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**Agrément  
 Certificate  
 No 97/3435**  
*Third issue\**

Designated by Government  
 to issue  
 European Technical  
 Approvals

**MONOPRAL MONOCOUCHE RENDER**

Enduit de surface  
 Oberflächenbeschichtung

**Product**


• THIS CERTIFICATE REPLACES CERTIFICATE Nos 88/2032 AND 90/2457 AND RELATES TO MONOPRAL MONOCOUCHE RENDER.

• The product is for use as a one-coat decorative rendering applied by trowel or machine to suitably prepared exterior and interior substrates of brickwork, blockwork and concrete suited to receiving a rendered finish.

• When applied as a 15 mm 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<sup>-2</sup> per spell; where two-coat traditional renders would normally be specified.

continued

**Regulations****1 The Building Regulations 2000 (as amended) (England and Wales)**

 The Secretary of State has agreed with the British Board of Agrément aspects of performance to be used by the BBA in assessing the compliance of wall finishes with the Building Regulations. In the opinion of the BBA, Monopral Monocouche Render, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: B2	Internal fire spread (linings)
Requirement: B4 (1)	External fire spread (walls)
Comment:	The product meets these Requirements. See sections 11.1 and 11.2 of this Certificate.
Requirement: C4	Resistance to weather and ground moisture
Comment:	Tests and site experience indicate that a wall rendered with the product will meet this Requirement provided installation is in accordance with sections 7.2, 7.3 and 9.1 of this Certificate. See also sections 7.1, 9.2 and 9.3 of this Certificate.
Requirement: Regulation 7	Materials and workmanship
Comment:	The product is an acceptable material. See section 14.1 of this Certificate.

continued

• It is essential that application of the product is carried out by experienced rendering contractors, strictly in accordance with the Certificate holder's instructions and this Certificate.

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## 2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Monopral Monocouche Render, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is an acceptable material. See section 14.1 of this Certificate.
Regulation:	12	Structural fire precautions
Standard:	D2.3	Structural protection — Non-combustible materials
Standard:	D7.1	Fire spread on internal linings — Principles
Standard:	D10.1	Fire spread on the external wall
Comment:		The product is unrestricted by these Standards. See sections 11.1 and 11.2 of this Certificate.
Regulation:	17	Resistance to moisture
Standard:	G3.1	Resistance to precipitation
Comment:		A wall rendered with the products can satisfy the requirements of this Standard provided the installation is in accordance with sections 7.2, 7.3 and 9.1 of this Certificate. See also sections 7.1, 9.2 and 9.3 of this Certificate.
Regulation:	18	Resistance to condensation
Standard:	G4.1	Interstitial condensation
Comment:		A wall rendered with the product can satisfy the requirements of this Standard. See section 10 of this Certificate.

## 3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Monopral Monocouche Render, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is an acceptable material. See section 14.1 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Tests and site experience indicate that a wall rendered with the product can satisfy this Regulation provided the installation is in accordance with sections 7.2, 7.3 and 9.1 of this Certificate. See also sections 7.1, 9.2 and 9.3 of this Certificate.
Regulation:	E3	Internal fire spread — Linings
Regulation:	E5	External fire spread
Comment:		The product is unrestricted by these Regulations. See sections 11.1 and 11.2 of this Certificate.

## 4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: 6 *Delivery and site handling* (6.1 and 6.4) and 17 *Mixing* (17.1).

## Technical Specification

### 5 Description

5.1 Monopral Monocouche Render is a self-coloured cementitious render, and is manufactured by batch blending measured quantities of Portland cement, selected sands, pigments and additives.

5.2 Quality control tests are conducted on the raw materials during the production process and on the final product.

5.3 The product can be textured to give a variety of surface finishes and is available in a range of standard colours. Other colours are available to special order.

5.4 The render thickness of 15 mm has a weight of between 22 kgm<sup>-2</sup> and 25 kgm<sup>-2</sup>.

### 6 Delivery and site handling

6.1 Monopral Monocouche Render is delivered on pallets in 25 kg sealed, moisture-resistant paper bags. Each pallet contains 40 bags and weighs in excess of 1000 kg.

6.2 The product should be stored in dry conditions, off the ground in a proper store, and be used in rotation.

6.3 Each bag bears the manufacturer's mark, a batch number and the BBA identification mark incorporating the number of this Certificate.

6.4 The product is cement based and contains additives. It must be handled using routine precautions for cementitious materials.

## Design Data

### 7 General



7.1 Monopral Monocouche Render will improve the weather resistance of a wall and provide a new decorative finish.

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

7.3 Walls to be rendered with the product should be designed and constructed in accordance with the relevant recommendations of BS 5628-3 : 2001 (in particular clause 5.5 on exclusion of water) and BS 5262 : 1991 (in particular, section 3 *Design*, clauses 18, 27 and 29 on conditions of exposure, protection afforded by architectural features and resistance to cracking). The designer should select a construction appropriate to its location, paying due attention to

design, detailing, workmanship (including relevant sections of BS 8000-10 : 1995) and materials to be used.

7.4 The assessment covers the area of the wall above dpc level. The product has not been assessed for use:

on woodwool slabs

on metal lathing

over painted brickwork and similar backgrounds

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

as rendering to Sol bricks.

7.5 The product is not suitable for application to gypsum plaster or previously decorated surfaces.

### 8 Strength and stability

8.1 Monopral Monocouche Render has a compressive strength similar to a traditional designation III render as specified in BS 5262 : 1991, and has adequate resistance to impact and abrasion for use in all normal situations. Where the product may be exposed to severe impact (eg some industrial sites), or is to be applied over existing cracks in the background, precautions may be required to reduce the risk of damage.

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

### 9 Weather resistance



9.1 Walls to receive an application of Monopral Monocouche Render must be designed and constructed in relation to local exposure conditions to minimise the incidence of rain penetration.

9.2 When applied as described in section 18.6 the product is suitable for use in areas where the local wind-driven rain wall spell index calculated according to BS 8104 : 1992 is less than 75 litres m<sup>-2</sup> per spell. This category of exposure is classified as severe according to Table 11 of BS 5628-3 : 2001.

9.3 The product tends to shed water and considerably reduces the amount of water that can be absorbed by the substrate during rain.

### 10 Water vapour resistance



The water vapour permeance of a 20.7 mm thickness of Monopral Monocouche Render was measured at 0.54 g (MNs)<sup>-1</sup>.

## 11 Performance in relation to fire



11.1 When tested in accordance with BS 476-6 : 1968 and BS 476-7 : 1971 Monopral Monocouche Render achieved a fire propagation index (I) of 1.5, a sub-index ( $i_1$ ) of 1.24 and a Class 1 surface.

11.2 The product has a Class 0 or low risk surface as defined in the national Building Regulations:

### *England and Wales*

Approved Document B, Appendix A, paragraph 12

### *Scotland*

Technical Standards, Part D, Table 3 to (D1.3)

### *Northern Ireland*

Technical Booklet E, section 2.4.

## 12 Thermal conductivity

Monopral Monocouche Render may be taken to have a  $\lambda$  value (thermal conductivity) of  $0.48 \text{ Wm}^{-1}\text{K}^{-1}$ .

## 13 Maintenance and repair

13.1 Damage to the product should be repaired immediately using Monopral Monocouche Render materials. Repairs should be carried out in accordance with the relevant recommendations of BS 5262 : 1991.

13.2 Regular maintenance checks should be carried out to ensure that architectural details for shedding water clear of the building are present and functioning. External plumbing, fittings, gutters and downpipes should be in good condition to lessen the extent of penetration of water into the render.

## 14 Durability



14.1 Monopral Monocouche Render applied to a suitable sound substrate and under moderate conditions of exposure and use, will perform satisfactorily for a period in excess of 20 years.

14.2 The product is less susceptible to crazing and cracking than traditional render mixes.

14.3 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.

14.4 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 13.2 are taken.

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

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

## Installation

### 15 Site survey and preliminary work

15.1 Advice concerning site survey and preliminary work is available to the designer or rendering contractor from the Certificate holder on request.

15.2 A pre-application survey of the property must be carried out to determine its suitability to receive Monopral Monocouche Render and whether repairs to the building structure are necessary before application. A specification must also be prepared by the designer for each elevation indicating:

- preliminary treatment of the background
- the 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.

15.3 Tests should be conducted in accordance with BS 3921 : 1985 to determine the salt content of the substrate. The results of the tests should be reported to the Certificate holder to enable advice on the suitability of the substrate to receive the product.

15.4 The mortar in new brickwork must conform to the brick manufacturer's recommendations.

15.5 All necessary repairs to existing buildings are completed before application.

15.6 It is recommended that external plumbing to existing buildings be removed and where necessary alterations made to underground drainage to accommodate its repositioning on the finished face of the render.

15.7 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.

15.8 In common with traditional renders, new walls to be rendered should be left as long as

possible to dry out and to minimise substrate movement.

15.9 At the top of walls the product must be protected by an adequate overhang or by adequately sealed purpose-made flashing.

## 16 Preparation of substrate

16.1 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 using a suitable mortar. Old rendering or projecting mortar joints should be removed and uneven surfaces must be levelled to minimise variations in the thickness of the product.

16.2 The relevant recommendations of BS 5262 : 1991 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, efflorescence, dust, lichens, moulds and similar growth or anything else likely to prevent a satisfactory bond.

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

16.4 Additives incorporated into Monopral Monocouche Render make it less susceptible to variations in background suction. However, conventional good rendering practice as set out in this section should be followed. The substrate should be checked for suction by spraying the surface with clean water. If water is not absorbed it will be impossible to obtain a good bond and the application should not commence until the surface has dried out. If, however, the water is absorbed readily by the substrate the background may be too absorbent and some wetting will be necessary to prevent water, required for the hydration and workability of the product, being readily extracted. In most circumstances the suction can be controlled by spraying, but not soaking, the substrate with several applications of water.

16.5 When the substrate consists of different materials or a material of variable suction the recommendations of BS 5262 : 1991 must be followed to ensure even quality and appearance of the render.

16.6 On backgrounds of negligible suction (eg dense smooth concrete, or stone) the advice of the Certificate holder should be sought concerning special procedures necessary to provide an adequate key.

16.7 A stipple coat should be applied to backgrounds of common bricks and bricks to BS 3921 : 1985, prior to the application of the product. Advice on suitable materials should be sought from the Certificate holder.

16.8 Wherever possible, independent scaffolding should be used to avoid the subsequent making-good of putlog holes and other breaks in the work.

## 17 Mixing

17.1 Monopral Monocouche Render should be mixed with clean water at a rate of 4 to 4.5 litres or 5 to 6 litres of water per 25 kg bag, as stated on the side of the bag, using a batch mixing machine as approved by the Certificate holder.

17.2 The exact amount of water required will depend upon such factors as the prevailing weather conditions, degree of suction of the substrate, workability of the mix and operating limits of the projection machine (if used).

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

## 18 Application

### General

18.1 Application is carried out strictly in accordance with this Certificate, the Certificate holder's instructions and specifications, and the relevant recommendations of BS 5262 : 1991. When considering the use of the product for the first time, the Certificate holder should be consulted.

18.2 The product should not be applied in rain, mist or temperatures below 5°C, or if exposure to frost is likely to occur during drying.

18.3 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.

18.4 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.

18.5 The thickness of the finished coating, whether scraped or with a raised texture, should not be less than 15 mm or more than 25 mm. Scraped finishes will require the application of 2 mm to 3 mm more than the specified thickness to allow for the scraping process.

### Traditional application

18.6 Monopral Monocouche Render is applied by traditional methods in a one-coat operation to a minimum finished thickness of 15 mm.

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18.7 On low-suction surfaces a first pass of just over half the specified thickness, followed by a second pass when the first pass has 'picked up' but not set, may be necessary.

18.8 The product must be allowed to harden for between 5 and 16 hours, depending on the ambient temperature. The surface is then scraped using a suitable tool.

18.9 No areas, however small, should be left unscraped, otherwise variations will occur in both shade and texture. Scraping should be sufficient to remove the surface skin of mortar to expose the larger particles of aggregate. After scraping, the surface should be gently brushed to remove dust.

## Spray application

18.10 The spray gun must be held at 90° and at a distance of between 75 mm and 100 mm from the work surface so that ribbons of the material are reasonably flat to facilitate ruling.

18.11 For a raised textured finish the first pass is applied to a minimum thickness of 10 mm and ruled level.

18.12 It is essential that each pass of the product is applied using adequate pressure, to exclude air and ensure a satisfactory bond.

18.13 The required texture can be achieved by fitting a suitable spray cap and adjusting the air supply to the gun.

18.14 A second pass of the product is applied between 1 hour and 16 hours after the first by a swirling action of the gun and at a distance of approximately 600 mm to 900 mm from the work surface. To ensure an even textured appearance the gun should be held at 90° to the work surface.

18.15 When a scraped finish is desired the product is applied (see section 18.10) and ruled level to a uniform finished thickness of 28 mm. When sufficiently hard, generally between 5 hours and 16 hours after application, the surface is scraped using a suitable tool (see section 18.9), to a maximum uniform thickness of 25 mm.

## Curing

18.16 Care must be taken to protect the product from drying too rapidly due to exposure to direct sunlight or drying wind. In these conditions the applied render should be damped down or gently sprayed with water occasionally during the first three days after application to ensure complete hydration of the cement.

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

18.18 Polythene sheeting is recommended for curing and should be arranged to hang clear of the face of the wall in such a way that it 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.

18.19 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 Monopral Monocouche Render.

### 19 Tests

19.1 Tests were carried out to determine:

- flexural and compressive strength of mortars
- effect of accelerated ageing on bond strength
- coefficient of linear thermal expansion
- expansion on wetting
- water absorption
- initial surface absorption
- water vapour permeability
- resistance to hard body impact.

19.2 An examination was made of test data, from independent laboratories relating to:

- fire propagation
- surface spread of flame
- bond strength to Fletton and Capel bricks
- water absorption through the product into brickwork and water absorption directly into bricks
- examination of bond between brick and the product by thin-section microscopy.

### 20 Other investigations

20.1 Visits were made to sites in progress to assess the practicability of installation and the effectiveness of detailing techniques.

20.2 Visits were made to the earliest existing installation of Monopral Monocouche Render, then approximately two years old, subjected to natural exposure to assess early age performance of the product.

20.3 Visits were made to see existing sites where a product of similar composition had been installed and subjected to four years' natural exposure.

## Additional Information

The management systems of weber sbd (Flitwick) have been assessed and registered as meeting the requirements of BS EN ISO 9002 : 1994 by BSI (registration No FM 01209) and weber sbd (Ballyclare) as meeting the requirements of BS EN ISO 9001 : 1994 by National Quality Assurance (Certificate No 0559).

## Bibliography

BS 476-6 : 1968 *Fire tests on building materials and structures — Method of test for fire propagation for products*

BS 476-7 : 1971 *Fire tests on building materials and structures — Surface spread of flame tests for materials*

BS 3921 : 1985 *Specification for clay bricks*

BS 5262 : 1991 *Code of practice for external renderings*

BS 5628-3 : 2001 *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 8104 : 1992 *Code of practice for assessing exposure of walls to wind-driven rain*

BS EN ISO 9001 : 1994 *Quality systems. Model for quality assurance in design, development, production, installation and servicing*

BS EN ISO 9002 : 1994 *Quality systems — Model for quality assurance in production, installation and servicing*

### 21 Conditions

21.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

21.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

21.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked by the BBA or its agents; and

(c) are reviewed by the BBA as and when it considers appropriate.

21.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

21.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Monopral Monocouche Render is fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

Certificate No 97/3435 is accordingly awarded to weber sbd.

On behalf of the British Board of Agrément

Date of Third issue: 5th September 2002

Chief Executive

*\*Original Certificate issued 17th December 1997 (the Second issue was not published). This amended version includes change of product name, change of Certificate holder's name and address, reference to revised national Building Regulations and Standards, and new Conditions of Certification.*