

**Document: 64165.56**

Collection: 106: Product Data Sheets (PDS)

Modified: 08/10/2018 16:59

Created: 21/02/2017 09:25

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Product Data Sheet PDS052: Armourcoat Acoustic Plaster System

1 Product Description

Armourcoat Acoustic Plaster System offers the appearance of a consistent smooth seamless marble plaster surface combined with exceptional sound absorption and acoustic performance.

Armourcoat have used their considerable expertise in the formulation of marble based plaster finishes to create an elegant plaster finish that appears smooth and even but still allows sound waves and energy to pass through the surface so they can be absorbed and attenuated in the layer of mineral wool beneath the surface.

The system comprises of a special mineral wool composite panel pre coated with the system Basecoat. The panels are bonded onto the substrate using Armourcoat Bondplast and then finished with a seamless layer of the Armourcoat Acoustic plaster.

Armourcoat Acoustic Plaster System can be pigmented to a wide range of colours and is suitable for application to both flat and curved surfaces.

2 Properties

- natural mineral system
- mineral wool panels with 70% post consumer recycled content
- Acoustic Basecoat made from expanded glass foam granules with 85% recycled content
- Acoustic Topcoat plaster made from 80% pre consumer crushed marble
- contains no VOCs
- factory prepared panels for immediate installation
- seamless finish with exceptional acoustic management performance
- resistant to mould and mildew
- up to 200m² without joints
- wide range of colours available
- 30 mm system 6.4 kg/m²
- 50 mm system 8.4 kg/m²

3 Health and Safety

A dust mask and gloves should always be worn when mixing or handling these system component products. A dust mask, eye protection and gloves should be worn during the installation of the panels and the sanding process. If contact occurs with any system component wash affected areas with soap and water.

4 Suitable Substrates

Armourcoat Acoustic Plaster System can be applied to a wide range of substrates which should be firm and true and will not move or crack. The most common substrate for the system is plasterboard suspended on a metal frame system. All joints should be taped with a reinforcing mesh and the joints filled flush. The Armourcoat Acoustic Plaster System can also be applied directly to a concrete or blockwork substrate.

5 Mixing Instructions

Armourcoat Acoustic panels are pre coated with the system Basecoat ready to be affixed to the substrate using Armourcoat Bondplast.

5.1 Armourcoat Bondplast

Armourcoat Bondplast is a specially formulated gypsum glue. Please refer to PDS23 for more detail on Armourcoat Bondplast. Always use a dust mask and wear gloves and eye protection when mixing Armourcoat Bondplast. Armourcoat Bondplast is packed in 25kg bags as a powder.

- empty the required amount of Armourcoat Bondplast into a 30 litre mixing tub. Add clean cold water and mix using a paddle drill to achieve a smooth, lump free consistency. The 25kg bag of Armourcoat Bondplast requires approximately 10 litres of water.
- a 25kg bag of Armourcoat Bondplast mixed with water will be sufficient to affix 15m² of Armourcoat Acoustic panels.
- once mixed Armourcoat Bondplast is useable for up to 60 minutes. Initial set is between 80-90 minutes and final set at around 120 minutes.

5.2 Panel Joint Filler

The Panel Joint Filler is a specially formulated lightweight mix of resin and expanded glass foam granules which when mixed together form a mousse like material which is pressed into the joints between panels and left to dry out.

- once mixed the Filler will be useable for 10-20 minutes after which time it will start to feel a little dry. Add a small amount of extra resin mix or water and re stir.
- do not try to work the Filler, rather just press it into the joins between panels using a trowel and quickly trowel over once to press the material in. Leave to dry fully before sanding back to a flat surface.

5.3 Armourcoat Acoustic Topcoat

Armourcoat Acoustic Topcoat is a premixed plaster. Mix the Topcoat using a plaster mixing drill immediately before use and apply to the base panels with a notched trowel. Smooth down with a stainless steel trowel. The Topcoat can also be sprayed applied and then smoothed down.

6 Application Instructions

Please refer to the **Armourcoat Acoustic - Installation Guide** for application details for the Armourcoat Acoustic Plaster System.

In the UK and certain parts of Europe Armourcoat will supply and install Armourcoat Acoustic Plaster System directly. Elsewhere in the world the system may be supplied and installed by an Armourcoat partner company. Each partner company will provide the system warranty and will be responsible for all aspects of specification and technical detailing with the specifier and contractor. Each partner company will be responsible for the supply and installation of Armourcoat Acoustic Plaster System to brand standards and to project schedule.

Armourcoat Acoustic Plaster System will not be supplied to and cannot therefore be installed by general contractors. In any doubt about the validity of any installation contractor in respect to this system, please contact Armourcoat's global head offices.

7 Test Data

7.1 Fire

7.1.1 British Fire Test

Independent tests were carried out in the UK on the *40mm Armourcoat Acoustic Plaster System, for fire spread the system in accordance with BS 476:Part 6:1989+A1 and BS 476: Part 7:1997.

BS 476: Part 6: 1989+A1: 2009

| Fire propagation index, I | | 4.4 |
|----------------------------------|--|------------|
| Subindex,i1 | | 1.2 |
| Subindex,i2 | | 2.4 |
| Subindex,i3 | | 0.8 |

BS476: Part 7: 1997 Class 1 surface spread of flame.

Results: tests to BS 476:Part 6:1989+A1:2009 and BS 476: Part7:1997 demonstrate that the product complies with the requirements for **Class 0** as defined in paragraph A13(b) of Approved Document B, 'Fire Safety' to the Building Regulations 2000.

*Please note: Armourcoat no longer supply the 40mm Acoustic Plaster System.

7.1.2 European Fire Test

Independent tests were carried out in the UK on the 50mm Armourcoat Acoustic Plaster System, for classification of reaction to fire performance in accordance with EN13501-1:2007+A1: 2009.

Reaction to fire classification:

B - s1, d0

7.2 Noise Reduction Coefficient

Independent tests were carried out in the UK on the Armourcoat Acoustic Plaster System to determine the Noise Reduction Coefficient (NRC) ratings and the system's sound Transmission Class (STC) ratings.

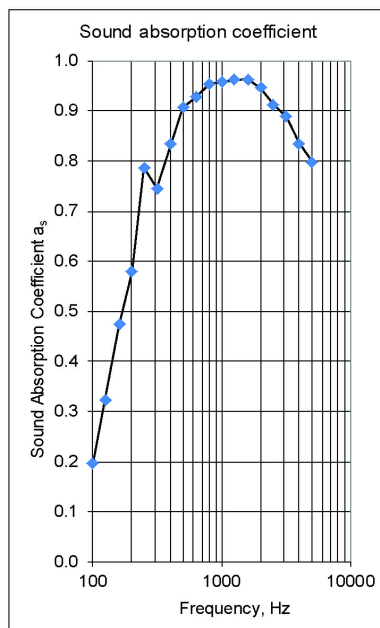
Tests were carried out in accordance with BS EN ISO 354: 2003

'Acoustics - measurement of sound absorption in a reverberation room'. This test specifies a method of measuring the sound absorption coefficient of acoustical materials used as well and ceiling treatments, or the equivalent sound absorption are of objects such as furniture, persons or space absorbers, in a reverberation room.

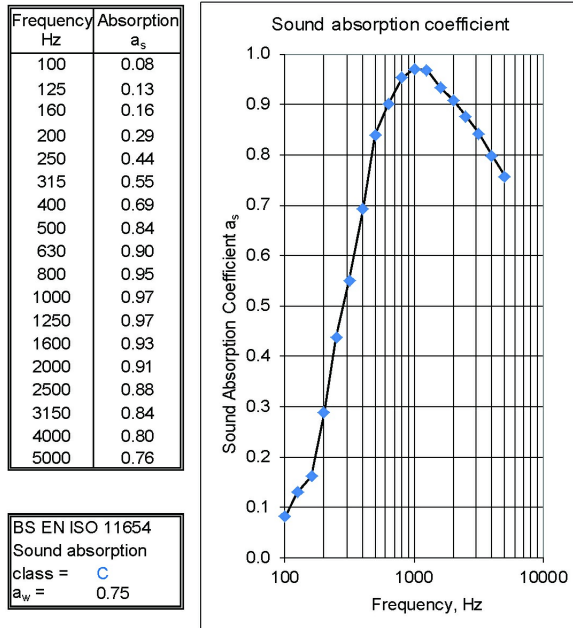
Results: 50mm system - NRC 0.9

| Frequency Hz | Absorption a_s |
|-----------------|---------------------|
| 100 | 0.20 |
| 125 | 0.32 |
| 160 | 0.47 |
| 200 | 0.58 |
| 250 | 0.79 |
| 315 | 0.75 |
| 400 | 0.83 |
| 500 | 0.91 |
| 630 | 0.93 |
| 800 | 0.95 |
| 1000 | 0.96 |
| 1250 | 0.96 |
| 1600 | 0.96 |
| 2000 | 0.95 |
| 2500 | 0.91 |
| 3150 | 0.89 |
| 4000 | 0.83 |
| 5000 | 0.80 |

| | |
|------------------|------|
| BS EN ISO 11654 | |
| Sound absorption | |
| class = | A |
| a_w = | 0.95 |



Results: 30mm system -NRC 0.8



7.3 LEED Contribution

Contribution statement: Armourcoat Acoustic Plaster System qualifies for points under the LEED Green Building Rating System.

LEED is a set of performance standards based on existing and proven technology to evaluate environmental performance from a whole building perspective over the building's lifecycle. They provide a definitive standard for what constitutes a green building in design, construction and operation.

LEED guidelines vary from one program to another. Categories may change. Consultation with the Green Building Certification Institute is recommended.

EA Credit 1 - Optimise Energy Performance

Armourcoat Acoustic high density mineral wool panels provide additional thermal insulation which reduces energy use for optimised energy performance.

MR Credit 4 - Recycled Content

Armourcoat Acoustic consists of up to 80% recycled content including post consumer and pre consumer recycled material.

IEQ Credit 4 - Low Emitting Materials

Armourcoat Acoustic has no harmful volatile organic compounds.

IEQ Credit 7.1 - Thermal Comfort, Design

Armourcoat Acoustic high density mineral wool panels provide an excellent source of thermal insulation, reducing energy use and providing improved thermal comfort.

EQ Credit 9 - Enhanced Acoustical Performance

Armourcoat Acoustic has been professionally and independently tested proving it will effectively absorb and dispel sound energy thus decreasing echo and reverberation, providing a much improved sound quality environment.

8 Coverage Rates

Armourcoat Acoustic panels are 1000mm x 600mm, thus 0.6m²

1.5kg of Armourcoat Bondplast will cover 1m² (1 x 25kg unit will cover 15-17m²)

1 unit of Joint Filler (12.5 litres Joint Filler Powder and 2.5 litres Joint Filler Liquid) will cover 25m²

3.5kg of Topcoat will cover 1m² (1 x 24 kg unit will cover approximately 6-7m²)

9 Storage

Store Armourcoat Acoustic pre coated panels on the pallet they are delivered on free from moisture and away from potential damage in temperatures at 5°C and above.

Store Armourcoat Bondplast away from moisture and in temperatures at 5°C and above.

Store the Filler components in temperatures at 5°C and above.

Store the Topcoat tubs in temperatures at 5°C and above. Do not overstack.

10 Shelf Life

Armourcoat Acoustic pre coated panels are inert and do not require a shelf life guide.

Armourcoat Bondplast has a shelf life of 6 months.

Armourcoat Panel Joint Filler resin has a shelf life of 1 year.

Armourcoat Acoustic Topcoat has a shelf life of 1 year.

Whilst every attempt has been made to ensure the accuracy and reliability of the information contained in this document, the information should not be relied upon as a substitute for formal advice. Armourcoat Ltd, its employees and agents will not be liable for any loss or damage, of any kind, arising out of or in connection with the use of this document. Please refer to the company disclaimer for further details.