



Alumasc Exterior Building Products Ltd

White House Works
 Bold Road, Sutton
 St Helens
 Merseyside WA9 4JG
 Tel: 01744 648400 Fax: 01744 648401
 e-mail: info@alumasc-exteriors.co.uk



**Agrément
 Certificate
 No 93/2920**
 Second issue*

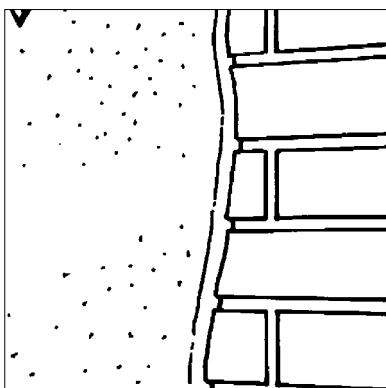
Designated by Government
 to issue
 European Technical
 Approvals

MRS 5 POLYMER CEMENT SPAR-DASH RENDER FINISH

Enduit de surface
 Oberflächenbeschichtung


Product

- THIS CERTIFICATE REPLACES CERTIFICATE No 90/2443 AND RELATES TO MRS 5 POLYMER CEMENT SPAR-DASH RENDER FINISH.
- The product is also available as a smooth render finish.
- The product is for use as a one coat lightweight decorative render in a spar-dash finish, or in two coats as a protective render, with either a smooth or spar-dash finish.
- It is applied by trowel or projection spray machine to suitably prepared exterior substrates of cement render, brickwork, blockwork or concrete suited to receive a rendered finish.
- MRS renders are made to a formulation that does not contain asbestos.
- 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.




Regulations

1 The Building Regulations 2000 (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the 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, MRS 5 Polymer Cement Spar-Dash Render Finish, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement:	B4(1)	External fire spread (walls)
Comment:		The product meets the Requirement. 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 the Requirement provided installation is in accordance with sections 7.2, 7.3 and 9.1 of this Certificate. See also section 7.1 and 9.2 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is an acceptable material. See section 13.1 of this Certificate.

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

 In the opinion of the BBA, MRS 5 Polymer Cement Spar-Dash Render Finish, 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
Standard:	B2.1	Selection and use of materials and components
Comment:		The product is an acceptable material. See section 13.1 of this Certificate.
Regulation:	12	Structural fire precautions
Standard:	D2.2	Non-combustibility
Comment:		The product is unrestricted by this Standard. 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 product can satisfy the requirements of this Standard provided installation is in accordance with sections 7.2, 7.3 and 9.1 of this Certificate. See also sections 7.1 and 9.2 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.

Electronic Copy

3 The Building Regulations (Northern Ireland) 1994 (as amended)



In the opinion of the BBA, MRS 5 Polymer Cement Spar-Dash Render Finish, 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 13.1 of this Certificate.
Regulation:	C5	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 9.3 of this Certificate. See also sections 7.1 and 9.2 of this Certificate.
Regulation:	E8	External fire spread
Comment:		The product is unrestricted by this Regulation. See sections 11.1 and 11.2 of this Certificate.

4 Construction (Design and Management) Regulations 1994

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

See section: *6 Delivery and site handling (6.1, 6.4 and 6.6 to 6.9).*

Technical Specification

5 Description

5.1 MRS 5 Polymer Cement Spar-Dash Render Finish is manufactured in a batch process by blending measured quantities of polymer resin, crushed rock aggregates, Portland cement, lightweight fillers, synthetic fibres, pigments and moisture retention admixtures.

5.2 MRS 3 and MRS 5F, which are dubbing and basecoat renders, are manufactured as described in section 5.1 using the same raw materials.

5.3 Quality control checks are conducted on the raw materials for colour and sieve analysis and on the final product for colour, consistency, bulk density, water retention and setting time.

5.4 MRS 5 is available in a smooth or spar-dash finish in colours of white, extra-white, cream, pink, salmon, peach, yellow, red, green, Scotland brown, and grey. Other colours, available to order, are not specifically covered by this Certificate.

5.5 The render, at a thickness of 8 mm to 10 mm, may be taken to have a weight of between 10.5 kgm^{-2} and 13.5 kgm^{-2} .

5.6 Ancillary materials also used are:

Alumasc MR fungicidal wash

Alumasc MR acrylic stabilising solution/bonding agent

MRS 6 Masonry Paint (refer to the current Agrément Certificate)

Alumasc polyester powder-coated galvanized steel bellcast beads, external corner beads, stop beads and expansion beads

Alumasc stainless steel beads and trims

Alumasc silicone sealant

Alumasc decorative coloured spar aggregate.

6 Delivery and site handling

6.1 MRS polymer cement renders and spar aggregate are supplied in sealed 25 kg or 40 kg bags in one tonne lots and are delivered to site on pallets.

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

6.3 MRS polymer cement renders are cementitious materials and must be stored in dry conditions, off the ground and in a proper store and protected from frost. To avoid 'warehouse set' caused by compaction, the height of bags stacked on a pallet should not exceed 1 metre and pallets should not

Electronic Copy

be stacked more than four high. They should be used in the order in which they are received and each delivery should be kept separate to avoid confusion. Unopened bags may be stored for up to 12 months.

6.4 Alumasc MR acrylic stabilising solution/bonding agent is supplied in labelled 5 litre and 25 litre plastic containers.

6.5 Alumasc polyester powder-coated galvanized steel and stainless steel components must be stored in such a manner as to avoid damage or distortion. Damaged components must be replaced.

Health and Safety

6.6 When handling the products on site, the normal health and safety procedures associated with cementitious materials should be observed at all times.

6.7 The fibres used in MRS renders may irritate the skin.

6.8 When mixing MRS renders a filter respirator should be worn.

6.9 Alumasc MR fungicidal wash is supplied in labelled 5 litre and 25 litre plastic containers. The product is approved for this use under the Control of Pesticides Regulations 1986 (HSE No 7195).

Design Data

7 General



7.1 MRS 5 Polymer Cement Spar-Dash Render Finish will provide a new decorative finish and improve the weather resistance of a wall.

7.2 The product is satisfactory for external use over traditional sand-cement render (see sections 15.1 and 17.9), brickwork, blockwork or concrete substrates prepared and suited to receive a rendered finish.

7.3 Walls to be rendered with the product, whether subject to the national Building Regulations or not, should be designed and constructed in accordance with the relevant recommendations of BS 5628-3 : 1985 (in particular, section 3 *Design*, clause 21 on exclusion of moisture) and BS 5262 : 1991 (in particular, Section 3 *Design*, clauses 18, 27 and 29 on conditions of exposure, resistance to cracking and protection afforded by architectural features). 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 damp-proof course level. MRS 5 has not been assessed for use:

on woodwool slabs
over timber framed construction
over metal framed 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.

8 Strength and stability

8.1 MRS 5, MRS 3 and MRS 5F have compressive strengths at least equal to traditional render Designations of II, I and I, respectively, as defined in BS 5262 : 1991. They have adequate resistance to impact damage and cracking. Where the products may be exposed to severe impact, eg some industrial sites, or applied over existing cracks in the background, precautions may be required to reduce the risk of damage.

8.2 Tests indicate that MRS renders have greater bond strength than traditional sand-cement renders of similar compressive strength, and will therefore have increased resistance to detachment when applied to suitably prepared substrates.

8.3 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.

9 Weather resistance



9.1 Walls to receive an application of MRS 5 render must be designed and constructed in relation to local exposure conditions to minimise the incidence of rain penetration.

9.2 MRS 5 spar-dash finish will tend to shed water and reduce considerably the amount of water absorbed by the substrate during rain.

9.3 Test data indicate that if applied in accordance with BS 5262 : 1991, increased weather protection can be obtained by the use of one coat of MRS 3 or MRS 5F together with one or two coats of MRS 5.

10 Permeability



The water vapour permeance of MRS 5 may be taken as 0.41 g (MN)^{-1} .

11 Performance in relation to fire



11.1 When tested in accordance with BS 476-6 : 1989 and BS 476-7 : 1987, MRS 5 achieved a fire propagation index (I) of 0.0, a sub-index (i_1) of 0.0 and a Class 1 surface.

11.2 MRS 5 Polymer Cement Spar-Dash Render Finish has a Class 0 surface as defined in the national Building Regulations:

England and Wales

Approved Document B, Appendix A, paragraph 12

Scotland

Technical Standards, *Provisions deemed to satisfy*, Part E, E6.1, Table 2

Northern Ireland


Technical Booklet E, section 2.4.

12 Maintenance and repair

12.1 Damage to the product should be repaired immediately using MRS render materials. Repairs should be carried out in accordance with the relevant recommendations of BS 5262 : 1991.

12.2 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.

13 Durability

 13.1 When applied to a suitable sound substrate MRS 5 Polymer Cement Spar-Dash Render Finish will perform satisfactorily for a period in excess of 30 years.

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

13.3 In wet weather, MRS 5 Polymer Cement Spar-Dash Render Finish will break up the flow of water on the surface and reduce the risk of discolouration by water runs. Maintenance should be carried out as described in section 12.2.

13.4 It may be difficult to achieve a completely uniform colour in the smooth finish due to variations in suction of the background. Where this is particularly important, MRS 6 Masonry Paint, the subject of BBA Certificate No 88/2090⁽¹⁾, should be used.

(1) Refer to the *Index of BBA approved products and other BBA publications* for validity.

13.5 The product may become discoloured with time, the rate depending on the initial colour, the degree of exposure and atmospheric pollution, and the design and detailing of the wall.

13.6 In common with traditional renders, discolouration by algae and lichens may occur in wet areas and the render may be subject to lime bloom.

13.7 The occurrence of lime bloom may be reduced by avoiding application of the render in wet weather conditions. The effect is less noticeable on lighter colours.

14 Site survey and preliminary work

14.1 Advice, concerning site surveys and preliminary work is available to the designer or rendering contractor from the Certificate holder.

14.2 A pre-application survey of the property is carried out to determine suitability of the substrate to receive MRS 3, MRS 5F or MRS 5 and whether repairs to the building structure are necessary before application. The survey should include an assessment by the Certificate holder on the suitability of the substrate. A specification is also prepared by the Certificate holder 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 and expansion joints
areas where flexible sealants must be used
any alterations to external plumbing.

14.3 Tests should be conducted in accordance with BS 3921 : 1985(1995) to determine the salt content of brick substrates. Results of the tests should be reported to the Certificate holder to enable advice on the suitability of the substrate to receive MRS renders. In new brickwork the mortar must conform to the brick manufacturer's recommendations.

14.4 All necessary repairs to the building structure are completed before application of the render.

14.5 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.

14.6 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.

14.7 New walls to be rendered should be left as long as possible to dry out and to minimise substrate movement.

14.8 At the top of walls, MRS 5 must be protected by an adequate overhang or by adequately sealed purpose-made flashing.

15 Preparation of substrate

15.1 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

Electronic Copy

be levelled to avoid variations in the thickness of the product.

15.2 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.

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

15.4 When the substrate consists of different materials or a material of variable suction then the recommendations of BS 5262 : 1991 and the Certificate holder's instructions must be followed to ensure even quality and appearance of the product.

15.5 On backgrounds of negligible suction the advice of the Certificate holder should be sought concerning special procedures necessary to provide an adequate key.

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

16 Mixing

16.1 MRS 3, MRS 5F or MRS 5 should be added to clean water, at a rate of 8 to 9 litres of water to a 40 kg bag, (5.0 to 5.6 litres to a 25 kg bag) and thoroughly mixed by tub and paddle for a minimum of five minutes until the correct workability is achieved. Care must be taken to ensure even dispersion of the resins and fibre reinforcement.

16.2 The mixed render should then be left for approximately five minutes, then re-mixed to an even consistency and applied by hand trowel as a traditional render or by using a suitable projection spray machine.

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

16.4 The product will remain workable for approximately one hour after mixing. It must not be re-gauged after it begins to set.

17 Application

17.1 Application is to be carried out strictly in accordance with this Certificate, the Certificate holder's instructions and specifications, and the relevant recommendations of BS 5262 : 1991. On-site training will be given by the Certificate

holder to rendering contractors considering the use of the product for the first time.

17.2 MRS renders should not be applied in rain or mist, at temperatures below 5°C or if exposure to frost is likely to occur during drying. In common with traditional cement-sand renders, MRS renders must not be applied to saturated or frostbound walls.

17.3 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.

17.4 Wall surface temperatures above 40°C will greatly accelerate the chemical setting of the process and if the set is too rapid full hydration may not take place.

17.5 It is recommended that one coat of Alumasc MR fungicidal wash be applied to the entire surface by roller or knapsack spray and allowed to dry. All growth should be removed by wire brushing before rendering commences.

17.6 One coat of Alumasc MR acrylic stabilising solution/bonding agent must be applied by roller or knapsack spray to the entire surface to be rendered, then allowed to dry.

17.7 A 6 mm bead of Alumasc silicone sealant should be gun-applied around window frames, door frames, eaves fascia and other details.

17.8 Bellcast beads, external corner beads, stop beads, movement beads and expansion beads are fixed as recommended by the Certificate holder.

17.9 Where areas of existing render have been hacked off, MRS 3 or MRS 5F dubbing and basecoat render should be used to dub out in line with the existing render surface.

17.10 When the existing surface to be rendered is very uneven or when joints are deeply recessed, a preliminary coat of MRS 3 or MRS 5F should be applied to part or the whole of the existing surface to achieve a level surface.

17.11 The mixed renders should be applied by trowel or projection spray machine. Application should commence from the top of the building to avoid drips and to avoid staining previously applied materials.

17.12 The drying period for the renders will depend on the ambient weather conditions; each coat must be left to harden for as long as possible in good drying conditions before application of the subsequent coat.

17.13 The MRS 3 or MRS 5F must be allowed to dry for two days before the application of MRS 5 commences.

17.14 MRS 5 should be applied in a one-coat thickness of 8 mm to 10 mm as a continuous

process to avoid dry line jointing. If breaks cannot be avoided they should be made where services or architectural features, such as drainpipes, reveals or lines of doors and windows, help mask cold joints. Where long, uninterrupted runs are planned, bags of the material should be checked for batch numbers; bags with different batch numbers should be checked for colour consistency.

17.15 A minimum of three bags of suitable washed spar aggregate should be emptied into a clean container and any excess water allowed to drain. The aggregate should be thoroughly mixed.

17.16 While the render is still soft, the aggregate is thrown or sprayed onto the surface. Where necessary the aggregate should be lightly tamped into the MRS 5 to ensure that a good bond is obtained.

17.17 On completion of the rendering, the surface must be checked to ensure an even coverage of render and spar-dash.

17.18 Care must be taken to protect MRS 5 from drying too rapidly due to exposure to direct sunlight or drying winds.

17.19 MRS 5 must be protected from rain, mist or cold conditions (less than 5°C on a falling thermometer) otherwise drying will be excessively prolonged.

17.20 The use of polythene sheeting is recommended during 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 rendering.

Technical Investigations

The following is a summary of the technical investigations carried out on MRS 5 Polymer Cement Spar-Dash Render Finish leading to the issue of the original Certificate, No 90/2443.

18 Tests

18.1 Tests were carried out to determine:
working characteristics
flexural and compressive strength of mortars
water vapour permeability
initial surface absorption
effect of accelerated ageing on bond strength.

18.2 An examination was made of data from BBA tests on MRS 7 Polymer Cement Spar-Dash Render Finish made from similar materials. MRS 7 is covered by BBA Certificate No 93/2895⁽¹⁾.

(1) Refer to the *Index of BBA approved product and other BBA publications* for validity.

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

fire propagation
surface spread of flame.

19 Other investigations

19.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

19.2 Visits were made to existing installations to assess the performance of the product.

20 Further investigations

20.1 A re-examination was made of the data and investigations on which the original Certificate, No 90/2443, was based. The conclusions drawn from the original data remain valid.

20.2 Regular factory inspections have been carried out to ensure that quality is being maintained.

20.3 A user survey of treated properties up to four years old was conducted.

20.4 The performance of the products in use continues to be satisfactory and failure has not been reported to the BBA.

Additional Information

The management systems of Alumasc Exterior Building Products Ltd have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 1994 by BSI QA (Certificate No Q6401).

Bibliography

BS 476 *Fire tests on building materials and structures*
BS 476-6 : 1989 *Method of test for fire propagation for products*

BS 476-7 : 1987 *Method for classification of the surface spread of flame of products*

BS 3921 : 1985(1995) *Specification for clay bricks*

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

BS 5628 *Code of practice for use of masonry*
BS 5628-3 : 1985 *Materials and components, design and workmanship*

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

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

Conditions of Certification

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, MRS 5 Polymer Cement Spar-Dash Render Finish is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 93/2920 is accordingly awarded to Alumasc Exterior Building Products Ltd.

On behalf of the British Board of Agrément

Date of Second issue: 16th March 2001

Chief Executive

**Original Certificate issued 29th June 1993. This amended version includes change of Certificate holder's name and telephone and facsimile numbers, revised national Building Regulations, addition of CDM Regulations, reference to Control of Pesticides Regulations and new Conditions of Certification.*

Electronic Copy

British Board of Agrément
P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

©2001

e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk



For additional information about the Certificate, tel: 01923 665300.
For information about Agrément Certificate validity and scope, tel: Hotline 01923 665400, or check the BBA website.