

TECHNICAL SHEET 11.12-eng

DECORATIVE RENDERS

MINERAL SMOOTH RENDER 1.5 and 2.5

1. Description, Application

MINERAL SMOOTH RENDERS 1.5 and 2.5 are **pasty thin-coat render finishes** based on the combination of cement, lime and polymeric binders, **with a characteristically textured surface. They are intended for decorative protection of interior wall surfaces and also facade surfaces of maximum two-floor high buildings, which are relatively well protected against rainfall by adequately wide eaves.** They adhere well to all coarse construction surfaces: conventional fine lime-cement and cement renders, base coats of External Wall Insulation (EWI) systems, smoothed concrete surfaces, as well as fibre-cement boards and gypsum-cardboards, chipboards and similar.

They comply with requirements of the harmonised SIST EN 998-1 standard. They are distinguished by high water vapour permeability so that they may also be applied to External Wall Insulation (EWI) systems on mineral wool, by good adhesion to the surface and by relatively good resistance to the effects of smoke and ultraviolet rays.

2. Packaging and Colour Shades

Paper bags containing 20 kilos:

- Natural white (shade 1001)

In normal conditions (T = +20 °C, rel. air humidity = 65 %), it is possible to paint the render finish a week after its application with one of JUB's microreinforced facade paints (REVITALCOLOR AG, REVITALCOLOR SILICATE or REVITALCOLOR SILICONE) – facade surfaces, or with JUPOL GOLD – interior surfaces.

3. Technical Data

		MINERAL SMOOTH RENDER 1.5	MINERAL SMOOTH RENDER 2.5
Density - ready-to-use render finish (kg/dm ³)		~1.66	~1.75
Drying time T = +20 °C, relative air humidity = 65 % (hours)		~6 (touch dry) ~24 (resistance to damage caused by precipitation)	~6 (touch dry) ~24 (resistance to damage caused by precipitation)
Water-vapour permeability EN 1015-19	μ coefficient (-)	<15	<15
	S _d value (m)	< 0.03 (for t = 1.5 mm) Class I (high water-vapour permeability)	<0.04 (for t = 2.5 mm) Class I (high water-vapour permeability)
Water absorption w ₂₄ EN 1062-3 (kg/m ² h ^{0.5})		<0.10 Class W2 (EN 1015-18)	<0.10
Compressive strength EN 1015-11 (MPa)		5.5 CS III	5.5 CS III



Adhesion EN 1015-12 (MPa)	0.5 100 % B B ... fracture in the render finish	0.5 100 % B
Adhesion - after weathering EN 1015-21 (MPa)	0.4 100 % B B ... fracture in the render finish	0.4 100 % B
Fire response	A1	A1
Thermal conductivity λ (tab. value) (W/mK)	0.93	0.93

Main ingredients: cement, hydrated lime, polymeric binder, quartz and calcite fillers, cellulose thickening agent

4. Surface Preparation

The surface should be slightly rough (ideal is the roughness of a conventionally smoothed fine render of 1.0 mm granulation), solid (compressive strength of at least 1.5 MPa – CS II according to EN 998-1), dry and clean, without weakly-adhered particles, dust, easy water-soluble salts, oil stains and other filth. Any smaller uneven parts – protrusions and indentations – hinder the smoothing of the applied render finish; therefore it is important to attend to the preparation of the surface.

Prior to the application of the decorative render finish, the newly applied base coats have to dry at least 7 to 10 days for each cm of their thickness. Decorative render finishes are applied to new concrete surfaces only a month after concreting (stated drying times of the surface are valid in normal conditions: T = +20 °C, relative air humidity = 65 %). Remove all coatings, slurries and other decorative coats from old solid renders. After the surface had been cleaned, dust it thoroughly by washing and, if necessary, repair and level it. Washing the surface with a high-pressure water blaster (hot water or steam) is especially recommended in the case of fibre-cement boards and all concrete surfaces since it removes panel oil from new surfaces, and soot, moss, lichen, remains of old coatings and similar from old ones.

Suitable primers for individual types of surfaces are stated in the table below:

Surface	Primer	Consumption (depending on absorption and roughness of the surface)
Fine lime-cement renders and EWI base coats	Water-diluted white ACRYLCOLOR (ACRYLCOLOR : water = 1:1)	90 – 100 ml/m ²
	Water-diluted AKRIL EMULSION (AKRIL EMULSION : water = 1:1)	90 – 100 g/m ²
Smooth, low-absorbent surfaces (concrete, fiber-cement boards) and excessively absorbent surfaces (gypsum-cardboards, chipboards)	VEZAKRILPRIMER	~300 ml/m ²

Apply them with a paint or masonry brush. ACRYLCOLOR and AKRIL EMULSION can also be applied with a long-fibre fur or textile paint roller or they can be sprayed. In normal conditions (T = +20 °C, relative air humidity = 65 %), the application of the render finish may begin 12 hours after the application of a primer.

5. Preparation of Render Finish for Application

Prepare the render finish in a concrete mixer or in a plastic container of appropriate size if a manual electric mixer is used for the preparation of the render finish. Pour the content of a bag into 4.5 (MINERAL SMOOTH RENDER 1.5) or 4.0 liters (MINERAL SMOOTH RENDER 2.5) of water and stir well to obtain a homogenous compound without any



lumps. Wait for 10 minutes for the compound to swell. Then stir it well again. If necessary, add a little water.

In normal conditions ($T = +20\text{ }^{\circ}\text{C}$, relative air humidity = 65 %), the prepared render finish must be used within 2 hours.

In case more than one bag of the render finish is needed to cover an individual wall surface, equalise the render finish in a container of appropriate size to avoid spots caused by potential differences in whiteness. The container volume should preferably suffice for the equalisation of the entire render finish needed for an individual finished wall surface and it should at least suffice to equalise the render finish prepared from four to five bags of the dry mortar compound (when determining the volume of the container, please consider the open time of the prepared render finish in the time required to apply it!). When, in this case, approximately a fifth (a quarter at the most) of the prepared compound from the equalisation container has been used, substitute it with new compound, which should be blended with the rest of the compound well. Equalisation of the mortar of the same production batch is not necessary.

Reworking the render finish during application (diluting and similar) is not allowed.

6. Mortar Compound Application

Mortar compound is applied manually - using a stainless steel smoothing trowel – or using a machine, by spraying – in the thickness slightly above the diameter of the thickest sand grain. When mortar compound is applied by spraying, instructions of the producer of mechanical equipment should be followed. Immediately after the application, smooth the surface with a solid plastic smoothing trowel. Smoothing should be performed by circular strokes until an evenly grained structure is achieved. Grains in the applied mortar coat should move as little as possible during smoothing, pushing of the mortar compound in the form of a wave in front of the trowel is not allowed. In most cases, the creation of such a wave can be attributed to over-thickness of the application or to the surface not being prepared well or it being uneven. At the end – a few minutes after smoothing - push mortar lumps sticking out of the render surface into the surface by smoothing the surface slightly using a clean stainless steel smoothing trowel.

The application should be performed as fast as possible, without any interruptions from one corner of the wall to the other. When applying the render to wall surfaces higher than one floor, it must be applied simultaneously to all floors: in such cases, always begin the application of the render at the top floor, while performing a “step shift” in lower floors. Larger wall surfaces should be divided into smaller sections by using adequately wide channels, mortar trims, and other decorations, frames or in any other way. In this way, we avoid potential problems during continuous application of mortar as well as non-aesthetic appearance due to potentially uneven surface. Contacts between planes in corners and in angle borders can be made easier by preparing a few cm wide, finely smoothed stripes, which also give a pleasant decorative appearance to processed surfaces. Decorative smoothed stripes, channels, mortar trims, frames, and similar are usually made prior to the application of decorative render. They are protected by suitable wall paints, while due attention should be paid not to apply coats onto surfaces prepared for the application of the render uncontrollably over their edges.

The application of the mortar compound is possible only in suitable weather or microclimate conditions: the temperature of the air and the wall surface should be between $+8^{\circ}\text{C}$ and $+30^{\circ}\text{C}$ and the relative air humidity should be below 80 %. Protect façade surfaces from sun, wind and rainfall using protective scaffold nettings; however, do not conduct any work in rain, fog or strong wind ($\geq 30\text{ km/h}$) despite such protection.

In normal conditions ($T = +20\text{ }^{\circ}\text{C}$, relative air humidity = 65 %), resistance of freshly processed surfaces to damage caused by precipitation (washing away of the application) is achieved in 24 hours at the latest.

Approximate or average consumption:	
MINERAL SMOOTH RENDER 1.5	~2.6 kg/m ²
MINERAL SMOOTH RENDER 2.5	~3.6 kg/m ²

7. Tool Cleaning, Waste Management

Thoroughly clean the tools with water immediately after use.

Keep the remainder of dry mortar compound in a well sealed packaging for potential repairs. Waste remains should be mixed with water and when hardened deposited onto the dumping grounds of construction waste (waste classification number: 17 09 04) or municipal waste (waste classification number: 08 01 12).

Cleaned packaging can be recycled.

8. Safety at Work

Apart from general instructions and regulations for construction and painting works, please consider that the product



contains cement and hydrated lime and is therefore classified among dangerous preparations labelled as Xi IRRITANT. The content of chromium (Cr 6⁺) is lower than 2 ppm.

Protection of the respiratory system: the use of a safety mask in case a lot of dust is raised. Protection of hands and body: work clothing, preventive protection with a protection cream and the use of protective gloves are recommended in the case of prolonged exposure of hands. Protection of eyes: protective glasses or a safety mask.

FIRST AID:

Contact with skin: remove clothing, which has been wetted, and rinse the skin with water and soap. Contact with eyes: immediately widen the eyelids, rinse thoroughly with clean water (10 to 15 minutes), seek medical advice if necessary. Ingestion: drink a little water several times, seek medical advice immediately.

Warning signs on the packaging	<p style="text-align: center;">Xi</p>  <p style="text-align: center;">IRRITANT!</p> <p style="text-align: center;">THE PRODUCT CONTAINS CEMENT AND HYDRATED LIME!</p>
Special measures, warnings and observations required for safe work	<p>R36/38 Irritating to eyes and skin. R41 Risk of serious damage to eyes. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>S2 Keep out of the reach of children. S24/25 Avoid contact with skin and eyes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of water. S37/39 Wear suitable gloves and eye/face protection. S46 If swallowed, seek medical advice immediately and show this container or label. S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.</p>

9. Maintenance and Restoration of Processed Surfaces

Processed surfaces do not require any special maintenance. Sweep, Hoover or wash with water the non-adhered dust and other non-adhered filth. Remove adhered dust and more obstinate stains by light rubbing using a soft brush soaked into a solution of universal household preparations. Then wash the surface with clean water.

However, where filth and stains cannot be removed applying the methods described above, renovation painting is conducted. In case of facade surfaces, apply two coats of micro-reinforced façade paints REVITALCOLOR AG, REVITALCOLOR SI or REVITALCOLOR SILIKON onto a prior coat of an appropriate primer. In case of interior surfaces, apply two coats of JUPOL GOLD paint.

10. Storage, Transportation Conditions and Durability

During transportation, protect the product against moistening. Store in dry and airy places, out of reach of children!

Shelf life when stored in an originally sealed and undamaged packaging: at least 12 months.

11. Quality Control

The product's quality characteristics are determined by the internal manufacturing specifications as well as by the Slovenian, European and other standards. JUB ensures achieving of the declared or set quality level by the ISO 9001 system for total quality management and control, which has been implemented at JUB for many years and which comprises daily quality checks in its own laboratories, and occasionally at the Construction Institute in Ljubljana and at



other independent expert institutions in Slovenia and abroad. During the manufacturing process, JUB strictly complies with the Slovenian and European standards for protection of the environment and for ensuring security and health at work, which is confirmed by the ISO 14001 and OHSAS 18001 certificates.

The adequacy of the MINERAL SMOOTH RENDERS 1.5 and 2.5 for final coats in the JUB's EWI systems has been approved by the European Technical Approval (ETA). In accordance with the ETAG 004/2000 guidelines, testing was performed at the Construction Institute in Ljubljana and at Österreichisches Institut für Bautechnik in Vienna.

	
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EN 998-1 Finishing mortar compound to be used outside and inside of a house (CR, CS III)	
Fire response	A1
Adhesion	0.5 MPa, 100 % B
Water absorption	W2
Water vapour permeability coefficient μ	<15
Thermal conductivity $\lambda_{10, dry}$	0.83 W/mK, P = 50 % 0.93 W/mK, P = 90 % (tab. value EN 1745)
Resistance to freezing/thawing	NPD

NPD: No Performance Determined

12. Other Information

The technical instructions in this brochure are given based on JUB's experience and are given as a guideline for achieving optimum results. JUB cannot accept any responsibility for the damage caused by incorrect selection of a product, incorrect use or unprofessional work.

This technical sheet supplements and replaces all preceding editions. JUB reserves the right to change and supplement data in the future.

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