class CS II	Class CS II			
Water absorption after 24 hours (kg/m ²)	≥ 0.3	≥ 0.3			
Water vapor permeability μ	≤ 15	10	8	8	8
Adhesive Bond (N/mm ²)	-	≥ 0.6			
Penetration after testing of absorption (mm)	< 5	< 5			

Requirements / results according to EN 998-1 for ordinary mortars

Properties	Requirements for ordinary mortars	Declared value of H0 modification
Reaction to fire	-	Class A1
Compressive strength	Classes CS I to CS IV	Class CS II
Water absorption	-	≥ 0.3
Water vapor permeability μ	-	< 10
Adhesive Bond (N/mm ²)	-	≥ 0.6
Penetration after testing of absorption (mm)	-	> 5

Requirements / results according to WTA 2-9-20/D

SANOFIX	WTA requirements	H0	H1	H2	H3	H4
Color			Non-standard grey	Non-standard grey	Light grey	White
Grain size		0 ÷ 4	0 ÷ 4	0 ÷ 4	0 ÷ 4	0 ÷ 4
Mix water consumption in liters per 1 bag (25 kg)		8÷9	8÷9	9÷10	9÷10	10÷11
Bulk density (kg/m ³) ¹⁾	< 1400	< 1400	< 1400	< 1100	< 1100	< 1100
Porosity (%) ¹⁾	> 40	> 45	> 45	> 60	> 60	> 60
Compressive strength (MPa)	1.5 ÷ 5.0	> 3	> 3	> 2	> 2	> 1.7
Compressive to tensile bending strength ratio	< 3	< 3	< 3	< 3	< 3	< 3
Capillary absorption (mm)	< 5	> 5	< 5	< 5	< 5	< 5
Diffusion resistance coefficient \square	< 12	10	10	8	8	8

¹⁾ hardened mortar

4. Test certificates

Meets the requirements of EN 998-1. The product is certified according to the Regulation (EU) No 305/2011 of the European Parliament and of the Council (CPR). Continuous independent production quality control is provided by AZL 1687 LABBET®. Supervision of Quality Management Systems, Environmental Relations and OSH is carried out by Certification Body No. 3029

5. Instruction for preparation and application

Base. The **SANOFIX H** mortar should be applied to an adequately cohesive surface of brick-work or masonry that has been cleaned of dust and impurities, and treated with an anchoring restoration coat of **SANOFIX KP**. The previous rendering should be removed to a thickness of about 100 cm above the boundary of capillary elevation moisture. The vertical and horizontal joints must be scratched out to a depth of about 20mm. Any damaged elements (bricks or stones) should be re-placed and the damaged surfaces, re-modeled with the **WATERFIX XP TH** material. The masonry should then be cleaned with compressed air or with a steel wire brush.

Preparation of the mortar. The **SANOFIX H** restoration mortar can be mixed in small amounts with an electric drill fitted with a mixing paddle, and in larger amounts in standard mortar or concrete mixers. The mixing time should be 15 to 20 minutes. Mixing for periods longer than 30 minutes should be avoided to avoid over-mixing. At lower temperatures, the time of mixing should be somewhat extended in view of the efficiency of the air-entraining admixture.

The time of workability of the mix at 20 °C is 60 minutes.

Neither temperature of base nor temperature of ambient air shall be below + 5 °C and above + 30 °C.

Application of the **SANOFIX H** mortar may be done manually or with a plastering machine in layers 15 to 20mm thick. When applying the mortar in several coats, the bottom coat should be rendered in a coarse texture with a rough brush to ensure satisfactory adhesion of the subsequent coat. The bottom layer must be allowed to dry before applying an additional one.

The surface finishing is effected by applying the final coat of the **SANOFIX F** restoration plaster.

The mortar and plaster coats should be protected from direct sunlight, wind and other factors contributing to the excessive evaporation of the mix water. Under extreme conditions, the mortar should first be moistened.

6. Specific consumption

From one bag of restoration plasters **SANOFIX H0** or **H1** (25 kg) can be prepared by mixing about 21 liters of mortar. At a thickness of 15 mm is sufficient to render one bag for plastering approximately 1.5 m² of brickwork. From one bag of restoration plasters **SANOFIX H2, H3** or **H4** (25 kg) can be prepared 25 l of mortar, i.e. 1.66 m² of plaster in 15 mm thickness.

7. Packaging and storage

The product is packaged in triple-ply paper bags with a sprayed-on PE inner lining, with a capacity of 25kg. During transport and storage, **SANOFIX H** must be protected from moisture and humidity. The shelf life in undamaged original packaging is 6 months.

After the expiration of min. shelf life, which is stated on the packaging, ingredients are not fully effective at reducing chromium VI below 2 ppm.

8. Health protection during application

Working with the **SANOFIX H** restoration mortar does not require any special extraordinary pre-cautions with respect to personal safety. This product does contain alkaline components and thus should not come into contact with eyes or mucous membranes. Regulations for safety precautions that are effective for working with cement or lime mortars must be respected.

Issued MSDS meets the requirements of EC-Regulation 1907/2006, Article 31.

Because the product meets the criteria for classification as hazardous, it is necessary to provide the recipient or carriers with MSDS.

In countries where regulation REACH (para. 33.1): EU regulation on chemicals and their safe use (REACH: EC 1907/2006) is valid, professional users and distributors must be provided with following information automatically and without request:

This product is subject to Regulation (EC) No. 1907/2006 (REACH). It does not contain any substances that could be released from product under normal or reasonably foreseeable conditions of use. Therefore, there are no registration requirements for substances in articles within the meaning of Article 7.1 of the Regulation.

Based on our current knowledge, this product does not contain SVHC (substances of very high concern) from candidate list published by the European Chemicals Agency in concentrations above 0.1% (w / w).

9. Waste disposal

During disposal of contaminated packages or clearing debris from product, it is necessary to follow the Act No. 185/2001 Coll. on waste, as amended.

10. Important notice

All information mentioned above, especially advice for processing and application of our products, is based on our knowledge from the development of chemical products and on years of experience with applications in practice at standard conditions, and proper storage and use. Due to the differing conditions during processing, high count of products, varying nature and modifications of base and other external influences, the procedure based on the information provided or on other written or oral recommendations, may not always ensure satisfactory working results. BETOSAN s.r.o. assumes no liability for provided advice or recommendation. The applicator must prove, that he submitted complete information on time and in writing which is necessary for a proper detailed assessment by BETOSAN s.r.o. The applicator must test the suitability of the products for the intended application. Proprietary rights of third parties, above all, must be taken into account. All received are orders subject to our current "General sales and delivery conditions ". Please always make sure that you follow the most recent issue of the Technical Data Sheet. It is available, along with other information, at our Technical Department or at www.betosan.cz.

11. CE marking

CE					
BETOSAN s.r.o. Na Dolinách 28, 147 00 Prague 4					
03					
5-2/072013					
EN 998-1					
SANOFIX H1, H2, H3 and H4: Remediation mortars H0: Ordinary mortar					
	H0	H1	H2	H3	H4
Reaction to fire	A1	A1	A1	A1	A1
Water absorption (kg/m ²)	≥ 0.3	≥ 0.3	≥ 0.3	≥ 0.3	≥ 0.3
Water vapour permeability μ	< 10	10	8	8	8
Adhesive Bond (N/mm ²)	≥ 0.6	≥ 0.6	≥ 0.6	≥ 0.6	≥ 0.6
Thermal conductivity	NPD	NPD	NPD	NPD	NPD
Durability	NPD	NPD	NPD	NPD	NPD
Dangerous substances	meet 5.3.4				

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BETOSAN s.r.o., Na Dolinách 28, 147 00 Praha, Czech Republic

Bussiness and technical office Nová Cesta 291/40, 140 00 Prague 4, Czech Republic

Tel./fax.:+420 241 431 212, tel.:+420 241 431 215

E-mail: paha@betosan.cz, www.betosan.cz