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Product Data Sheet PDS001: Armourcoat Polished Plaster P01, P20, P30 and P66

Smooth, Pitted, Travertine, Dragged, KonCrete Textured, SMG, Granite

1 Product Description

Armourcoat Polished Plaster is a natural mineral material composed of hydrated lime, crushed marble and cement combined with special additives to control working characteristics. Although essentially of the same composition the four base powders P01, P20, P30 and P66 are made up from different proportions of white, yellow, red and green crushed marble powders. This means a range of natural stone coloured finishes can be achieved without the addition of any pigment.

2 Properties

- natural mineral material
- contains no VOCs
- powder product unaffected by frost
- pot life 4 - 6 hours
- wide range of finishes achievable
- wide range of colours available
- good workability in a wide range of site conditions
- good water vapour permeability
- completely non combustible as supplied or when applied

3 Health and Safety

Armourcoat Polished Plaster is a powdered product. A dust mask should always be worn when mixing or handling the product. The product contains hydrated lime and cement that will act as an irritant. Wear protective clothing, gloves and eye protection. If contact occurs wash affected areas immediately with soap and water.

4 Suitable Substrates

Armourcoat Polished Plaster can be applied to Armourcoat recommended substrates which should be firm and true and will not crack. In our experience the best substrates to work onto are taped and jointed plasterboard and freshly plastered walls that are fully dry.

- Never attempt to apply Armourcoat Polished Plaster over wallpaper or lining paper. Great care should be taken on surfaces that are already decorated.
- Armourcoat Polished Plaster can be applied to existing painted surfaces provided the paint is well adhered to the wall.
- A flat or true substrate is vital to achieve high quality results as any bumps or imperfections may show up in the finished surface.
- Whilst Armourcoat Polished Plaster will bond adequately to MDF great care should be taken when using it as a substrate as it will tend to crack along any joints. MDF may also swell and warp. A set of substrate specification sheets (SSS1 SSS10) is available from Armourcoat Surface Finishes.

5 Mixing Instructions

Always wear a dust mask or respirator when mixing Armourcoat Polished Plaster. Armourcoat Polished Plaster is packed in 18kg sacks as a dry premix. Pigments are packed into small plastic screw top bottles and are combined with the plaster at the point of mixing.

- pour the content of the pigment pot into the 30 litre mixing drum. Fill the pigment container with water and flush out any left over pigment
- the total water requirement for an 18kg drum is 7.2 litres - 7.5 litres of water
- mix the pigment and water gently with the mixing paddle before adding the 18kg unit of plaster
- pour the plaster gently into the water/pigment mix gently mixing at first allowing the air to bubble out. If the finish is textured add the 6kg of marble chips. Then increase the mixing speed of the drill and mix to a thick creamy lump free consistency
- leave the material to stand for 5 -10 minutes and then mix once again before applying to the wall

High pigment loading and excessive mixing can lead to entrapment of micro fine air bubbles in the material which will reduce its density and hardness and in extreme cases lead to blistering and delamination of the product.

When large quantities of pigment are being mixed with the material it is advisable to mix the plaster with plain water to a thick consistency before adding the pigment. This will significantly reduce the level of air entrapment.

See Advice Sheet AS4.

6 Application Instructions

- mix and apply Armourcoat Keycoat (K124 or K149) over a layer of Armourcoat K40 primer
- scrape over the dry keycoat to remove any small lumps or trowel lines paying special attention at the corners or the interface with other surfaces
- apply the plaster in a small area at a time (~ 1 m²) working the material into the keycoat. Trowel in all directions
- leave the first layer until it is no longer tacky and the surface feels firm to the touch. This may take from 30 - 90 minutes depending upon site temperature and humidity
- take a small quantity of material onto the trowel and work it into the first layer. Repeat this process progressively over the wall occasionally dropping back onto the areas already applied to trowel down smooth
- once the second coat has been applied clean off the trowel and work over the surface with the trowel at about 45 ° to remove any excess fatty material and fill any imperfections in the surface
- trowel over the wall every 15 - 20 minutes until the surface is smooth and polished
- leave the surface to dry for 2 - 3 days
- apply wax as required

Armourcoat Polished Plaster is a natural mineral material and if left in its natural state will allow the substrate to breathe. If protection against dirt and spillage is required it can be waxed with Armourcoat White Wax, Armourcoat Ecowax or Armourcoat Aquawax. (See relevant product data sheets).

7 Test Data

Tests were carried out on samples of the Armourcoat SMOOTH Polished Plaster finish which had been treated with Armourcoat White Wax (unless stated otherwise) as per application instructions.

7.1 Mould/Mildew Resistance

Samples were tested in accordance with:

ASTM D 3273 Standard Test Method for Resistance to Growth of Mould on the Surface of Interior Coatings in an Environmental Chamber.

ASTM D 3274 Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation.

Plaster	Finish	Post Treatment	Front of Panel*	Back of Panel*
P01	Smooth	-	10/8/10	10/10/8
P01	Smooth	White Wax	10/10/10	10/10/10
P01	Smooth N3164	-	10/10/10	10/10/10
P01	Pitted	Armourcoat Aquawax	10/10/10	10/10/10
P01	Pitted	Armourcoat Polished Plaster Colourwash	10/10/10	10/10/10

*Rating system: 1 is very poor. 10 is no growth

Testing was carried out by an accredited American testing laboratory.

7.2 Pencil Hardness

Samples were tested in accordance with ASTM D 3363 using a set of Berol turquoise hardness pencils.

Sample	
Pencil hardness	5H+

7.3 Shore D Hardness

A test panel of Armourcoat SMOOTH Polished Plaster X0081 on 6mm MDF was tested for hardness using an Sauter HBD100-0 Shore Durometer D. An average of 5 readings was taken. Tests were carried out at 23°C and 35% RH.

Sample	X0081
Shore D Hardness	64

7.4 Scrub Resistance

The following performance test was performed by an American laboratory and consequently the results are quoted to American Standard Modified ASTM D 2486. 10 grams of scrub medium and 5 grams of water were applied to the brush. The test was halted after 10,000 cycles. After 10,000 cycles the Armourcoat Polished Plaster had not worn through to the undercoat. The lab considers that for a wall coating Armourcoat Polished Plaster is exceptionally hard.

7.5 Compressive Strength

Armourcoat Polished Plaster 28N/mm

7.6 Impact Test

Armourcoat Polished Plaster samples were tested using the Gardner Impact Resistance Test in accordance with ASTM D 2794. The test procedure utilised a 4lb weight in a 36 guide tube with a 0.5 diameter hemispherical indent.

Sample	
Forward impact	2 inch / pounds

Please note that the material is very hard and failure is usually due to the deformation of the substrate which in this case was a medium density particle board.

7.7 VOC Testing

Samples of Armourcoat Polished Plaster were tested for VOC following procedures outlined in ASTM D3960 "Standard Practise for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings" and ASTM D6886 – Standard test method for speciation of the VOCs in low VOC content waterborne air-dry coatings by GC. **Testing was carried out by accredited American testing laboratories.**

Test Method	VOC (grams/litre)	VOC (lbs/gal)
ASTM D3960	0	0

Test Method	VOC (Weight)	VOC (g/kg)
ASTM D6886	<0.1%	<1

7.8 Fire Test Results

7.8.1 British Fire Test Results

BS 476: Part 6: 1989

Fire propagation index,1	0.3
Subindex,i1	0.1
Subindex,i2	0.0
Subindex,i3	0.2

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

Armourcoat Polished Plaster complies with requirements for CLASS 0 AS DEFINED IN PARAGRAPH a12(B) of Approved Document B, Fire Safety, to the Building Regulations 1991.

7.8.2 American Fire Test Results

Test carried out in accordance with the procedure outlined in ASTM E84 98, Standard Test Method for Surface Burning Characteristics of Building Materials

Fire Spread Index	10
Smoke Spread Index	10
Flame Spread Classification	Class 1

8 Coverage Rates

Armourcoat Polished Plaster is supplied in 18kg bags.

Coverage rates: ~ 1.8 - 2 kg/m² applied in 2 coats.

See customer material requirements and coverage guide for full details on all finishes.

9 Storage

Store Armourcoat Polished Plaster in good dry conditions between 5°C - 25°C. The shelf life of Armourcoat Polished Plaster in unopened original packaging under correct storage conditions is 12 months from date of manufacture.

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