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Agrément Certificate

05/4268

Product Sheet 1

MONOCOUCHE RENDERS

WEBER.PRAL M

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to weber.pral M, a one-coat render for application to suitably prepared exterior substrates of cement render, brickwork, blockwork and concrete.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigation
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Strength and stability — the product has adequate resistance to impact damage and cracking (see section 5).

Weather resistance — the product is suitable for external use on new or existing buildings in areas where the local wind-driven rain spell index is less than 75 litres per m² per spell (see section 6).

Performance in relation to fire — the product is classified as 'non-combustible' as defined in the national Building Regulations (see section 7).

Durability — the render applied to a suitably prepared sound substrate will perform satisfactorily for a period in excess of 25 years (see section 11).

The BBA has awarded this Agrément Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Simon Wroe
Head of Approvals — Materials

Greg Cooper
Chief Executive

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The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, weber.pral M, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



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

Requirement:	B4(1)	External fire spread
Comment:		The product meets this Requirement. See section 7 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		Tests indicate that walls rendered with the product will meet this Requirement. See section 6.1 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> section of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction meeting this Regulation. See sections 10, 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	2.6	Spread to neighbouring buildings
Standard:	2.7	Spread on external wall
Comment:		The product is 'non-combustible' and is therefore unrestricted by these Standards, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ , 2.6.6 ⁽²⁾ and 2.7.1 ⁽¹⁾⁽²⁾ , respectively. See section 7 of this Certificate.
Standard:	3.10	Precipitation
Comment:		A wall rendered with the product can satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.2 ⁽¹⁾⁽²⁾ , 3.10.3 ⁽¹⁾⁽²⁾ and 3.10.5 ⁽¹⁾⁽²⁾ , respectively. See section 6.1 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for the product under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product is acceptable. See section 10 of this Certificate.
Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		Tests indicate that walls rendered with the product can satisfy this Regulation. See section 6.1 of this Certificate.
Regulation:	E5(a)	External fire spread
Comment:		The product is unrestricted by this Regulation. See section 7 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligation under these Regulations.

See section: 2 *Delivery and site handling* (2.1 and 2.5).

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of weber.pral M, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, weber.pral M, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, Sub-section *External walls – render/curtain walling/cladding*.

Technical Specification

1 Description

1.1 weber.pral M is a one-coat, self-coloured cementitious render containing white cement, mineral aggregates, pigments and additives.

1.2 The product is available with a scraped finish in a range of 36 colours.

1.3 A 15 mm thick application of the product may be taken to have a weight per unit area of between 22 kgm⁻² and 25 kgm⁻².

1.4 weber.rend aid is a polymer-modified cement and sand mix, to be mixed with water and applied on low-absorption substrates to improve adhesion.

1.5 The products are manufactured in a batch blending process. 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 product is delivered on pallets in 25 kg sealed, moisture-resistant sacks. Each pallet holds 40 sacks and weighs 1000 kg.

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

2.3 Each sack bears the manufacturer's mark, batch number, mixing instruction and the BBA logo bearing the number of this Certificate.

2.4 When stored unopened, the product will have a shelf-life of 12 months from the date of manufacture.

2.5 The product is cement-based and contains mineral aggregates, pigments and other additives. They must be handled using routine precautions for Portland cement.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on weber.pral M.

Design Considerations

3 Use

3.1 weber.pral M is satisfactory for external use as a one-coat render on new or existing buildings, on suitably prepared and suited backgrounds of traditional sand/cement render, brickwork, blockwork, and concrete substrates.

3.2 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) and BS EN 13914-1 : 2005. The designer should select a construction appropriate to its location, paying due attention to design, detailing and workmanship, in accordance with BS 8000-10 : 1995, and the materials to be used.

3.3 It is essential that all walls are designed and constructed to prevent moisture penetration and the formation of condensation.

3.4 The assessment and this Certificate only include applications to walls above the damp-proof course level. The products have 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.

3.5 The product will provide a new decorative finish and improve the weather resistance of a wall.

4 Practicability of installation

The product is designed to be installed by competent experienced plasterers and renderers.

5 Strength and stability

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

5.2 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.

6 Weather resistance



6.1 The product is suitable for use in areas where the local wind-driven rain spell index is less than 75 litres per m² per spell; and where two-coat traditional renders would normally be specified.

6.2 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.

6.3 The product will tend to shed water and reduce considerably the amount of water absorbed by the substrate during periods of rain.

7 Performance in relation to fire



The renders are classified as 'non-combustible' as described in the national Building Regulations:

England and Wales — Approved Document B, Table A6

Scotland — Table to Annex 2C⁽¹⁾ and 2E⁽²⁾ of Regulation 9

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet E, Paragraph 6.4.

8 Water vapour resistance

The water vapour resistance of a 20.7 mm thickness of the product is 1.85 MNsg⁻¹.

9 Thermal conductivity

The product may be taken to have a λ value (thermal conductivity) of 0.48 Wm⁻¹K⁻¹.

10 Maintenance



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.

11 Durability



11.1 The product applied to a suitably prepared sound substrate will perform satisfactorily as a render for a period in excess of 25 years.

11.2 The product has adequate colourfastness for a period in excess of 20 years but it will be discoloured by water runs. This can be minimised by undertaking the measures given in section 13.7.

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

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

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

Installation

12 General

12.1 Application of weber.pral M should be carried out strictly in accordance with the Certificate holder's instructions and specifications, and the relevant recommendations of BS EN 13914-1 : 2005. The Certificate holder should be consulted for details of suitable contractors.

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

12.3 In sunny weather, work should commence on the shady side of the building, following the sun round to prevent the rendering drying out too rapidly.

12.4 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 from the same batch should be used. Sacks with different batch numbers should be checked for colour consistency.

13 Site survey and preliminary work

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

13.2 A pre-application survey of the property must be carried out to determine the suitability of the substrate to receive the product 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
- detailing around windows, doors and at eaves
- exact position of movement joints
- any alterations to external plumbing.
- position of beads
- damp-proof course level
- areas where flexible sealants must be used

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

13.4 The mortar in new masonry must conform to the Certificate holder's specification.

13.5 All necessary repairs to the building structure must be completed before application of the render.

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

13.7 On existing buildings, purpose-made over-sills may be necessary to extend beyond the finished face of the render. 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.

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

13.9 At the top of walls, the render must be protected by an adequate overhang or by an adequately sealed purpose-made flashing. The Certificate holder can advise on suitable specifications for a particular installation.

14 Procedure

Preparation of substrate

14.1 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. Loose and spalling render or projecting mortar joints must be removed and uneven surfaces levelled to minimise variations in the thickness of the product.

14.2 The relevant recommendations of BS EN 13914-1 : 2005 must be followed to achieve a satisfactory bond. In particular, the surface to be rendered must provide a good mechanical key, have adequate suction and be free from paint, oil, soot, efflorescence, dust, lichens, moulds and similar growth which may prevent a satisfactory bond.

14.3 It is essential that new and existing substrates to be rendered are clean.

14.4 The render must not be used on water-repellent substrates, on plaster or plaster paint or coatings.

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

14.6 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.

14.7 On backgrounds of negligible suction, weber.rend aid must be used. The advice of the Certificate holder should be sought concerning special precautions necessary to provide an adequate key.

14.8 For very smooth or very irregular surfaces, the advice of the Certificate holder should be sought.

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

14.10 Angles may be formed using PVC beads, or using timber battens. The Certificate holder can advise on suitable materials.

15 Mixing

15.1 weber.pral M powder is mixed with clean water in accordance with the Certificate holder's instructions given on the side of the bag. The mixture is prepared mechanically in either a tumble mixer, with a drill and paddle, or a suitable render spray machine. The mixing should take between 5 and 10 minutes until a homogeneous mass is obtained.

15.2 Once the product has been mixed, additional water should not be added. The product may be remixed to regain a workable consistency.

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

16 Application

16.1 Application may be carried out either mechanically by spray application, or manually using a trowel or float. Advice should be sought from the Certificate holder regarding suitable equipment and water/render ratio's for mechanical spray application.

16.2 The thickness of the finished coating, whether scraped or with a raised texture, should not be less than 15 mm at its lowest point 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 material lost in the scraping process.

Traditional application

16.3 The product can be applied by traditional methods in a one-coat operation to a minimum finished thickness of 15 mm.

16.4 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.

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

16.6 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

16.7 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.

16.8 For a roughcast finish the first pass is applied to a minimum thickness of 10 mm and ruled level.

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

16.10 A second pass of the product is applied after one hour to two hours using a swirling action of the gun 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.

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

16.12 If a scraped finish is desired, the product is applied and ruled level to a uniform finished thickness. When sufficiently hard, generally between 5 hours and 16 hours after application, the surface is scraped using a suitable tool, to a maximum uniform thickness of 25 mm.

17 Curing

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

17.2 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.

17.3 Care must be taken to protect the render 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 Finishing

18.1 On completion of the rendering, the surface must be checked to ensure an even coverage of render.

18.2 Other finishes may be produced. Advice on how to achieve these should be sought from the Certificate holder.

19 Repair

Damage to the product should be repaired immediately in accordance with the relevant recommendations of BS EN 13914-1 : 2005. Conventional rendering techniques and materials may be used to repair damage to the product. The advice of the Certificate holder should be sought for particular installations.

Technical Investigations

20 Tests

20.1 Tests were carried out as part of the assessment resulting in the issue of the original Certificate 97/3435 and re-examined as part of the issue of this Certificate to determine:

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

20.2 A re-examination was made of test data, from independent laboratories relating to:

- fire propagation
- 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
- surface spread of flame

21 Investigations

21.1 A re-examination was made of visits to sites in progress to assess the practicability of installation and the effectiveness of detailing techniques.

21.2 A re-examination was made of visits to the earliest existing installation of weber.pral M, then approximately two years old, subjected to natural exposure to assess early age performance of the product.

21.3 A re-examination was made of visits to existing sites where a product of similar composition had been installed and subjected to four years' natural exposure.

21.4 A postal user survey was carried out to confirm the performance of the product in service.

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

Bibliography

BS 3921 : 1985 *Specification for clay bricks*

BS 5628-1 : 2005 *Code of practice for the use of masonry — Structural use of unreinforced masonry*

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*

22 Conditions

22.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

22.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

22.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

22.4 In granting this Certificate, the BBA is not responsible for:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

22.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does 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; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any 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 manufacture, supply, installation, use and maintenance of this product/system.