

**KEIM**



# KEIM MINERAL PAINTS

RENDER SYSTEMS

PICCADILLY COURT



# KEIM MINERAL PAINTS

KEIM Mineral Paints were developed over 140 years ago and are used globally to provide extremely long lasting, protective and durable coatings with a reputation for being the best paints in the world.

KEIM paints penetrate and chemically bond with the mineral substrate onto which they are applied, becoming an integral part of the surface, whereas oil based paints merely form a skin on the surface. KEIM Mineral Paints are natural, water-borne liquid silicate paints which produce an extremely durable, colourfast, sustainable protective finish with high vapour permeability, which work in harmony with the environment.

KEIM Mineral Paints was established in the UK in 1987.

Offering a wide range of KEIM products including pre-treatments, external and internal paints, renders, concrete repair systems, and mineral restoration materials, KEIM Mineral Paints are the UK's acknowledged experts in mineral paints, renders and repair systems. KEIM Mineral Paints provide a technical and support service encompassing project specifications, application and colour advice to a diversity of projects, from historic to modern, restoration to new build, private and public. To date, KEIM Mineral Paints have been applied on over 15 million square metres of surfaces within the UK.

**KEIM – Unparalleled performance and durability.**



# WHAT ARE KEIM MINERAL PAINTS ?

## Environmentally Friendly -

KEIM Mineral Paints are water borne, odourless, non-toxic and manufactured with natural ingredients using a low energy manufacturing process. KEIM Mineral Paints contain neither solvents nor any petro-chemical derivatives, are inherently non-combustible and do not give off any toxic gases. Over their entire life cycle from raw material extraction to production, processing and ultimate disposal, mineral paints have an excellent environmental profile.



## Durable -

Mineral paint systems are based upon penetration (silicification) of the binder into the substrate. A strong, permanent bond is created between the paint and the underlying substrate (e.g. render, natural stone, concrete). This potassium silicate binder is highly resistant to weathering, ensuring an extremely long-life protective finish, reducing the frequency of re-decoration cycles. KEIM Mineral Paints do not flake and the binder does not disintegrate under the effect of UV light. They are resistant to acid rain and industrial pollution.



## Cleanliness -

KEIM Mineral Paints have no residual electrostatic charge, unlike oil based paints, and therefore do not attract dust. Over time they remain cleaner than oil based paints. The silicate structure is highly stable and able to resist acid and alkali attack, while the inherent alkaline nature of KEIM Mineral Paints means they are resistant to the growth of fungi and algae spores.





## Colour stability -

KEIM Mineral Paints contain exclusively high-quality, lightfast, mineral pigments and binders which exhibit the greatest UV resistance of all paint systems, and are highly weather-resistant. All KEIM colours are unaffected by weathering and UV radiation, ensuring no colour fade with the passage of time. Having a bright matt appearance, the crystal structure of KEIM Mineral Paints gives a high level of light reflectance compared to oil based film forming paints of a similar colour.



## Incombustible -

KEIM Mineral Paints are inherently non combustible, do not support the spread of flame and give off no noxious emissions due to their inorganic composition. Mineral paints are therefore ideal for use in safety critical public areas such as underground stations and tunnels, airports, schools and flats.



## Breathable -

The micro-crystalline nature of the KEIM coating system creates finite spaces between adjacent crystals, which are large enough to allow the free passage of vapour, but small enough to prevent the ingress of driven rain. This imparts the KEIM Mineral Paint system with high water vapour permeability. This high breathability enables moisture vapour contained in building structures to be quickly released unhindered into the environment, avoiding moisture build up between coating and substrate, and preventing damage to the surface and building structure resulting from trapped moisture.

# KEIM RENDER SYSTEMS

Render finishes are applied to buildings to protect surfaces from weathering and to provide a desired aesthetic finish.

KEIM's render products are all developed using the same philosophy as our mineral paint systems, to ensure substrate breathability, durability and longevity. The renders are all compatible with our range of mineral paints to provide the highly durable, breathable render systems.

## Lime renders and why buildings need to breathe

Before the twentieth century, building techniques and materials were very different from those used today and it is important that historic buildings, in particular, are able to 'breathe', to allow moisture to evaporate from the underlying stone or brick. Hard cement renders and many other masonry products do not allow moisture that is continually being absorbed into buildings to evaporate easily. Lime is the base product widely used to produce mortars, plasters and limewashes for traditional buildings.

Lime has distinct advantages over cement-based alternatives as it is less dense and more vapour permeable. Lime materials accommodate general building movement well and are closer in strength to many of the types of stone and brick used in historic construction.

Whilst lime is commonly accepted for use onto older and more traditional buildings, it still has its place in new build construction and, as new technologies are employed, lime based renders can offer a versatile and modern equivalent to conventional cement renders.

Within KEIM's render product range are two lime based renders;

KEIM Universal Render is a hydrated lime and silicate mix with excellent flexibility and breathability, creating the look, feel and durability of a traditional render finish with a more durable modern performance.

KEIM NHL Kalkputz is a natural hydraulic lime render, encompassing all the benefits of a traditional true lime render, combined with fibres which enhance its application and performance.

## Render Product options:



**KEIM Universal  
Render**



**KEIM NHL  
Kalkputz**



**KEIM Turado**



**KEIM  
Brillantputz**



## KEIM UNIVERSAL RENDER

KEIM Universal Render is a ready to use renovation and thin layer wall render, made with hydrated lime, pozzolanic additives, sand and mineral fibre fillers. KEIM Universal Render is suitable for use on all mineral substrates, both interior and exterior. It is extremely flexible and will accommodate a high degree of movement, in particular thermal expansion and contraction, whilst at the same time preventing surface crazing and cracking.

KEIM Universal Render is ideal for overall surface refurbishment as a complete thin coat render system. KEIM Universal Render can be used as a render base layer onto which any of the KEIM coating systems and/or textured finishing render systems can be applied (i.e. KEIM Brillantputz).

KEIM Universal Render is suitable for patch repair of existing rendered facades over large or localised areas, and for application onto sound existing renders, synthetic resin renders, solid existing paint coats, synthetic resin paint coats and cracks.

KEIM Universal Render is easy and reliable to process and apply and is extremely flexible with excellent stability. Fibre reinforcement and water repellence ensure reduced susceptibility to cracking and optimum wear resistance.

KEIM Universal Render is available in two grain sizes; standard and fine.

# KEIM UNIVERSAL RENDER/FINE

## TECHNICAL INFORMATION

### 1 Field of application

KEIM Universal Render is a renovation and thin layer exterior wall render, based on lime and silicates with fibre reinforcement, for use on all mineral substrates, both exterior and interior.

KEIM Universal Render is suitable for renovation and repair of sound existing renders, sound existing paint coats and for filling of cracks.

KEIM Universal Render can be used as a base coat for KEIM Brillantputz and for subsequent decoration using KEIM Mineral Paints.

KEIM Universal Render Fine is available for a smooth finish.

### 2 Product properties

Binder based on pozzolan with calcite aggregates, light aggregates and fibre reinforcement, water repellent.

Grain size: 0 - 1.3mm  
0 - 0.6 mm (Fine)

Water absorption co-efficient:  $w < 0.5 \text{ kg/m}^2 \cdot \text{h}^{0.5}$

Diffusion resistance value:  $\mu = 8.4$   
 $\mu = 8$  (Fine)

Compressive Strength 4.5N/mm<sup>2</sup>  
3.5-7.5N/mm<sup>2</sup> (Fine)

Thermal conductivity,  $\lambda$  10, dry:  
 $\leq 0.83 \text{ W/(mK)}$  for P - 50%  
 $\leq 0.93 \text{ W/(mK)}$  for P - 90%

Mortar Category CS III

Fire resistance: A1, EN 998-1-2010 (BS EN 13501-1)

### 3 Application instructions

#### Substrate preparation

All loose, flaking and unstable material must be identified and then thoroughly removed, all surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust.

#### Application

Apply to pre-wetted surfaces in layers from 4mm minimum to 10mm (8mm Fine) maximum. For subsequent applications do not scratch up between coats and leave for a minimum period of at least 12 hours between coats.

KEIM Glassfibre Reinforcing Mesh may be incorporated, if required, by pressing into newly applied KEIM Universal Render.

Finish off using a float appropriate to the required surface finish (i.e. sponge faced float such as KEIM Hydro Sponge Float).

#### Cleaning of tools

Clean immediately after use with water

#### Setting Time

1 day per 1 mm render layer thickness.

#### Subsequent Finishing

KEIM Universal Render/Fine is suitable for decoration with all exterior and interior KEIM Mineral Paint systems after a minimum period of 15 days.

#### Consumption

1.1 kg per square metre per mm thickness.

Please note that these consumption rates are offered for guideline purposes only and should more accurate measures be required then site trials must be conducted.

#### Packaging

25 kg sacks & 20 kg sacks (Fine)



# KEIM NHL KALKPUTZ

KEIM NHL Kalkputz is a ready to use Natural Hydraulic Lime render with the addition of mineral fibre fillers. KEIM NHL Kalkputz is suitable for use on all mineral substrates, both interior and exterior.

KEIM NHL Kalkputz is ideal for overall surface refurbishment as a complete thin coat render system that can be subsequently decorated with any of the KEIM Mineral Paints.

KEIM NHL Kalkputz is suitable for patch repair of existing lime rendered facades over large or localised areas, and for application onto sound existing renders.

KEIM NHL Kalkputz is available in two grain sizes; coarse and fine.



# KEIM NHL KALKPUTZ

## TECHNICAL INFORMATION

### 1 Field of application

KEIM NHL Kalkputz Grob (Coarse) is a multipurpose lime bound render for manual and machine application, used as an undercoat and topcoat render for interior, exterior and damp areas.

KEIM NHL Kalkputz Grob is suitable for rendering masonry of all kinds.

KEIM NHL Kalkputz Grob is particularly suitable for historic renovation, remediation work and for low environmental impact residential applications.

KEIM NHL Kalkputz Fine is available for a smooth finish.

### 2 Product properties

Dry bagged lime render manufactured to DIN EN 998-1, based on sand, lime (white lime, highly hydraulic natural lime) and hydraulic additives, with additives for improved processing and adherence.

Grain size: 0 - 3mm (Coarse)  
0 - 0.6 mm (Fine)

Water vapour permeability:  $\mu$  approx. 10

Water absorption: W2

Tensile bond strength:  $\geq 0.08\text{N/mm}^2$

Compressive Strength 1.5 -5  $\text{N/mm}^2$

Thermal conductivity:  $\lambda$  10, dry:  
 $\leq 0.83\text{W/(mK)}$  for P = 50%  
 $\leq 0.93\text{W/(mK)}$  for P = 90%

Mortar Category CS II

Fire resistance:  
A1, EN 998-1-2010 (BS EN 13501-1) (Grob)  
A2-s1,d0, EN 998-1-2010 (BS EN 13501-1) (Fine)

### 3 Application instructions

#### Substrate preparation

All loose, flaking and unstable material must be identified and then thoroughly removed, all surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust.

#### Application

KEIM NHL Kalkputz Grob should be applied in layers of minimum thickness of 10mm when applied as an undercoat and 5mm as a topcoat. Where the overall desired finishing thickness is more than 20mm apply render as multiple layers allowing sufficient setting time before the final layer is applied. We would also recommend roughening previous layers prior to subsequent application.

KEIM Glassfibre Reinforcing Mesh may be incorporated with KEIM NHL Kalkputz Grob if so required.

KEIM NHL Kalkputz Fine should be applied as a topcoat render, with a minimum thickness of 2mm and maximum thickness 5mm.

#### Cleaning of tools

Clean immediately after use with water

#### Setting Time

1 day per 1mm render layer thickness.

#### Subsequent Finishing

KEIM NHL Kalkputz is suitable for decoration with all exterior and interior KEIM Mineral Paint systems after a minimum period of 1mm per day plus 10 additional days (28 day minimum).

#### Consumption

1.3kg (1.2kg Fine) per square metre per mm thickness.

Please note that these consumption rates are offered for guideline purposes only and should more accurate measures be required then site trials must be conducted.

#### Packaging

25 kg sacks



## KEIM TURADO

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KEIM Turado is a fibre reinforced renovation render for application onto both exterior and interior surfaces. It is easy to use and optimised for quick and efficient application.

KEIM Turado offers the highest resistance against cracking because of large, long fibre reinforcement. Due to its outstanding stability, KEIM Turado can be applied in layers as thin as 3mm and its exceptional adhesion means it can be applied onto a wide range of substrates.

KEIM Turado is available in a smooth finish.

# KEIM TURADO

## TECHNICAL INFORMATION

### 1 Field of application

KEIM Turado is a universal, fibre-reinforced, natural white renovation render for interior and exterior use.

KEIM Turado is very versatile and can be applied to sound, mineral substrates and existing renders of mortar group CS II, CS III and CS IV, synthetic resin bound coatings and renders in interior and exterior spaces.

KEIM Turado is very well suited to coat and equalise sound existing renders or coatings and as adhesive mortar on smooth concrete surfaces.

### 2 Product properties

White cement mortar with light aggregates and fibre reinforcement.

Grain size: 0 - 1.0mm

Water absorption: W1

Compressive Strength 4N/mm<sup>2</sup>

Mortar Category CS II

### 3 Application instructions

#### Substrate preparation

All loose, flaking and unstable material must be identified and then thoroughly removed, all surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust.

#### Application

Apply to surfaces in layers from 3mm minimum to 12mm maximum. For subsequent applications do not scratch up between coats. Maximum thickness should not exceed 24mm.

KEIM Glassfibre Reinforcing Mesh may be incorporated, if required, by pressing into newly applied KEIM Turado between coats.

Finish off using a float appropriate to the required surface finish (i.e. sponge faced float such as KEIM Hydro Sponge Float).

#### Cleaning of tools

Clean immediately after use with water

#### Setting Time

1 day per 1 mm render layer thickness.

#### Subsequent Finishing

KEIM Turado is suitable for decoration with all exterior and interior KEIM Mineral Paint systems after a minimum period of 1 mm per day (10 day minimum).

#### Consumption

1.35kg per square metre per mm thickness.

Please note that these consumption rates are offered for guideline purposes only and should more accurate measures be required then site trials must be conducted.

#### Packaging

25 kg sacks

# KEIM BRILLANTPUTZ

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KEIM Brillantputz is a high quality, mineral, thin layer, lightweight through coloured render made from mineral binders and fillers.

KEIM Brillantputz is ideal as a finishing render for all even and smooth mineral substrates. A single coat of KEIM Mineral Paints should then be applied onto KEIM Brillantputz after a minimum period of 15 days.

KEIM Brillantputz is a white lime, white cement based render with marble aggregates, available in three textures:

## KEIM Brillantputz Glattputz (smooth):

Smooth finish, grain size 1mm

## KEIM Brillantputz Rauputz (rough):

Rough finish, grain size 2mm and 3mm

## KEIM Brillantputz Rillenputz (grooved):

Ridged/striated finish, grain size 2mm and 3mm

## KEIM Mineralputz (rough):

Rough finish, grain size 5mm



# KEIM BRILLANTPUTZ

## TECHNICAL INFORMATION

### 1 Field of application

KEIM Brillantputz is a high quality, mineral thin layer, lightweight render range made from mineral binders and high-quality fillers.

Suitable as a finishing render for all level mineral substrates and as a top coat for KEIM Universal Render. Suitable for subsequent application of KEIM Mineral Paints.

### 2 Product properties

White lime, white cement based render with marble aggregates.

Grain size:

Glattputz (smooth): 1mm

Rauputz (rough): 2mm & 3mm

Rilleputz (grooved): 2mm & 3mm

Mineralputz (rough): 5mm

Water absorption:  $w < 0.5 \text{ kg/m}^2 \text{ h}^{0.5}$

Diffusion resistance:  $sd \leq 0.1 \text{ m}$

Fire resistance: A1, EN 998-1-2010 (BS EN 13501-1)

Available in white or KEIM Exclusiv colours

### 3 Application instructions

#### Substrate preparation

All loose, flaking and unstable material must be identified and then thoroughly removed, all surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust.

#### Application

Apply the prepared KEIM Brillantputz with a stainless-steel trowel, flatten or scrape down to grain size and rub in using a plastic trowel.

#### Cleaning of tools

Clean immediately after use with water

#### Setting Time

1 day per 1mm render layer thickness.

#### Subsequent Finishing

KEIM Brillantputz is suitable for decoration with all exterior and interior KEIM Mineral Paint systems after a minimum period of 15 days.

#### Through Coloured:

When using through coloured KEIM Brillantputz, slight deviations in colour shade and irregularities can appear due to weathering which are a feature of the product. To minimise fluctuations in colour shades due to different batch numbers, the render requirement for one application should be ordered as one batch if possible. KEIM Brillantputz, when ordered in a through colour shade has to be coated with a single layer of KEIM Mineral Paint for the above reasons and to properly protect the render finish.

#### Consumption

Glattputz:

3mm layer thickness: approx. 3-4kg/m<sup>2</sup>

Rauputz:

2mm layer thickness: approx. 2.2kg/m<sup>2</sup>

3mm layer thickness: approx. 3.0kg/m<sup>2</sup>

Rilleputz:

2mm layer thickness: approx. 2.5kg/m<sup>2</sup>

3mm layer thickness: approx. 3.0kg/m<sup>2</sup>

Mineralputz:

5mm layer thickness: approx. 5.0kg/m<sup>2</sup>

Please note that these consumption rates are offered for guideline purposes only and should more accurate measures be required then site trials must be conducted.

#### Packaging

25 kg sacks

# WHICH RENDER TO CHOOSE?

There are many factors which need to be taken into account when choosing a the correct render system and lots of technical information about the different products. Below is a simplified overview of the products and the optimum situations for each choice to help your selection:



## KEIM Universal Render/Fine -

- Lime based render
- Excellent breathability
- Ideal for all modern and historic buildings
- Extremely flexible render, does not generally require expansion joints
- Minimum 8mm thickness with fibre reinforcement
- Generally suitable for painting after 15 days



## KEIM NHL Kalkputz -

- Natural hydraulic lime render
- Maximum breathability
- Ideal for historic buildings and conservation projects
- Minimum 10mm thickness undercoat and 5mm top coat with fibre reinforcement
- Minimum 28 day drying time prior to painting



## KEIM Turado -

- White cement based render
- Good breathability
- Ideal for modern building projects
- Simple, quick application
- Extremely flexible render, does not generally require expansion joints
- Minimum 3mm thickness
- Minimum 10 day drying time before painting



## KEIM Brillantputz -

- Lightweight mineral render
- Good breathability
- Through-coloured available (needs finishing coat of KEIM Mineral Paints)
- Available in three different textures and patterns
- Up to 5mm thickness determined by texture (use KEIM Universal Render for base coat)
- Generally suitable for painting after 15 days

We also offer a range of specialist renovation renders, please contact KEIM Mineral Paints for more information.



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