



LUP 222

Lime-cement light basecoat

Product description

Mineral, high yield lime-cement light basecoat with organic lightweight aggregates (EPS). For interiors on all conventional types of masonry and concrete, and for exteriors on all types of masonry and concrete suitable for lightweight plasters type I.

Composition

Hydrated lime, cement, graded limestone grains, organic (EPS) lightweight aggregate, water-retaining and water-repellent additives.

Storage

Store the bags on wooden pallets in a dry environment. Can be stored for at least 9 months.

Quality

In compliance with EN 998-1, the plaster is subject to initial type testing and continuous factory production control and bears the CE marking.

Properties and added value

- Lightweight rendering/plastering mortar LW acc. to EN 998-1
- Compressive strength category CS II acc. to EN 998-1
- Lightweight plaster type I
- Organic (EPS) lightweight aggregates
- For interiors and exteriors
- For machine or hand application

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Field of application

In exteriors particularly suitable as a basecoat (lightweight plaster type I) on

- Masonry with insulation material filling
- Lightweight vertical coring brick with a density class $\geq 0.8 \text{ kg/dm}^3$
- On aerated concrete masonry with a strength class / density $\geq \text{PP 4-0.50}$
- Lightweight concrete masonry with a thermal conductivity $\lambda \geq 0.14 \text{ W/(m}\cdot\text{K)}$
- As a basecoat for mineral and paste-like finishing coats

In interiors as a base plaster on all types of masonry

- As a basecoat for mineral and paste-like finishing coats
- As a basecoat for tiles

Package

Substrate and pretreatment

Substrate	Pretreatment
Masonry made of brick, pumice and lightweight concrete masonry. Even and normally absorbent lime sandstone masonry	On highly absorbent substrates or in hot summer weather, apply a double plaster layer fresh in fresh
Masonry made of aerated concrete masonry	Apply a double plaster layer fresh in fresh.
Masonry on weakly absorbent to non-absorbent and/or smooth, glossy lime sandstone masonry	Lustro, SM700 Pro, SM300, Sockel-SM or Der Vorspritzer as a mineral bonding layer
Rough form work concrete, absorbent concrete, masonry with varying suction properties, small format multi-layer wood wool slabs	Lustro, SM700 Pro, SM300, Sockel-SM or Der Vorspritzer as a mineral bonding layer
Smooth concrete, prefabricated concrete units	Lustro, SM700 Pro, SM300 or Sockel-SM as a mineral bonding layer
XPS-R insulation boards	Lustro, SM700 Pro, SM300 or Sockel-SM as a mineral bonding layer
Absorbent masonry made of small format bricks, random rubble walling and mixed brickwork	Der Vorspritzer as a mineral bonding layer (mechanical key)

Mineral bonding layer (with the exception of Der Vorspritzer) should be spread and ruled across the full surface with a widely notched trowel. Wait at least 1 day and a maximum of 3 days before application of further coats.

Preparation

Check the substrate for compliance with VOB part C, DIN 18350, chapter 3.1 and/or according to VOB part B, DIN 1961 paragraph 4 section 3. Clean the substrate of dust and loose parts and remove, ensure that the surface is smooth. Cover easily-soiled building components before commencement in accordance with Code of Practice "Abklebe- und Abdekarbeiten für Maler und Stuckateurarbeiten - Masking and covering for painting and stucco work" issued by the German "Bundesverband Ausbau und Fassade". Protect weather-exposed surfaces from precipitation and direct sunlight. Preparation of the substrate in accordance with the Substrate/Pretreatment table.

All substrates must be stable, dry, even and free of grease and dust as well as free of any residual substances that may reduce the adhesion.

Machines / equipment

PFT mixing pump G 4

- Stator D6-3
- Rotor D6-3
- Mortar hoses $\varnothing 25 \text{ mm}$
- Wet mortar pumping distance up to 40 m

Mixing

Mixing by hand

Mix the content of one bag with 8 litres of clean water and without further additives until an application-ready lump-free consistence is achieved.

Mixing by machine

For machine application using mixing pumps, e.g. PFT G4, set the desired consistence by adding water.

Application

Apply LUP 222 as a basecoat on an existing pretreated plastering surface at an average plaster thickness of 15 mm in exteriors. In case of multi-layer render systems (basecoat, reinforcement and finish coats) ensure an average total plaster thickness of at least 20 mm. In interiors apply an average plaster thickness of 10 mm. Depending on the substrate, fins and protrusions etc. can be removed with a lattice plane when sufficiently hardened or the surfaces can be levelled and scraped. In interiors (for secondary rooms), the surface can be sponged by an additional plaster layer. Clean the machine and hoses with longer breaks in application. Do not leave the mortar and water hoses lying in the sun. Do not stir and apply material that has started to harden.

Work with multiple layers in case of plaster thicknesses exceeding 30 mm.

Full surface reinforcement plaster in exteriors

A full surface reinforcement plaster layer on the basecoat is always preferable to substrate reinforcement.

With a reinforcement plaster with a mesh applied on a lightweight plaster, extensive decoupling of the upper plaster layer from the substrate is achieved. In this way, any stresses occurring in the plaster/render system can be absorbed and diffused. In case of exterior plaster surfaces where the plaster system is exposed to increased stress, e.g. particular exposure of the façade, use of freely textured, brushed or sponged finishing plasters, with finishing plasters $< 2 \text{ mm}$ grain size (acc. to DIN 18350, VOB part C, $< 3 \text{ mm}$), high levels of moisture, considerable irregularities in the plaster substrate, increased residual moisture of the masonry, large area plaster thickness greater than 30 mm and insulation layers made of XPS-R with a strip width $> 60 \text{ cm}$, a reinforcement basecoat with full surface mesh layer (reinforcement mesh 4x4 or 5x5 mm) with SM700 Pro or SM300 on the hardened basecoat is recommended. The plaster thickness of the reinforcement plaster layer should be between 3 and 5 mm. Insert additional diagonal reinforcement to reduce notch cracking on all building opening corners.

Upgrading the substrate

The substrate upgrade is undertaken using suitable Knauf Adhesive and basecoat (see Substrate pretreatment table) with reinforcement mesh directly on the substrate for plastering (e.g. in case of material change, XPS-R insulation boards, roller blind encasement, ceiling edges) in approx. 5 mm thickness. The overlap of the mesh inserts must be at least approx 10 cm. On flanking constructional components the overlap must be approx. 20 cm. Roughen the reinforcement plaster layer afterwards without exposing the mesh. The minimum thickness is 5 mm. This arrangement serves both as a bonding layer and also as a stabilized substrate. This measure does not reinforce the plaster, but rather the substrate.

With this arrangement, the stresses originating from the diverse substrate properties are diffused across a larger partial surface. Stresses, which originate from external influences, e.g. from the hygrothermal load on the render system, cannot be dissipated using this arrangement.

It is a proven method for minimising the risk of plaster cracks and corresponds with the generally recognized building engineering rules, when a reinforcement plaster with a full surface mesh is applied on a lightweight plaster.

More information can be found in the "Leitlinie für das Verputzen von Mauerwerk und Beton - Guidelines for plastering masonry and concrete", issued by the Verband für Dämmsysteme, Putz und Mörtel e.V. (VDPM) (German only).

Note

A full surface reinforcement basecoat is always preferable to substrate reinforcement in exteriors.

Partial surface reinforcement in interiors e.g. with change of material, building openings etc.

In case of a change of materials in the plaster substrate, at locations where there is a risk of cracking, where XPS-R insulation boards are installed on a small surface, wood wool lightweight boards, different plaster thicknesses and expected stresses from the basecoat etc., embed basecoat mesh (8x8 mm) with at least 100 mm joint overlap and 200 mm overlap on all sides to the flanking component in the upper half of the basecoat.

Plinth application

On lighter and softer wall materials (stones of compressive strength category ≤ 8) in the plinth or splash-water zone and on surfaces in contact with the ground, Sockel Gigamit or Sockel LUP are to be used. On masonry of compressive strength category > 8 and concrete, cementitious plinth plaster UP 310 must be used. After drying out, all rendered surfaces below the ground line shall be waterproofed/protected against moisture ingress, starting from basement wall waterproof barrier up to approx. 50 mm above the ground line using Sockel-Dicht acc. to DIN 18533-3. For this purpose, apply Sockel-Dicht in a layer thickness of at least 1.2 mm (dry layer thickness min. 1.0 mm).

On XPS-R, plinth insulation boards, perimeter insulating panels, mineral or bituminous waterproofing of buildings, Sockel-SM Pro (with mesh layer) can be applied as a polymer enhanced cementitious plaster at a total plaster thickness of at least 7 mm. Additional subsequent moisture protection is not necessary.

When using Sockel-SM Pro on Sockel Gigamit or Sockel LUP, apply Sockel-SM Pro over the lower plaster stop profile on the existing building waterproof sealing or flanking building material / substrate and overlap by at least 50 mm. Additional subsequent moisture protection is not necessary.

When sufficiently dry, apply a protective cover against damage (e.g. fleece laminated dimpled sheet and slip membrane) up to the ground line.

On a plaster base

On a plaster base applied according to manufacturers instructions, apply about a 10 mm thick coat of LUP 222 and level it while pushing it into the plaster base. Roughen the surface with a broom. After setting, apply another layer about 10 mm to 15 mm thick, rule level. To minimize the occurrence of cracks on the plaster surface, apply a reinforcement plaster with SM700 Pro, SM300 or Lustro with full surface mesh insert with Knauf reinforcement mesh 4x4 or 5x5 mm.

The plaster thickness of the reinforcement plaster layer should be between 3 and 5 mm.

Insert additional diagonal reinforcement to reduce notch cracking on all building opening corners.

Substrate for tiling

Suitable as substrates for tiles and floor slabs if the weight of the tiles and floor slabs including the thin-bed mortar does not exceed 25 kg/m². In case it is exceeded, use Sockel Gigamit, Sockel LUP or UP 310 (substrate dependent).

The basecoat is generally a single-layer with a plaster thickness of at least 10 mm. The suitability as a base for the application of tiles is improved, if the plaster surface is applied as a tight coat with a straight edge/feather edge or scratched. A concentration of organic lightweight aggregate (EPS) must be avoided with application on the plaster surface. The surface finish must match the respective sealing method.

Allow to dry and set fully before a tile covering is applied. The tile adhesive must be suitable for the basecoat.

Application with water impact classes W0-I to W1-I acc. to DIN 18534.

Application temperature / climate

Do not apply with air, component and/or substrate temperatures below +5 °C and ensure that temperature does not fall below this temperature until the plaster has hardened sufficiently. Furthermore, the temperature should not exceed +30 °C during application.

In order to prevent rapid dehumidification of the fresh plaster by the exposure to direct sunshine (high surface temperatures), and/or strong wind (danger of cracks, reduction in strength) suitable protection measures / treatment (e.g. protective nets, keeping moist) are required.

Cleaning

Clean the equipment and tools with water immediately after use.

Coatings

Finishing plasters

In favourable weather and drying conditions the application of further layers with Knauf top coats is undertaken after a drying time of 1 day per 1 mm plaster thickness. Substrate pretreatment may be required depending on the weather conditions and finishing coat. With RP 240 in 2 mm thickness, a continuous closed surface must be produced or the basecoat must be covered with SM700 Pro, SM300 or Lustro.

In case of Mak3 as a top coat, a reinforcement basecoat with SM300 and full surface mesh insert with Knauf reinforcement mesh 5x5 mm is recommended.

Plaster must be applied according to EN 13914, DIN 18550 and DIN 18350, VOB part C as well as the generally recognized building engineering rules and valid guidelines.

With previous application of gypsum plasters or plasters containing gypsum, it is essential that the plastering machine is thoroughly cleaned (wet zone, plaster spiral, rotor, dry zone, gear wheel, hoses: For dry material feed: transfer hood, supply hose, pressure vessel, injection hood, feed manifold).

Notes

Always apply a further plaster layer in exteriors on a basecoat with organic lightweight aggregates (EPS). Should the basecoat remain exposed during the winter without a further coating (finish coat, reinforcement plaster), we recommend application of a primer such as Grundol Tiefengrund Primer before the finishing plaster is applied in spring.

Heating in rooms should only be put into operation in stages. Rapid dehumidification, e.g. using dehumidifiers should be avoided.

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Technical data

Description	Standard	Unit	LUP 222
Reaction to fire	EN 13501-1	Category	A2-s1, d0
Grain size	–	mm	1.5
Compressive strength	EN 1015-11	Category	CS II
Bond strength	EN 1015-12	N/mm ²	≥ 0.08
Failure pattern		–	A, B or C
Capillary water absorption	EN 1015-18	Category	W _c 2
Water vapour diffusion resistance μ	EN 1015-19	–	≤ 20
Thermal conductivity λ _{10,dry,mat} at P = 50 %	EN 1745	W/(m·K)	≤ 0.39
P = 90 %		W/(m·K)	≤ 0.43

The stated technical data were evaluated acc. to the respective test standards. Deviations under site conditions are possible.

Material requirement and efficiency

Coat thickness mm	Consumption approx. kg/m ²	Yield approx.	
		m ² /bag	m ² /ton
10.0	11.1	2.7	90.0
15.0	16.7	1.8	60.0

The consumption values were determined under laboratory conditions. Additional consumption resulting from conditions in practice must be taken into account. The material consumption depends on the roughness, evenness and absorption properties of the substrate as well as the machinery used.

Product range

Description	Package	Packaging unit	Material number	EAN
LUP 222	30 kg	36 bags / pallet	00005687	4003950000201
	Bulk	Silo	00015125	4003950035258

Sustainability and environment

Short description	Unit	Value
VOC content acc. to RL2004/42/EC	%	Not relevant
VOC content acc. to RL2004/42/EC	g/l	Not relevant
Solvent-free and softener-free acc. to VdL-RL01 (Revision 4)	–	Not relevant



Observe safety data sheet!

For safety data sheet and CE marking see
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Knauf Direct

Technical Advisory Service:

▶ knauf-direkt@knauf.com

▶ www.knauf.com

Knauf Gips KG Am Bahnhof 7, 97346 Iphofen, Germany

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