

#### Note on English translation / Hinweise zur englischen Fassung

This is a translation of the technical data sheet valid in Germany.

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#### Plaster and Façade Systems

## P255a.de

Product Data Sheet

2016-05



# LUP 222

## Lime cement light basecoat

### Product description

Efficient lime-cement light basecoat type I with organic lightweight aggregates (EPS) for thermal insulation brick, Liapor or pumice masonry, highly-insulating brick masonry with integrated insulation, as well as aerated concrete, light concrete and lime sandstone for interior and exterior applications.

### Composition

Hydrated lime, cement, graded limestone or quartz grains, EPS lightweight aggregate, water-retaining and water-repellent additives.

### Storage

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

### Quality

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

### Field of application

Light basecoat for mineral-based and paste-like finishing plasters in interior and exterior applications.

As a basecoat:

- On liapor / pumice and bricks with a density of  $> 700 \text{ kg/m}^3$  or shell thickness  $\geq 12 \text{ mm}$
- On lime sandstone
- On concrete
- Under tiles in bathrooms and kitchens
- For scratch render.

### Properties and added value

- Lightweight rendering/plastering mortar LW acc. to EN 998-1
- Compressive strength category CS II acc. to DIN EN 998-1
- Lightweight plaster type I
- Suitable for interior and exterior application
- Water-repellent
- With EPS aggregates
- For machine or hand application

## Substrate pretreatment

Substrate	Pretreatment
Brick, expanded clay or pumice masonry, lime sandstones with masonry mortar joints	On highly absorbent substrates or hot summer weather, apply wet in moist in two coats
Aerated concrete	Apply in two coats wet in moist
Smooth concrete, prefabricated concrete units	SM700 Pro, SM300, as a mineral bonding plaster primer
XPS-R insulation panels	SM700 Pro, SM300, as a mineral bonding plaster primer
Rough formwork concrete, lime sandstone with thin-bed mortar, small format wood wool slabs	SM700 Pro or SM300 as a mineral bonding plaster primer or Der Vorspritzer
Small format brick masonry, random rubble walling, mixed brickwork	Der Vorspritzer
Non-stable substrate	Suitable plaster base
EPS sheathing blocks	SM700 Pro, SM300, as a mineral bonding plaster primer

## Application

### 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 ensuring 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" issued by the 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	Ø 25 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 without further additions until an application-ready lump-free consistency is achieved. When mixing, use clean water and do not add other additives.

#### Mixing by machine

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

### Application

Apply LUP 222 on a preprepared substrate with a plaster thickness of at least 10 mm (interior applications) or at least 15 mm (exterior applications), strike off level and scrape. Before working area further, allow to dry and harden at a rate of at least 1 day/mm thickness.

With Mak3 as a top coat, apply at least 10 mm LUP 222, strike off level and subsequently roughen with a coarse brush.

#### Plaster thickness

Single-layer or double-layer: 10 to 50 mm.

Plaster thicknesses 30 to 50 mm: Allow a drying time of at least 1 day/mm up to 30 mm and an additional week per cm of additional plaster thickness when 30 mm is exceeded.

For a plaster thickness exceeding 30 mm when fully dry and set, apply full surface mesh reinforcement (reinforcing mesh 4x4 or 5x5 mm) with SM700 Pro, SM300 or Lustro.

### Plinth application

Cement plinth plaster UP 310 must be used on the plinth and splash water area and on masonry and surfaces in contact with the ground or gravel on masonry of compressive strength category > 8.

For lightweight and softer wall materials (stone of compressive strength category ≤ 8), use the cementitious lightweight basecoat LUP.

On XPS-R, plinth insulation boards, perimeter insulating panels (with mesh reinforcement) or Sockel LUP, Sockel-SM Pro can be applied with a total plaster thickness of at least 7 mm. Additional subsequent moisture protection is not necessary.

After drying out, all other rendered surfaces in contact with ground or gravel beds shall be waterproofed/protected against moisture ingress, starting from basement wall waterproof barrier up to approx. 5 cm above ground level, in accordance with DIN 18195. For this purpose, Knauf Sockel-Dicht plinth sealing can be applied with a thickness of at least 2.5 mm (double-layer). Cover with a fleece laminated dimpled sheet after drying.

### On a plaster base

On a professionally applied plaster base, apply about a 10 mm thick coat of LUP 222 and level it into the plaster base. Roughen the surface with a brush. After setting, apply another coating about 10 to 15 mm thick, level and scrape. In order to minimize the occurrence of cracks on the plaster surface, it is recommended that you apply a full surface reinforcing mesh 4x4 or 5x5 mm with SM700 Pro, SM300 or Lustro. Do not exceed a coat thickness of 4 mm with SM700 Pro and SM300.

### Substrate for tiling

In bathrooms and kitchens (e.g. WC's in schools and bathrooms in hotels, hospitals, residential care and nursing homes) 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. Ensure a plaster thickness of at least 10 mm. Fully remove any existing sinter skin. Allow to dry and set fully before a tile covering is applied. Use a quick setting, workable thin-bed mortar as a tiling adhesive (e.g. Flexkleber schnell).

LUP 222 is suitable as a basecoat for classifications A, A0, B0 and C in accordance with the ZDB Code of Practice "Verbundabdichtungen" *Waterproofing* (German only).

### Reinforcement

#### Partial surface reinforcement/reinforcement in exteriors, change of material, building openings etc.

On thin-layer final coats with a grain size of 3 mm and less, the partial surface reinforcement is undertaken by the application of a reinforcement plaster with reinforcement mesh directly on the masonry with a joint overlap of 200 mm on the undisturbed masonry area. Spread on the reinforcement

plaster. Minimum thickness 5 mm.

On thin-layer final coats with a grain size greater than 3 mm, the partial surface reinforcement is undertaken by the application of a reinforcement plaster with reinforcement mesh directly on the basecoat with a joint overlap of 200 mm on the undisturbed masonry area.

When using Mak3, the partial reinforcement is undertaken in the upper third of the basecoat using Knauf basecoat reinforcement mesh (8x8 mm) and a joint overlap of 200 mm on the undisturbed masonry area.

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

An additional full surface mesh reinforcement should always be preferred instead of partial surface reinforcement.

#### Full surface reinforcement in exteriors

With freely textured, brushed surfaces or textured plasters where the grain size is less than 2 mm (in acc. with DIN 18350, VOB part C, < 3 mm), mixed brickwork, on sides exposed to weather, critical building geometries, large areas applied with multi-layer wood wool slabs (after a drying time of at least 3 weeks) and insulating layers on XPS-R etc. or with plaster thicknesses of > 30 to 50 mm, an additional full surface mesh reinforcement (reinforcing mesh 4x4 or 5x5 mm) with SM700 Pro, SM300 or Lustro is strongly recommended on the hardened basecoat.

#### Partial surface reinforcement/reinforcement in interiors, change of material etc.

With a change of material in the background, with insulation panels applied over small areas and multi-layer wood wool slabs etc., apply Knauf basecoat mesh in the upper third of the plaster layer with at least 100 mm joint overlay and 200 mm overlap on all sides to the flanking component.

#### Application temperature/climate

Do not apply material, at air and/or substrate temperatures below +5 °C and above +30 °C. Protect fresh mortar from frost and rapid drying.

#### Cleaning

Clean the machines and tools with water immediately after use.

#### Coatings

##### Finishing coats

After a drying time of at least 1 day per mm plaster thickness, mineral-based and paste-like finishing plasters can be applied with any necessary substrate primers. With groove render such as RP 240, Addi R in 2 mm grain size thickness, a continuous closed surface must be produced or the basecoat must be covered with SM700 Pro.

#### Notes

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.

Only mix the dry mortar with clean water, do not add other additives. 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).

With different application thicknesses as well as pronounced joints in the mortar, the substrate may shimmer through after sponging. Should the basecoat remain exposed during the winter, we recommend application of Grundol 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.

## Technical data

Description	Unit	Value	Standard
Reaction to fire	Category	A2-s1, d0	EN 13501-1
Graining	mm	1.5	–
Compressive strength	Category	CS II	EN 1015-11
Bond strength	N/mm <sup>2</sup>	≥ 0.08	EN 1015-12
Failure pattern	–	A, B or C	
Capillary water absorption	Category	W 2	EN 1015-18
Water vapour diffusion resistance $\mu$	–	≤ 20	EN 1015-19
Thermal conductivity $\lambda_{10, dry, mat}$			EN 1745
P = 50 %	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 <sup>2</sup>	Yield approx. m <sup>2</sup> /bag	m <sup>2</sup> /tonne
15.0	18.3	1.65	55.0

The exact consumption can only be determined with a test application on the individual object.

## Product range

Description	Application	Graining	Packaging unit	Material number	EAN
LUP 222	30 kg	1.5 mm	36 bags/pallet	00005687	4003950000201
LUP 222	Bulk (silo)	1.5 mm	–	00015125	4003950035258

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