Product Datasheet
Technical Specification

Stonepack AGGREGATES & RENDERS

1 Description

1.1 The product is a spray- or hand-applied, polymer-modified render consisting of two components, a basecoat and a topcoat, for use on suitably prepared exterior substrates of brickwork, blockwork and concrete suited to receiving a rendered finish.

1.2 Stonepack Base Coat is used as a primary coat, prior to application of the finish coat.

1.3 Stonepack Render Top Coat is a coloured cementitious render and is available in a standard range of 13 colours, other colours being available to special order.

1.4 A 8-10mm thickness of Stonepack Render Base Coat may be taken to have a weight of between 12-15 kgm^2.

1.5 A 8-10mm thickness of Stonepack Render Top Coat may be taken to have a weight of between 12-15 kgm^2.

1.6 The components are manufactured in batchblending processes. Quality control is exercised over incoming raw materials, during the production processes and on the final products.

2 Delivery and site handling

2.1 The components are delivered in sealed 25kg bags or one tonne bag on pallets.

2.2 The components must be stored above 5°C in dry conditions, off the ground in a covered storage area protected from moisture and frost, and used in rotation.

2.3 When stored unopened, the topcoat will have a shelf-life of 12 months from the date of manufacture. The basecoat must be used within two months of the date shown on the bag to allow for the requirements of the Chromium (VI) Directive for Cement and The Control of Substances Hazardous to Health (Amended) Regulations 2004 (COSHH).

2.4 Each bag bears the manufacturer's mark, batch number and date of production.

2.5 The components are cement-based and contain mineral aggregates and other additives. They must be handled using routine precautions for Portland cement.

Design Data

3 General

3.1 Stonepack Render will improve the weather resistance of a wall and provide a new decorative finish.

3.2 The product is satisfactory for external use on backgrounds of traditional, brickwork, blockwork, and concrete substrates prepared and suited to receiving a rendered finish. It is essential that walls are designed and constructed to prevent moisture penetration and the formation of condensation.

3.3 New constructions to be rendered with the product should be designed and constructed in accordance with the relevant recommendations of BS 5628-3 : 2005 (in particular Clause 5.5 on exclusion of water), BS 5262 : 1991 and BS EN 13914-1 : 2005. The designer should select a construction appropriate to its location, paying due attention to design, detailing and workmanship (including relevant sections of BS 8000-10 : 1995) and materials to be used.

3.4 The assessment covers the area of the wall above the damp-proof course level. The product has not been assessed for use:

- on woodwool slabs
- over timber-frame construction
- over metal-frame construction
- on the backs of parapet and screen walls rendered on the face
- on horizontal surfaces exposed to the weather such as ledges, sills and copings
- as rendering to chimney stacks.

3.5 The product must not be used on superficial water-repellent substrates, on plaster or plaster paint or coatings.

4 Strength and stability

4.1 The product has adequate resistance to impact damage and cracking. Where it may be exposed to severe impact, eg some industrial sites, or applied over existing background cracks, precautions may be required to reduce the risk of damage.

4.2 In common with traditional renders, it is essential that the surface to be rendered provides a sound mechanical key to ensure a satisfactory bond between the substrate and the product.

5 Weather resistance

5.1 Walls to receive an application of the product must be designed and constructed in relation to local exposure conditions to minimise the incidence of rain penetration.

5.2 The render will tend to shed water and reduce considerably the amount of water absorbed by the substrate during rain.

5.3 The water vapour resistance of a 10mm thickness of Stonepack Top Coat is 0.58 MNsg–1.

5.4 When applied as a 15mm to 20mm finished thickness, it is suitable for external use on new or existing buildings in areas where the local wind-driven rain wall spell index is less than 75 litres m^2 per spell.

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6 Performance in relation to fire

The render is classified as non-combustible as described in the national Building Regulations.

7 Maintenance and repair

7.1 Conventional rendering techniques and materials may be used to repair damage to the products. The advice of Stonepack should be sought for particular installations.

7.2 Damage to the products should be repaired immediately and repairs should be carried out in accordance with the relevant recommendations of BS 5262 : 1991 and BS EN 13914-1 : 2005. Regular maintenance checks should be carried out on architectural details for shedding water and on external plumbing and fittings to prevent penetration of water into the rendering.

8 Durability

8.1 The product, when applied to a suitably prepared sound substrate will perform satisfactorily for a period in excess of 25 years.

8.2 The product may become discoloured with time, the rate depending on the local environment. Appearance can normally be restored by cleaning with water and a stiff brush. In industrial atmospheres light-coloured renders should be avoided.

8.3 The product has adequate colourfastness for a period in excess of 20 years but will be discoloured by water runs and care should be taken to ensure that the measures given in section 7.2 are taken.

8.4 The product may suffer from algal growth in a similar manner to traditional external rendered finishes.

8.5 In common with traditional renders the product may be subject to lime bloom. The occurrence of this may be reduced by proper protection and avoiding application in adverse weather conditions. The effect is less noticeable on white or paler colours.

Installation

9 Site survey and preliminary work

9.1 Advice to the designer or rendering contractor is available from Stonepack.

9.2 A pre-application survey of the property is carried out to determine the suitability of the substrate to receive the products and whether repairs to the building structure are necessary before application. A specification is prepared by the designer or rendering contractor for each elevation indicating:

- preliminary treatment of the background
- position of beads
- detailing around windows, doors and at eaves
- damp-proof course level
- exact position of movement joints
- areas where flexible sealants must be used
- any alterations to external plumbing.

9.3 Tests should be conducted in accordance with BS 3921 : 1985 to determine the salt content of brick substrates. Results of the tests should be reported to Stonepack to enable them to advise on the suitability of the substrate to receive the renders.

9.4 In new brickwork the mortar must conform to the brick manufacturer's recommendations.

9.5 All necessary repairs to the building structure are completed before application.

9.6 It is recommended that external plumbing be removed and, where necessary, alterations made to underground drainage to accommodate its repositioning on the finished face of the product.

9.7 On existing buildings, purpose-made over-sills may be necessary to extend beyond the finished face of the product. Sills should have an efficient throat or drip on the underside and be designed to prevent water running onto the wall below, or into the jambs. New buildings should incorporate suitably wide sills.

9.8 In common with traditional renders, new walls to be rendered should be left for as long as possible to minimise substrate movement.

9.9 At the top of walls, the products must be protected by an adequate overhang or by adequately sealed, purpose-made flashing. Stonepack can advise of suitable specifications for a particular installation.

10 Preparation of substrate

10.1 All damage to the substrate from frost attack, salts or corrosion must be carefully repaired. Damaged bricks or blocks must be replaced and any holes or insufficiently filled joints repaired. Loose and spalling render or projecting mortar joints should be removed and uneven surfaces must be levelled to minimise variations in the thickness of the product.

10.2 The relevant recommendations of BS 5262 :1991 and BS EN 13914-1 : 2005 must be followed if a satisfactory bond is to be achieved. In particular, the surface to be rendered must provide a good mechanical key and adequate suction and be free from paint, oil, soot, lichens, moulds and similar growth or anything likely to prevent a satisfactory bond.

10.3 It is essential that the substrate to be rendered is clean. This applies to new as well as old surfaces.

10.4 When the substrate consists of different materials or a material of variable suction the recommendations of BS 5262 : 1991, BS EN 13914-1 : 2005 and the manufacturer's instructions must be followed to ensure even quality and appearance of the product.

10.5 When applying the product to porous or high-suction substrates, particularly in warm weather, the surface should be wetted on the day before the rendering is applied. A further mist spray of clean water may be required prior to application of the render.

10.6 On backgrounds of negligible suction the advice of Stonepack should be sought concerning special precautions necessary to provide an adequate key.

10.7 For surfaces that are either very smooth or very irregular,the advice of Stonepack should be sought.

10.8 Wherever possible, independent scaffolding should be used to avoid the need to subsequently make-good putlog holes and other breaks in the work.

11 Mixing

11.1 The components should be mixed in a suitable mechanical mixer. Clean water should be added at a steady rate of approximately 3 to 4 litres per 20 kg bag of either Stonepack Base Coat or Stonepack Top Coat and mixing continued for at least five minutes until a uniform material, with a consistent workability is achieved.

11.2 In common with traditional renders, slumping of the material may occur if the mix is too wet, increasing the risk of settlement cracks developing.

12 Application

General

12.1 Application is carried out strictly in accordance with this document, the Stonepack instructions and specifications, and the relevant recommendations of BS 5262 : 1991 and BS EN 13914-1 : 2005. When considering the use of the product for the first time, Stonepack should be consulted.

12.2 The basecoat is applied to a thickness of approximately 7-10mm. A key is then formed by scratching, prior to application of the topcoat.

12.3 The topcoat is applied to a thickness of approximately 7-10mm, to produce an overall minimum thickness of 15mm.

12.4 The product should not be applied in rain, mist, at temperatures above 35°C or temperatures below 5°C, or if exposure to frost is likely to occur during drying. In common with traditional sand/cement renders, the product must not be applied to frostbound walls.

12.5 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 rapidly.

12.6 To minimise colour shade variations and to avoid dry line jointing, continuous surfaces should be completed without a break. If breaks cannot be avoided they should be made where services or architectural features, such as reveals or lines of doors and windows, help mask cold joints. Where long, uninterrupted runs are planned, bags of the product should be checked for batch numbers; bags with different batch numbers should be checked for colour consistency.

13 Curing

13.1 Care must be taken to protect the product from drying too rapidly due to exposure to direct sunlight or drying wind.

13.2 The product must be protected from rain, mist or cold (less than 5°C on a falling thermometer) during the early curing period, or drying may be excessively prolonged.

13.3 Polythene sheeting is recommended for curing and should be arranged to hang clear of the face of the wall in such a way that is does not form a tunnel through which the wind could increase the evaporation of water from the render. The polythene sheeting must not be in intermittent contact with the product as this will produce a patchy appearance.

13.4 On completion of the rendering the surface must be checked to ensure an even coverage, texture and consistency of colour.

Technical Investigations

The following is a summary of the technical investigations carried out on Stonepack Render.

14 Tests

Tests were carried out to determine:

- impact resistance
- flexural and compressive strength of basecoat and the topcoat
- water vapour permeability
- effect of freeze/thaw
- effect of accelerated ageing on bond strength.

15 Investigations

15.1 The manufacturing process was examined and the raw material specifications, formulations and quality control procedures were established.

15.2 A survey of known users of the product was conducted.

Bibliography

BS 3921 : 1985 Specification for clay bricks

BS 5262 : 1991 Code of practice for external renderings

BS 5628-3 : 2005 Code of practice for use of masonry — Materials and components, design and workmanship

BS 8000-10 : 1995 Workmanship on building sites — Code of practice for plastering and rendering

BS EN 13914-1 : 2005 Design, preparation and application of external rendering and internal plastering — External rendering.