

Walltransform

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Agrément Certificate
08/4591
Product Sheet 1

WALLTRANSFORM PLASTER

RUBBERCRETE BACKING PLASTER

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Rubbercrete Backing Plaster for use on the internal surfaces of walls in new and existing buildings.

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 investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Strength and stability — the product adheres well to masonry surfaces and has a stable finish. It is unlikely to crack or lose adhesion unless structural movement takes place (see section 5).

Sound insulation — the product can contribute to reducing airborne sound transmission through a wall (see section 6).

Durability — the durability of the product is equivalent to traditional plastering to BS 8481 : 2006 and BS EN 13914-2 : 2005 (see section 11).

Environmental information — the source and quantity of recycled material has been verified by the BBA (see section 18).

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, Rubbercrete Backing Plaster, 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:	E1	Protection against sound from other parts of the building and adjoining buildings
Requirement:	E2(a)	Protection against sound within a dwelling-house etc
Comment:		The product can contribute to reducing airborne sound transmission through walls. See sections 6.1 to 6.3 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 10, 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	5.1	Resisting sound transmission to dwellings using appropriate constructions
Comment :		The product can contribute to reducing airborne sound transmission through walls, with reference to clauses 5.1.1 ⁽¹⁾ and 5.1.12 ⁽¹⁾ . See sections 6.1 and 6.2 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for this system 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 section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product does not normally require maintenance. See section 10 of this Certificate.
Regulation:	G2(1)(2)	Separating walls and separating floors
Regulation:	G3	Existing walls and floors which become separating walls and separating floors
Comment:		The product can contribute to reducing airborne sound transmission through walls. See sections 6.1 and 6.2 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 obligations under these Regulations.

See section: 2 *Delivery and site handling* (2.1 and 2.4).

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Rubbercrete Backing Plaster, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 8.2 *Wall and ceiling finishes*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Rubbercrete Backing Plaster, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 5 *Internal/external works, services & finishes*, Sub-section *Internal works – walls*.

General

This Certificate relates to Rubbercrete Backing Plaster for use on the internal surfaces of walls in new and existing buildings.

Technical Specification

1 Description

1.1 Rubbercrete Backing Plaster is a cement-based backing plaster, containing cement, pulverised fuel ash, recycled rubber crumb and other additives. The product is supplied as two separate components; a powder element and a rubber crumb.

1.2 The powder component is manufactured in a batch blending process. Quality control is exercised over raw materials and on the final product.

1.3 A vinyl acetate-ethylene co-polymer emulsion is used as a bonding agent.

1.4 The product is applied by hand to suitably-prepared substrates, in a single coat to a thickness of between 5 mm and 30 mm.

1.5 The product must be finished with a suitable gypsum-based finishing plaster. The Certificate holder can advise on suitable products.

2 Delivery and site handling

2.1 The product is supplied as two components sealed in a single bag with a total weight of 25 kg.

2.2 The product should be stored in dry, internal conditions on pallets. The bags should be used in rotation. Unopened bags may be stored for up to 12 months.

2.3 Each bag bears the product identification, batch number and the BBA identification mark incorporating the number of this Certificate.

2.4 The product is cement based and must be handled following the routine precautions as used for Portland cement.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Rubbercrete Backing Plaster.

Design Considerations

3 Use

3.1 Rubbercrete Backing Plaster is satisfactory for internal use over traditional sand/cement render, brickwork, blockwork and concrete substrates at a thickness of between 5 mm and 30 mm.

3.2 The product must always be finished with a suitable gypsum-based finishing plaster.

4 Practicability of installation


The product can be installed readily by experienced plasterers.

5 Strength and stability

5.1 The product adheres well to masonry surfaces and has a stable finish. It is unlikely to crack or lose adhesion unless structural movement takes place. Its flexural and compressive strengths are similar to traditional lime-based plasters.

5.2 The product has adequate resistance to impact damage.

6 Sound insulation

6.1  The product can contribute to sealing joints and air paths in sound-resisting walls. For the purpose of calculating mass contribution, the density of the installed product may be taken as 1050 kgm⁻³.

6.2 The product's contribution to reducing airborne sound transmission will depend on the overall wall design and the quality of construction. Results of tests are shown in Table 1 and Regulatory requirements in Table 2.

Table 1 Results of airborne sound insulation tests

Construction	Property	Result (dB)
(a) two leaves of 100 mm Durox Supabloc 4 (~630 kgm ⁻³) with a 75 mm cavity (without ties)	R_w	45 ⁽¹⁾
(b) as (a), but finished on receiving room side with ~17 mm Rubbercrete and ~5 mm plaster skim	R_w	48 ⁽¹⁾
(c) a 100 mm single blockwork leaf (~1400 kgm ⁻³) with 10 mm Rubbercrete and 3 mm skim plaster to both sides	$D_{n,TW} (C_i; C_{tr})$	54 (-1; -5) ⁽²⁾

(1) Tested to BS EN ISO 140-3 : 1995.

(2) Tested to BS EN ISO 140-4 : 1995.

Table 2 Requirements for airborne sound insulation

Requirement	Elements	
(England and Wales)		
$D_{n,Tw} + C_{tr}$	≥ 45	separating walls in new dwellings and flats
	≥ 43	separating walls in dwellings, flats and residential accommodation formed by a material change of use and in new residential accommodation
R_w	≥ 40	internal walls in dwellings, flats and residential accommodation whether purpose built or formed by a material change of use
(Scotland and Northern Ireland)		
$D_{n,Tw}$	≥ 53	new dwellings and flats, mean
	≥ 49	new dwellings and flats, individual



6.3 Separating walls incorporating the product are subject to pre-completion testing in England and Wales in accordance with section 1 of Approved Document E.

7 Thermal performance

7.1 Monolithic plasters can provide an inherently high resistance to heat loss by unwanted air infiltration. Care must be taken at junctions and penetrations to maintain air barrier continuity.

7.2 For the purpose of thermal transmittance (U value) calculations the thermal conductivity of the product may be taken as $0.28 \text{ Wm}^{-1}\text{K}^{-1}$.

8 Water vapour resistance

The water vapour resistance of a 10 mm thickness of the product is 0.77 MNsg^{-1} .

9 Performance in relation to fire

9.1 When tested in accordance with BS 476-6 : 1989, the product faced with 3 mm thickness of a gypsum-based plaster finish had a fire propagation index (I) of 5.8 with sub-index (i_1) of 0.0 and, when tested to BS 476-7 : 1997, has a Class 1 surface. Therefore, this material combination has a Class 0 surface or 'low risk' surface as defined in the various national Building Regulations.

9.2 This performance may not be achieved if the product is not overcoated to the specification as described in section 9.1.

9.3 The performance of other specifications should be confirmed by:

England and Wales — Test or assessment in accordance with Approved Document B, Appendix A, Clause 1

Scotland — Test to conform with the Table to Annex 2C⁽¹⁾ or 2E⁽²⁾ of Regulation 9.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

10 Maintenance



As the product is always coated with suitable gypsum-based finishing plaster (see section 1.5), maintenance is not normally required, any accidental damage is easily repaired by reapplying the product.

11 Durability



The durability of the product is equivalent to traditional plastering to BS 8481 : 2006 and BS EN 13914-2 : 2005.

Installation

12 General

12.1 It is essential that the surface receiving Rubbercrete Backing Plaster provides a sound mechanical key to ensure a satisfactory bond between substrate and the product.

12.2 A vinyl acetate-ethylene co-polymer emulsion is used as a bonding agent.

12.3 The product is applied at a thickness of between 5 mm and 30 mm using the normal procedures defined in BS 8481 : 2006 and BS EN 13914-2 : 2005 to obtain a level surface and is finished using a suitable finishing plaster.

12.4 The standard of installation should comply with BS 8000-10 : 1995.

13 Application

13.1 The product is prepared for use by mixing the two components with approximately 6 litres of water using an efficient paddle mixer or similar until a uniform consistency is achieved.

13.2 Except in cold, damp conditions, the product is sufficiently dry after 24 hours to accept the finishing coat.

14 Fixing and chasing

Normal methods for fixing and chasing can be used; the surface should be restored using a suitable finishing plaster.

15 Finishing

The product must always be finished with a suitable gypsum-based finishing plaster. The Certificate holder can advise on suitable products.

Technical Investigations

16 Tests

Tests were carried out by the BBA to determine:

- resistance to salt ingress
- water vapour permeability
- adhesive bond to substrate
- adhesive bond to finishing plaster
- compressive and flexural strength.

17 Investigations

17.1 The manufacturing process and quality control procedures were examined and details were obtained of the quality and composition of the materials used.

17.2 An examination was made of independent test reports on:

- behaviour in a fire
- sound insulation
- thermal performance — data was examined with regard to the product's thermal conductivity at a moisture content of 3% by weight.

18 Environmental information

Recycled content

18.1 The recycled content has been defined and calculated using the Waste & Resources Action Programme (WRAP), 'Rules of Thumb' Guide to the Calculation and Declaration of Recycled Content in Construction Products. See Table 3.

Table 3 Recycled content

Recycled Input Material	Input mass per tonne of product (in tonnes) ⁽¹⁾	Yield factor (%) ⁽²⁾	Recycled content (%)
Rubber crumb powder	0.538	0	53.8
Pulverised fuel ash	0.074	0	7.4
Total recycled content ⁽³⁾			61.2

(1) Input mass per tonne of recycled material is verified by the BBA as part of post-Certification auditing and calculated in accordance with BS EN ISO 14021 : 2001, Clause 7.8.4.

(2) Yield factor is an estimated allowance for any loss or gain of recycled material associated with the manufacture of the product. This factor has been supplied by the Certificate holder but does not form part of BBA post-Certification auditing.

(3) Total recycled content in final product.

18.2 The recycled input material is described as recycled crumbed rubber from pre and post-consumer sources and meets criteria A and B, and pulverised fuel ash which meets criterion A as defined in the Waste & Resources Action Programme (WRAP), 'Rules of Thumb' Guide.

Bibliography

- BS 476-6 : 1989 *Fire tests on building materials and structures — Method of test for fire propagation for products*
- BS 476-7 : 1997 *Fire tests on building materials and structures — Method of test to determine the classification of the surface spread of flame of products*
- BS 8000-10 : 1995 *Workmanship on building sites — Code of practice for plastering and rendering*
- BS 8481 : 2006 *Design, preparation and application of internal gypsum, cement, cement and lime plastering systems — Specification*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 140-3 : 1995 *Acoustics — Measurement of sound insulation in buildings and of building elements — Laboratory measurement of airborne sound insulation of building elements*
- BS EN ISO 140-4 : 1998 *Acoustics — Measurement of sound insulation in buildings and of building elements — Field measurements of airborne sound insulation between rooms*
- BS EN ISO 14021 : 2001 *Environmental labels and declarations — Self declared environmental claims (Type 2 environmental labelling)*

19 Conditions

19.1 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.

19.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

19.3 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.

19.4 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.

19.5 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.

