K REND Kilwaughter Chemical Company Limited

APPLICATION INSTRUCTIONS

HEALTH AND SAFETY INFORMATION

APPLICATION INSTRUCTIONS

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

STORAGE
Render sacks, even when protected by hoods, are only showerproof, and should be further protected to prevent damp causing caking of the product. Shelf life is approximately one year if stored in dry conditions in original packaging. It is important to note that all K Rend renders are non-returnable.

TEST PANEL
It is recommended that a test panel (ideally 2m^2) be produced for inspection by the customer (client, architect, etc.). Work should not commence until the customer is satisfied with the texture, colour and general appearance of the render. The test panel should be prepared well in advance of work commencing. Plasterers should be familiar with the product water requirement, handling characteristics, setting and hardening times. These may vary according to background, temperature and humidity.

DESIGN CONSIDERATIONS
Suitably designed overhangs and flashings should be provided to prevent water washing onto the render and causing staining. At ground level it is recommended that the rendering should not bridge the DPC to form a capillary path for rising damp. Sills and copings should project from the face of the wall with an ample drip groove to ensure that water is kept clear of the render. Gutters and down-pipes must also be designed to keep water off the façade. Angles may be formed using PVC or Stainless steel angle and stop beads, or by using chamfered battens. Plan ahead to avoid discontinuity in any one area or walling which could lead to unsightly joints in the rendering. Render expansion joints must follow structural movement breaks. For other expansion joints see to BS5262, Para. 27.3.

APPLICATION CONSIDERATIONS
Before any rendering begins, it is essential to ensure that the scaffolding provides suitable access to the whole of the working face. When rendering on to a base coat, it may be necessary to damp down walls prior to applying the final coat to control suction. K Rend renders have a working temperature range of 5°C - 35°C. During hot weather it is recommended that work is started on the shady side of the building and continued round following the sun. In cold weather, if frost is forecast, work should stop in time to allow the material to set sufficiently to prevent frost damage. Drying conditions will vary accordingly to wind, temperature and humidity. Protection from rain and frost should be provided for the first 48 hours after application.

MIXING
For all K Rend renders except Roughcast use approx. 4-5 litres of clean water per 25kg sack; for all K Rend Roughcast use approx. 5-7 litres of water per 25kg sack. Consistency in mix proportions is essential to ensure an even finish. Mix thoroughly, it takes at least 10 minutes to dissolve the powder additives. The best results are obtained by mixing for 5 minutes, let the material stand for 5 minutes and then mix for a further 5 minutes before use. During mixing the material may appear dry initially, however thorough mixing results in a creamy consistency. Overmixing can result in a loss of handling properties. Do not add anything to the mixer other than clean water.

COLOUR
50mm samples are provided on request for colour indication only. A site sample panel is recommended, to ensure that the specifier is satisfied with the render colour and texture. K Rend materials are manufactured from natural products, and slight shade variations may occur. All areas must be scraped at the same stage of readiness, as early scraping will result in darker shades and late scraping in lighter shades. A uniform approach is essential to achieve a good finish.

LIMEBLOOM
Limebloom is a natural phenomenon which can occur in all cementitious systems. It is caused by the migration of soluble salts from the body of the render to the surface. This process takes place when surface water is present. As such, limebloom is a temporary phenomenon, and does not affect the durability or strength of the render. K Rend is most susceptible to lime bloom in the early stages of setting, before the additives have had an opportunity to take effect. Therefore our render needs to be properly protected from the weather and any other sources of water during this period. Applying the material in cold, damp weather extends the period when render is susceptible to limebloom. Do not permit down-pipes, sills, copings and scaffold boards to throw water on to the setting render. Do not allow washings from quoins, sills etc. to run on to the setting render.

MAINTENANCE
Where general staining occurs, a warm power wash with a suitable detergent can be used to clean up the K Rend 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 (this is not suitable for dry dash finishes). An annual coat of fungicidal wash can prevent algae from growing on weather prevailing facades, which can be prone to algae by remaining wet over long periods.

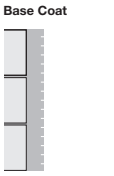
Kilwaughter Chemical Co Ltd can recommend an anti-graffiti coating, for application to areas of high risk. A slight variation in render colour should be expected. Paint manufacturers may offer more detailed advice on graffiti removal. If a change of colour is required at a later date, K Rend is a suitable substrate for masonry paint.

K REND PRODUCTS

K REND BASE COATS

Standard Base, Fibre Base, UF Base, UF Fibre Base, HP12 Base, HPX Base

Primary coat, where required, should be applied to substrates as preparation for subsequent coats. Thickness should be as per product specification. It is important to take special care to straighten with a darby / straight edge to ensure that the next coat is applied to uniform level. Form a light key only. Allow 24 hours curing time before further application, unless advised otherwise. For information on unusual or difficult substrates, seek further technical advice.



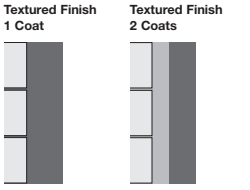
Base coat 8-10mm

K REND SCRAPED TEXTURE

Silicone WP, Silicone FT, Silicone Spray, Spray Rend, Com Rend

ONE COAT / FINISH COAT

One coat is applied directly onto block work and must be finished to a minimum of 16mm thick to avoid “ghosting”. The material should be applied 18mm thick in 2 passes; the first pass 6-8mm and the second pass 12-14mm. (See also under Spray Application). After setting, 2mm is scraped off for a 16mm finish. If the material is being used in a two coat application the Finish Coat is applied over a K Rend Base Coat to line and level, using a darby or straight edge, to a minimum thickness of 10-12mm. 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. Do not polish.

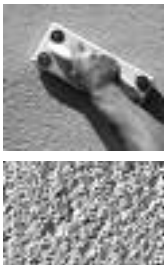


Finish coat 16mm

Base coat 8-10mm
Finish coat 10-12mm

SCRAPING

Scraping should take place when the render has set but not fully hardened. The exact timing of this operation varies according to weather conditions and can be anything from 4 to 36 hours after application. Typically, in moderate conditions, the render should be scraped the day after application. The render is ready for scraping when a thumb impression cannot be made but it can be marked with a thumb nail. At the correct time, the aggregate scrapes easily from the wall and does not stick to the scraping tool. Scraping should always be done lightly, and in a tight circular motion to produce a uniform finish. The object is to remove only 1-2mm from the complete surface.



BRUSH DOWN

Immediately after scraping, use a soft brush to remove loose material. This will highlight any unscraped areas, which must then be scraped immediately to avoid colour variation. If scrape patterns or marks are observed, they should be softened by further gentle scraping or brushing. Small blemishes should be repaired at this stage, using material freshly scraped from the wall.

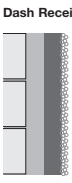
ASHLAR CUTTING TO TEXTURED FINISH

Having scraped the surface level, the ashlar effect is achieved by cutting into the surface with an ashlar cutter to form grooves. Leave a minimum 10mm of coloured K Rend between the recessed ashlar cut and the substrate. Additional render thickness should have been applied to accommodate the depth of the ashlar cut. (Typically 20-25mm required in areas for ashlar cutting). When forming cuts take care to avoid damaging the arrises by working away from the external corner. All cuts must be the same width and depth and set out uniformly as required.

K REND DASH RECEIVER

Silicone Dash, Overcoating Silicone Dash, Silicone Spray Dash, Standard Dash

Dash Receiver is applied to a K Rend Base Coat. Apply a butter coat of render to a uniform thickness depending on the aggregate size (Typically 6-8mm). While the render is still plastic, throw washed aggregate on to the surface to give a uniform dense coverage. Immediately tamp the aggregate particles lightly into the butter coat with a plastic float and ensure that a good bond is obtained.



Base coat 8-10mm
Dash receiver 6-8mm
Dry dash

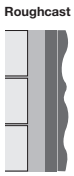
K REND ROUGHCAST

Silicone Roughcast

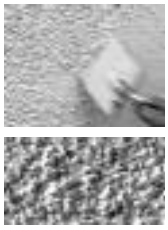
First Coat - BASE COAT
See previous.

Second Coat - DASH RECEIVER
Apply in a single coat 4-6mm thick. Allow to firm but not set.

Dashing Coat - SILICONE ROUGHCAST
To ensure that regularity of colour is achieved always mix a sufficient quantity of Roughcast for the area to be rendered into a bath or box. Do not add any further water to the mix in the gauging box on the scaffold. Throw the Roughcast on to the surface of the Dash Receiver while the Dash Receiver is still green, using a dashing spoon. Do not go over semi-cured areas to fill in misses, as this can lead to inconsistency of colour. Protect from water during set.



Base coat 8-10mm
Dash receiver 6-8mm
Roughcast



K REND TYROLEAN

Silicone Tyrolean

First Coat - BASE COAT
See Previous.

Second Coat - SILICONE TYROLEAN
Apply by using a hand-operated Tyrolean machine or an open hopper spray machine. The honeycomb texture is obtained by building up several passes applied in sequential light sprays, wet on wet, from a Tyrolean machine. Each pass should be from a different direction (45° from left, straight on, 45° from right etc.). Care should be taken to avoid merging and patchiness in the texture by leaving sufficient time between passes. A minimum coating thickness of 4mm, with 6kg per square metre, is usually necessary to achieve a good density of coverage. Each pass should apply approximately 1.5kg per square metre, with a thickness of 1.0mm per pass.

K REND BRICK REND

Silicone Brick Rend

First Coat - BASE COAT
See previous.

Second Coat BRICK MORTAR COAT
The mortar layer is applied to a K-Rend Base Coat, 6-8mm thick to line and level. Do not overwork.

Final Coat BRICK FACE COAT
After the mortar coat has started to stiffen, the face layer is applied 4-6mm thick. It can also be shaded and subsequently textured. The brick face coat must not be applied if the mortar coat has been allowed to dry or set.

Base coat 8-10mm
Mortar coat 8-10mm
Brick coat 4-6mm

SHADING & TEXTURING

To achieve the desired shading effect: Apply Brick Rend in powder form to freshly applied face layer in contrasting or blending shade and immediately texture the surface, or after marking out, apply penetrating coloured acrylic, using foam roller. To achieve a textured surface finish, use the appropriate tool: stiff brush, comb, sponge, spatula or other implement as required, but do not over trowel, polish surface or apply water during set. The skill of the operator will determine the finish.

CUTTING AND MARKING OUT

After the brick coat has been shaded and textured, and, following initial stiffening of the applied materials, the face layer is cut through and the mortar layer cut into, using the appropriate cutting tool. This reproduces recessed mortar coursing of the brickwork or stonework; spirit levels, templates and straight edges should be used for guidance. Experience will dictate the best time for the operation to take place; too soon and the spirit levels and other guides will mark and spoil the surface or the cutter will rag and tear the material; too late and it becomes difficult and then impossible to cut. At the correct time a clean cut is easily achieved. Following further stiffening of the materials lightly brush with a soft bristled brush to remove any face materials left by the cutting out process, taking care not to bruise surface skin of face coat.

SPRAY APPLICATION

Silicone Spray, Spray Rend, Overcoating Silicone Dash, Silicone Spray Dash, Silicone Tyrolean, UF Base, UF Fibre Base, HP12, HPX Base

These K Rend products are specifically designed to be spray applied, advice should be sought from Kilwaughter Chemical Co. Ltd. to ensure that the correct grade is used for specific machines. Spray Rend may be applied by projection machine (Putzmeister, Mixijet, M-Tec, Utiform, PFT or other suitable machine). Minimum pressure 11 BAR. Mix thoroughly to ensure the breakdown of resins. Open time approx. one hour. Use polythene sheeting to protect doors, windows and other features from any over-spraying during application.

ONE COAT APPLICATION FOR 16-20mm
Silicone Spray, Spray Rend

First Pass
Using a 12mm or 14mm diameter mortar nozzle, spray Spray Rend directly on to the prepared wall surface to the required thickness of 6-8mm. Level out immediately, using a straight edge, smoothing trowel or float. Allow the first pass to stiffen slightly before applying the second pass. The time between passes being shorter in warm dry conditions, and much longer in wet or cold conditions.

Second pass
Use 8mm or 14mm diameter spray nozzle according to the finish required. The normal recommended finished thickness of most finishes is between 12-14mm. Following application a scraped, textured finish is then applied to the render.

OTHER INFORMATION

The information contained herein is based on our current experience and knowledge, and does not act as a guarantee.

All K Rend Products are ISO 9001 approved. The BS5262 Code of Practice for External Renderings must be followed at all times. A technical advisory service is available on request.

MATERIAL SAFETY DATA SHEET COSHH

(Control of Substances Hazardous to Health)

IDENTIFICATION OF SUBSTANCE / MANUFACTURER

K REND SUBSTANCES
Scraped Texture, Dash Receiver, Roughcast, Brick Rend, Base Coat

MANUFACTURING COMPANY
Kilwaughter Chemical Co Limited,
9 Starbog Road, LARNE, Co Antrim, N Ireland, BT40 2TJ
Tel: 028 2826 0766 Fax: 2826 0136 www.k-rend.co.uk

COMPOSITION / INFORMATION ON INGREDIENTS
A blend of sand, cement, lime and admixtures. The main hazardous ingredients are Calcium Hydroxide, Calcium Silicates and Alkalis. When mixed with water, the resulting wet mortar is abrasive and alkaline.

HAZARDS IDENTIFICATION
Inhalation of powder and contact between powder and skin or eyes may cause irritation. Contact between powder and body fluids (e.g. sweat and eye fluids) may also cause irritation, dermatitis or burns. Contact with wet cement or wet render may cause skin irritation, dermatitis or burns. There is a risk of serious damage to eyes.

FIRST AID MEASURES

EYE CONTACT
Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.

SKIN CONTACT
Wash the affected area thoroughly with soap and water. If irritation persists, seek medical advice. Remove contaminated clothing and wash thoroughly before use.

INGESTION
Do not induce vomiting. Wash mouth out with water and give patient plenty of water to drink. If irritation persists, seek medical advice.

INHALATION
If irritation occurs, remove patient to fresh air. If irritation persists, seek medical advice.

FIRE FIGHTING MEASURES

The product is not flammable and will not burn.

ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION
See below.

METHOD FOR CLEARING UP
If material is in powder state, sweep up avoiding the generation of dust. If material is a paste, scrape up. Avoid contamination of watercourses and drains.

STORAGE AND HANDLING

STORAGE
Keep in a safe, dry area.

HANDLING
When opening and mixing, avoid the formation of dust.
Wear protective clothing as outlined.

EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE STANDARD
OES 8 Hr TWA (Time Weighted Average)
10mg per cubic metre inhalable dust;
5mg per cubic metre respirable dust.

ENGINEERING MEASURES
Where reasonably practicable, control dust exposure by engineering means.

PERSONAL PROTECTIVE EQUIPMENT
Wear suitable protective clothing to avoid contact with skin. A dust mask and dust-proof goggles should be worn wherever there is a possibility of dust being generated. Protective goggles should be worn when spraying and scraping.

PHYSICAL / CHEMICAL PROPERTIES

Physical State:	Powder blend
Mean Particle Size:	5 micron to 2mm
Odour:	N/A
PH:	12 - 14 when wet
Viscosity:	N/A
Freezing Point:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A (Not flammable)
Explosives Properties:	N/A (Not explosive)
Density:	1,200-1,800kg/m3
Solubility:	Partially soluble in water

STABILITY AND REACTIVITY

Chemical Instability:	N/A
Hazardous Decomposition Products:	N/A

TOXICOLOGICAL INFORMATION

SHORT-TERM EFFECTS

EYE CONTACT
Cement is a severe eye irritant, and mild exposures can lead to soreness. Untreated exposure and larger exposure can lead to chemical burning and ulceration.

SKIN CONTACT
Cement powder and wet paste can cause irritation, contact dermatitis, allergic dermatitis (Chromium) and / or cause burns.

INGESTION
Small amounts are unlikely to cause any significant reaction. Larger dosages may result in irritation of the gastro-intestinal tract.

INHALATION
Cement powder may cause inflammation of the mucous membrane.

CHRONIC EFFECTS
Repeated high exposures above the OES have been linked to rhinitis and coughing. Skin exposure, particularly to the wet paste, has been linked to allergies (Chromium) dermatitis.

CALCIUM HYDROXIDE TOXICITY DATA
Eye - rbt 10mg SEV; cyt - rat/ast 1200mg/kg
Orl - rat LD50:7340mg/kg; orl - mus LD50 : 7300mg/kg

ECOLOGICAL INFORMATION

EQUATIC TOXICITY
LC50 not determined.
For Calcium Hydroxide: Toxicity Level – 92ppm / 7Hour / Trout / Fresh Water. The addition of cement to water will result in a rise of pH and may, therefore, be toxic to aquatic life.

BIOLOGICAL OXYGEN DEMAND
BOD not applicable.

DISPOSAL CONSIDERATIONS
Dispose of empty sacks or surplus cement at a site authorised to accept builders' waste.

TRANSPORT INFORMATION
Not classified as hazardous under transport regulations.

REGULATORY INFORMATION

CLASSIFICATION
Irritant

RISK PHRASES
Contact with wet cement or wet mortar may cause irritation, dermatitis or burns. Contact between powder and body fluids (e.g. sweat and eye fluids) may cause irritation, dermatitis or burns. There is a risk of serious damage to the eyes.

SAFETY PHRASES
Wear suitable protective clothing, gloves and eye/face protection. In case of contact with eyes, rinse immediately with plenty of clean water, and seek medical advice. Keep out of reach of children.

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