

SPECIFICATION

Reference: KR50 – 03

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JOB DESCRIPTION

Clause: M20 - PLASTERED / RENDERED / ROUGHCAST COATINGS

To be read with Preliminaries/General Conditions

160 Proprietary Cement Gauged Render

Summary: Silicone TC15 onto Dense Concrete with R10 primer and HP12 Basecoat

Substrate: Dense / Reinforced Concrete

Primer: **K Rend R10**
Applied in One uniform coat by brush or roller. Allow to cure for 24 hours prior to application of HP12

Undercoat: **K Rend HP12 Base**
Applied in two 4 mm passes with alkali resistant glass fibre mesh cloth embedded to stress points. Rule to line & level and leave with a float finish. Allow to cure for a minimum of 14 days
Thickness: 8 mm

TC Primer: **K Rend Primer TC**
Apply by brush or roller. Allow to dry for 24 hours prior to application of final finish coat.

Finish Coat: **K Rend Silicone TC15**
Apply by hawk and trowel or machine & finished to the aggregate thickness. Surface should be rubbed uniformly to finish.
Thickness: 1.5 mm **Colour:** Selected by specifier **Finish:** Fine Textured.

Total Thickness: 10 mm **See section on Application**

K Rend products should be applied strictly in accordance with the manufacturer's instructions and specifications, and the relevant sections of BS EN 13914-1:2016. K Rend products are Kitemarked and CE Marked to BS EN 998-1:2016 or BS EN 15824:2017 under an ISO 9001:2015-certified quality management system.

IF THESE INSTRUCTIONS ARE NOT FOLLOWED CLOSELY, A SATISFACTORY FINISH MAY NOT BE ACHIEVED AND KILWAUGHTER MINERALS LIMITED WILL ACCEPT NO RESPONSIBILITY.

This specification is valid for 6 months from date of issue. Thereafter details should be re-checked with Kilwaughter Minerals Ltd.

DESIGN CONSIDERATIONS

Certain locations may require an additional depth of render due to the exposure to wind driven rain following BS 5262; 1991. Advice should be sought from Kilwaughter Minerals Ltd.

New construction to be rendered should be designed and constructed in accordance with the relevant recommendations of BS EN 13914-1 & BS 998-1; 2010.

Render should only be applied to mature, stable surfaces. New walls to be rendered should be left as long as possible to minimise substrate movement (typically 28 days).

In order to achieve the best finish K Bead PVC Angle, Stop, Bellcast, Drip and Expansion beads should be used. The K Bead range is available with all K Rend Products from Kilwaughter Minerals Ltd. Advice about movement joints to be detailed by the project site engineer (typically every 7 x 7 m² on Dense Concrete) or expressed in construction joints / fabric change.

Render must not be applied to horizontal or sloping surfaces. Rendering should not be continued over movement joints, damp proof courses, weep holes or air vents.

An adequate flashing must always be provided to prevent water penetrating behind the render.

Suitably designed overhangs and flashings should be provided to prevent water washing onto the façade. A generous overhang or eave should be designed, and all sills and copings should have sufficient drips, including mortar joints at coping. Gutters and down-pipes must also be designed to keep water off the façade, temporary guttering and down pipes may be required to help keep the surface as dry as possible, prior & during render applications.

In order to minimise damage to the rendering, consideration should be given to installing fixings for rainwater, soil and vent pipes before rendering commences. The pipes themselves should be fitted after rendering is completed. Fixings should be made of stainless steel to minimise the risk of corrosion.

Independent scaffolding should be used to minimise scaffold ties and avoid the need to repair plug holes. Enough height and clearance should be allowed to enable satisfactory completion of the rendered finish.

Some construction materials may be susceptible to alkali attack. Fittings and adjacent surfaces that are likely to be damaged during rendering should be protected.

A plinth is recommended below DPC level to provide a splashback and minimise colour issues at ground level. Such areas are best applied with K Rend HP12 Base applied & finished at min 4 mm finished smooth on surface to receive K Rend Silicone Masonry Paint in a deeper colour.

It is advised that a project visit is carried out at least one week in advance of render application start date, evaluating any preparation issues.

BACKGROUND AND PREPARATION

Dense / Reinforced Concrete

All other trades should have first fix works completed and the building perimeters made watertight, prior to render applications.

The background should be assessed by the contractor to ensure that it is suitable to receive the K Rend System. When doing so it should also be checked for line and level to decide if the render can be applied in a uniform thickness or if dubbing out coat is required. Following suitable preparation of the background using R10, K Rend HP12 Basecoat can be applied at 4 mm, surface finished with light surface scratch and allowed to set and cure for one day. Deeper coats of render required to correct surface alignment of the substrate will require additional K Rend HP12 Basecoat applications. Where the HP12 Basecoat is applied to over 8mm depth, alkali resistant glass fibre mesh cloth should be embedded midpoint.

All necessary repairs must be carried out before application. All damage to substrate from salt attack, corrosion or salts (including efflorescence) must be carefully prepared. Damaged blocks must be replaced and any holes or insufficiently filled joints repaired. Additional K Rend Alkali Resistant Reinforcing Mesh to be used at these areas.

Any structural cracking in the background should be brought to the attention of a structural engineer and stabilised prior to render applications.

It is recommended that K Rend alkali resistant reinforcing mesh is used in areas likely to suffer from stress cracking. This can be done by applying Prep Coat, bedding mesh into it whilst it is still wet and leaving the Prep Coat with a light scratch prior to setting. K Rend Alkali Resistant Reinforcing Mesh is available with all K Rend products from Kilwaughter Minerals Ltd.

The surface must be clean and free from any loose or friable material including paint, oil, soot, lichens and dust. If there is any algae present it should be treated with a proprietary fungicidal wash or surface biocide (i.e. Algae Clean) and then pressure washed to remove any residue. Biocide supplier's instructions to be followed.

All scaffold planks should be brushed free of all dust and debris prior to the application of render, to avoid surface discolouration.

The product should not be applied to frost bound walls.

Apply suction control as necessary, it may be necessary to damp down walls prior to applying the product to control suction. Rendering should not be applied to walls which have been subject to rain over several hours.

PRODUCT

Products Required.

K Rend R10	A modified acrylic bonding coat designed to improve the adhesion of K Rend renders to difficult substrates, where the background does not provide sufficient key or has poor suction characteristics.
K Rend HP12 Base	Containing 'high-polymer' technology for a cost-effective enhanced performance on difficult substrates. Ideal as a stipple coat or for dense backgrounds, it provide increases water resistance and adhesion.
K Rend Primer TC	Primer TC is a synthetic resin primer designed for use to prepare masonry substrates prior to the application of a K rend thin coat render.
K Rend Silicone TC15	Silicone TC15 is an organic resin binder incorporating a silicone resin emulsion and an acrylic resin dispersion in a ready to use render. Used to achieve an attractive, low maintenance textured finish
K Rend Beads	See section on PVC Beads
K Rend Alkali Resistant Reinforcing Mesh	Alkali resistant glass fibre reinforcing mesh universally embedded into the render, to provide tensile strength at potential stress areas i.e. window and door openings.

Samples are provided on request for colour indication only, it is always recommended that a physical sample of the colour and product is checked before the product is used.

It is recommended that a test panel (ideally 2m²) be produced for inspection by the customer (client, architect etc.). Work should not commence until the customer is satisfied with the appearance of the product.

Applicators should be familiar with product water requirement, handling characteristics, setting and hardening times. These may vary according to background temperature and humidity. The test panel should be prepared well in advance of work commencing.

K Rend Products are manufactured from natural products and slight shade variations may occur.

K Rend bagged products are delivered in sealed 25kg bags on pallets. Each complete pallet contains 40 bags and weighs 1.0 tonne.

K Rend Primer TC is delivered in 18 kg containers and Silicone TC15 in 25kg containers. Each complete pallet of Silicone TC15 contains 30 tubs and weighs 0.75 tonne

K Rend Alkali Resistant Reinforcing Mesh is delivered in 50 metre rolls.

Storage

Product sacks, even when protected by hoods, are only shower proof, and should be further protected to prevent damp causing caking of the product. The shelf life is 1 year from date of manufacture if stored off the ground in dry conditions, protected from frost and sunlight, in original unopened packaging.

It is important to note that all K Rend Products are non-returnable.

Health and Safety

A Product Safety Data Sheet is available from the manufacturer and should be read prior to commencement of any rendering.

APPLICATION METHOD

K Rend Products should be applied strictly in accordance with the manufacturer's instructions and specifications and the relevant sections of BS EN 13914-1. Further guidance is available in the British Board of Agrément Certificate.

Dubbing Out

All dubbing out coats necessary to correct any surface alignment should be carried out as a first step, prior to beading.

Beading

All beading should be adhesively fixed into position using K Rend HP12 Base, ensuring accurate horizontal & vertical alignment. Encapsulate the bead web with render for stability & finished the surface with light scratch.

Adhesive should be countersunk from the bead arris / nose by a minimum of 4 mm, leaving sufficient depth for the subsequent application of HP12. Adhesively installed beads, as per good practice, will require one day minimum to set, prior to undercoat application.

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| K Beads Required | - | 6 mm Angle beads adhesively fixed set to minimum depth 10 mm. |
| | - | 6 mm Movement beads adhesively fixed and set to a minimum depth 10 mm. |
| | - | 15 mm Bellcast beads located at DPC elevated and set 17-19 mm to front edge. |

Mixing

K Rend R10 should be stirred using drill and paddle for 3 - 4 minutes.

K Rend HP 12 Base requires approximately 5.0 – 6.0 litres of clean water per 25kg. Consistency in proportions is essential to ensure an even finish. Mix thoroughly, it takes at least 10 minutes to dissolve the powder additives. For best results, mix for 5 minutes, let stand for 5 minutes and then mix again for 3-5 minutes. For diesel & electric render spray machine, the optimal water flow settings, should be checked with Kilwaughter Minerals Ltd, prior to render application.

Once the product has been mixed to the desired consistency additional water should not be added. The product should not be remixed once the material has started to set.

K Rend Primer TC and K Rend Silicone TC15 tubs should be stirred thoroughly before use using drill and paddle. (At this stage, a small amount of water can be added to Silicone TC15 to achieve the best working consistency).

Application

- Primer:** **K Rend R10** is applied by brush or roller in one uniform application. Allow at least one day for R10 to cure and set.
- Beads:** **K Beads** should be adhesively fixed into position using HP12. See Section on PVC beads.
- Undercoat:** **K Rend HP12** is applied either by machine or hawk & trowel universally in two 4 mm passes with alkali resistant glass fibre mesh embedded into the first pass at the stress points.
- Apply the second 4 mm pass immediately, wet-on-wet. Rule to line & level, finish the surface with a smooth float finish. Allow to cure for at least 14 days.
- Thickness:** 8 mm.
- TC Primer:** **K Rend Primer TC** should be applied to the cured and dried HP12 using a brush or roller. Allow to cure for a minimum of 24 hours prior to application of thin coat finish.
- Finish:** **K Rend Silicone TC15** should be applied by hand in a continuous application, always working to a wet edge. Apply to the thickness of the largest aggregate. If possible, entire sections or elevations be coated in a single operation using the same batch to avoid joint marks in the finish.
- Thickness:** 1.5mm

FINISHING

- Finishing** Allow Silicone TC15 to take up slightly prior to rubbing up in a circular motion (using a plastic float or steel trowel) to create the final texture.
- Total Thickness:** 10 mm

If possible entire sections or elevations should be coated in a single operation using the same batch to avoid joint marks in the finish. When straightening, hollows should be filled out immediately before a skin is formed. Care should be taken to avoid small hollows, which can make it difficult to achieve a good finish. Small areas such as quoins, reveals and bands can be left with a plastic float finish & completed a minimum 4 days in advance of HP12 application to the main wall facades. Plinth areas should be rendered and finished following disassembly of scaffolding and completion of groundworks.

OTHER CONSIDERATIONS

Site Conditions

K Rend Products have a working temperature range of 5°C to 35°C. The product should not be applied in the rain or mist, at temperatures above 35°C or below 5°C or if exposure to frost is likely to occur during curing.

In sunny weather work should commence on the shady side of the building and be continued round following the sun to prevent the render drying out too quickly. In cold weather, if frost is forecast, work should stop in time to allow the material to set sufficiently to prevent frost damage. Curing times will vary accordingly to wind, temperature and humidity.

Cleaning of Tools

Clean tools and equipment with water immediately after use. Residue from cementitious products must not enter the drainage system.

Curing

All areas should be protected from rain, mist and cold for at least 48 hours after the application of the product. Care should be taken to protect the completed render from drying out too rapidly due to direct sun or drying wind.

Repairs

Damage to the products should be repaired immediately and carried out in accordance with the relevant section of BS EN 13914-1. Advice from the manufacturer should be sought. The finished façade, in common with all finishes, should be protected from all potential site damage.

Algae

The product contains an algae resistant additive which gives enhanced resistance to algae growth however local conditions may still allow algae growth on the render surface. An annual coat of fungicidal wash can prevent algae from growing on facades which can be prone to algae by remaining wet over prolonged periods.

Lime Bloom

The product may be subject to lime bloom however this may be reduced by proper protection during curing and avoiding application in adverse weather conditions. To avoid the appearance of lime bloom do not render in cold, damp weather. Generally, a two-day window of good weather is required to minimise the occurrence of lime bloom.

Do not permit down pipes, sills, copings and scaffold boards to throw water onto the setting render. Do not allow washings from quoins, sills etc, to run on to the setting render.

Maintenance

Regular maintenance checks should be carried out. Where general staining occurs a warm power wash with suitable detergent can be used to clean up the finish. Care must be taken to adjust the pressure of the power washer to ensure that the render surface is not damaged during the procedure.

Product Training

K Rend offer product training courses to assist in the use of best practice when applying K Rend products.

Additional Recommendation

For additional surface protection **K Pro** exterior water-based sealer is recommended, as added surface protection to the finished render façade, to reduce maintenance cycles.



Kilwaughter Minerals Manufacturing Plant – Larne Co Antrim. NI.

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In line with our policy of continuous improvement, we reserve the right to change technical data without notice.

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