

Wilhams RockShield

External wall insulation for insulating, weatherproofing & decorating all wall types

The Wilhams RockShield system fulfils the triple function of thermal insulation, weather protection and aesthetic improvement.

The system offers a choice of options in insulation thickness and fixing methods to meet different substrate conditions. It also offers decorative coatings and specially developed paints that are available in a choice of textures and a wide range of colours, for a finish appropriate to the building character and context.

Wilhams RockShield system can be used to overcome condensation associated with the external wall surface it is used to over clad.

Advantages

- Contributes to GBI requirements
- Aids MS 1525 compliance
- Excellent thermal and acoustic performance
- Insulation classified as non-combustible
- Fire safe system to EN 13501-1 A2
- Large choice of textures
- Dimensionally stable
- Low maintenance
- Wide range of colour finishes
- Removes warm bridges

Standards and Approvals

Wilhams RockShield has been extensively used for both new-build and refurbishment schemes, and on a wide range of building types.

The system has been approved by the BBA (Certificate No. 90/2437) and by the Institute of Bautechnikin Germany. They are also registered with the Insulated Render and Cladding Association (INCA).



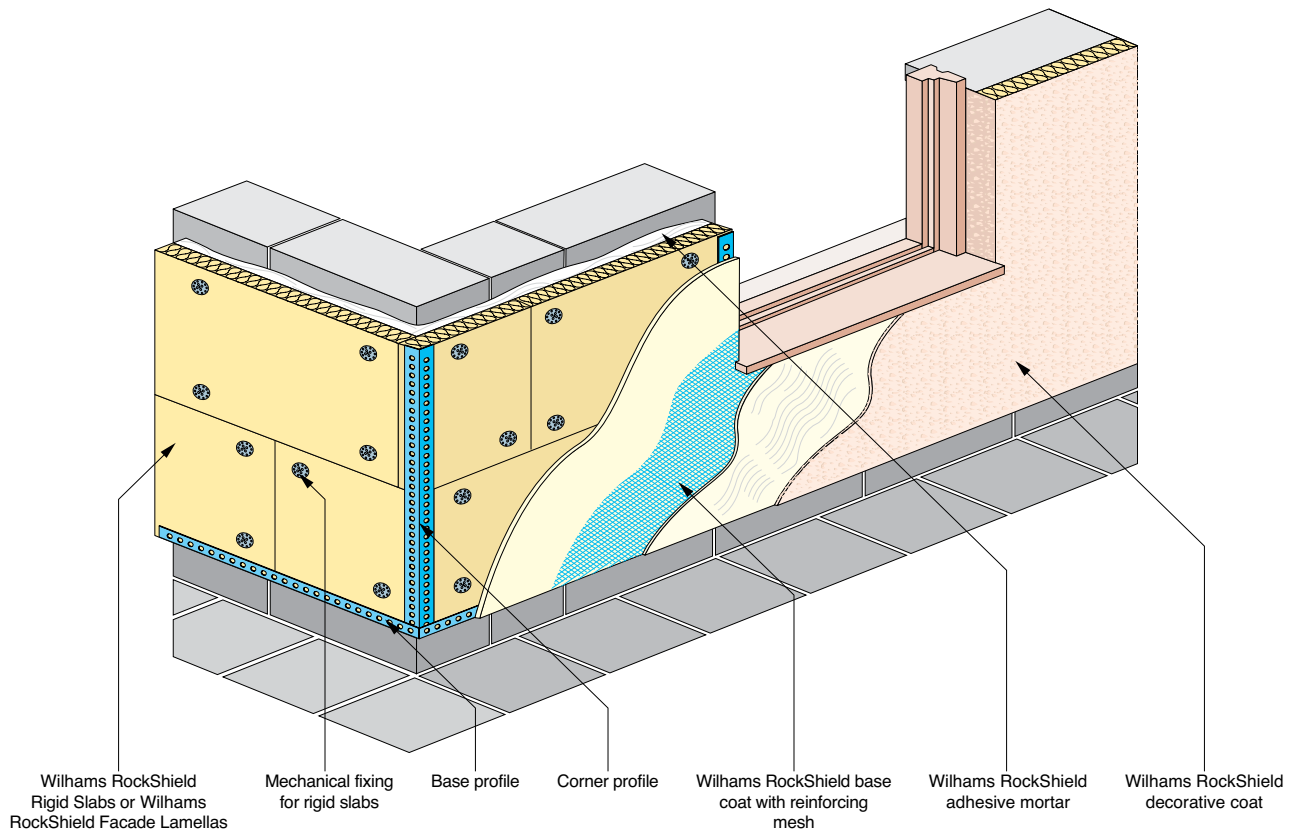
Bankside Lofts, London se 1
Architects : CZWG

Quality Assurance

The materials are produced using a Quality Management System which complies with the requirements of BS EN ISO 9001:1994.

System Options

The Wilhams RockShield system is available in a range of options, including choice of insulation, thickness of base coat and decorative finish which are shown in more detail below.



Insulation Options

Wilhams RockShield Rigid Slabs

Sized 1000 × 500mm, Wilhams RockShield rigid slabs are available in thicknesses of 30mm to 140mm in 10mm increments. Rigid slabs are adhesive and mechanically fixed.

Wilhams RockShield Facade Lamellas

Facade Lamellas are 1000 × 200mm and are available in thicknesses from 30mm to 300mm in 10 mm increments. They are generally adhesive fix and may therefore be used on substrates that are problematical for mechanical fix. They are ideally suited to new-build constructions with a height limit of 20m.

Base Coat Options

Wilhams RockShield TC

Wilhams RockShield TC is a thin coat system with a total thickness of between 6 and 8mm.

Wilhams RockShield LW

Wilhams RockShield LW is a thicker coat system with a total thickness of between 8 and 12mm typically but up to a maximum 20mm thick, offering a higher level of tolerance on uneven substrates.

Both Wilhams RockShield TC and Wilhams RockShield LW can be classified as thin coat systems which have a high degree of flexibility and are not subject to the temperature stresses which are imparted to thick, sand/cement renders. Both Wilhams RockShield systems include glass fibre reinforcing mesh for added strength.

High Impact Coat

For areas which are likely to be subject to high levels of impact, an additional high impact coat can be applied to both the above systems.

Decorative Coat Options

Silcoplast

Silcoplast represents a state of the art development of plaster formulation. It is based on quartz, a natural, weather-resistant material, using an organic binder.

Silcoplast's excellent vapour permeability properties enable the total Wilhams RockShield system to breathe, helping to eliminate condensation problems. Because of its highly water repellent nature, any contamination of the surface is washed away by rain water, thus retaining the colour intensity of the finish. It is supplied in 25kg tubs, ready mixed, ensuring perfect colour matching.

The Silcoplast decorative coat is available in two finishes:

1. Grained texture
2. Dragged texture

Colours

Both decorative coat finishes are supplied in a wide range of standard colours as well as BS 4800 colours. Formulations can also be made to specific colour requests. Colour charts are available on request from Wilhams Marketing Services department.

Textured Finishes

Silcoplast is available in a grained texture of three grain sizes: 1.5mm, 2.5mm and 3.5mm and dragged texture two grain sizes : 2mm and 3mm.

Paint Finishes

Colorsil

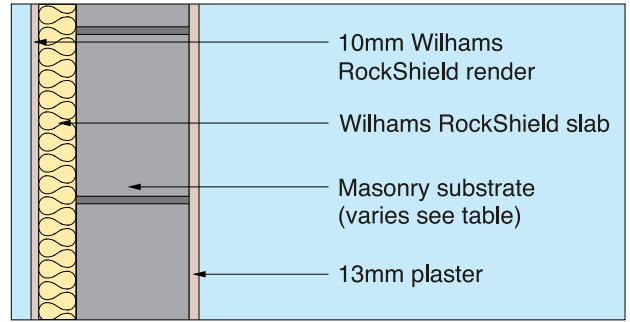
Colorsil paint is a silicon-based paint available in all the same colours as the decorative coats. It is totally water resistant and highly vapour permeable.

Performance and Properties

U-values

Wilhams RockShield system contributes to Green Building Index (GBI) requirements, significantly improving the energy efficiency of the external wall.

This solution also aids compliance to MS 1525 Energy efficiency and use of renewable energy for non-residential buildings - Code of practice. Please contact our technical department regarding insulation thicknesses relating to typical wall constructions or see the table shown below.



U-values W/m ² K								
Wilhams RockShield Slab Thickness	Masonry Construction Options							
	Dense Block $\lambda = 1.13$ W/mK Thickness (mm)		Med Dense Block $\lambda = 0.51$ W/mK Thickness (mm)		Lightweight Block $\lambda = 0.19$ W/mK Thickness (mm)		Brick Solid Thickness (mm)	Brick/Block 50mm Cavity Thickness (mm)
	140	215	140	215	140	215	225	102 (Brick)/100 (Block)
50mm	0.59	0.57	0.55	0.50	0.44	0.37	0.53	0.53
60mm	0.51	0.49	0.47	0.44	0.39	0.34	0.46	0.47
70mm	0.45	0.43	0.42	0.40	0.35	0.32	0.40	0.41
80mm	0.40	0.39	0.38	0.36	0.32	0.29	0.36	0.38
90mm	0.36	0.35	0.34	0.33	0.30	0.27	0.33	0.35
100mm	0.33	0.32	0.31	0.30	0.28	0.25	0.30	0.32
110mm	0.30	0.30	0.29	0.28	0.24	0.24	0.28	0.30
120mm	0.28	0.27	0.27	0.26	0.22	0.22	0.26	0.28

Weight

Typical weights for Wilhams RockShield systems (70mm mineral wool)

System	Weight (kg/m ²)	
	TC	LW
Adhesive mortar	4.5	4.5
Mineral wool slab	9.8	9.8
Base coat	4.5	7.5
Decorative coat*	3.5	3.5
Total	22.3	25.3

*Decorative coat weight will alter with grain size

Fire

When tested to the new European Fire Classification, the Wilhams RockShield system is likely to achieve a Euro Class 'A2' for reaction to fire. The core mineral wool insulation will achieve 'A1'.

Condensation Control

When calculating vapour diffusion through a structure, the vapour resistance of rockwool is 5.9 MNs/gm. The vapour resistivity of the combined Wilhams RockShield base coat and decorative coat is 9 MNs/gm.

Environment

No CFCs, HFC's or HCFCs are used in the manufacture of mineral wool materials.

Compression

The System will, without being damaged, support ladders, with a spreading board being used for normal maintenance work.

Impact Resistance

Wilhams RockShield has been tested by a 25mm punch method and achieved an ultimate strength figure of 1000N. The following materials and constructions are shown for comparison:

13mm wood fibreboard on battens	150N
13mm gypsum plasterboard on battens	300N
8mm asbestos cement sheet on battens	550N
Wilhams RockShield	1100N

Rain Resistance

The mineral wool slab is inherently water repellent, and this property is enhanced by special additives. Wilhams RockShield base coats, decorative coats and specially developed paints are also highly water resistant.

Durability

It is essential that the basic structure is sound and in good repair. It is recommended that a suitable damp-proof course be installed, if none exists in the original structure.

The Wilhams RockShield system is stable and will ensure continuing high performance. Mineral wool slabs have been proven in service for over 70 years in all types of exposure.

The base coats and decorative coats employed in the RockShield system have been used with great success for over 19 years within the UK, and for in excess of 25 years on the Continent.

Wilhams RockShield has undergone successful accelerated ageing tests simulating 25 years of exposure. Life expectation is in excess of 50 years without any major maintenance.

Installation

Installation is only by Wilhams approved installers. Wilhams will provide post-installation checks.

The insulation is fixed either by a combination of adhesive and mechanical methods using rigid slabs, or by adhesive fix only, using Wilhams RockShield Facade Lamellas.

The mineral wool can be easily cut on site using normal tools, such as a panel saw.

The Wilhams RockShield finish is applied in two coats. The first coat includes a reinforcing mesh to impart strength to the system. The second coat is a decorative finish with a wide range of colour finishes.

Application

Protection from rain must be provided until both base and decorative coats have dried. These products are suitable for application during humid conditions, where they have faster drying times.

Drying of the finishes is dependent on temperature and relative humidity. Under average conditions this will be in less than 24 hours.

For further information on application, please see the Wilhams RockShield Application Guide.

Tolerances

It is possible to take up tolerances within the facade of up to 20mm over the length of the elevation or between expansion joints.

The system will also be able to cope with thickness differentials between blocks, bricks and mortar protrusions of up to 3mm. If the wall exceeds these tolerances however then some preparatory work on the substrate may be necessary.

Handling and storage

Mineral wool slabs should be handled with care. They should be stored indoors or under waterproof covering. Mineral wool base coats and finishes can be stored for up to 12 months if kept in a dry place.

Biological

The Wilhams Rockshield system is completely rot proof and does not encourage the growth of fungi, moulds or bacteria.

Typical Specification Clauses

The external wall insulation system is to be Wilhams RockShield as supplied by Wilhams Insulation Far East Sdn Bhd, and installed by a Wilhams RockShield Approved Installer.

The Wilhams RockShield system is to be TC/LW.* The insulation is to be Wilhams RockShield Rigid Slab (mechanical & adhesive fix)/ Wilhams RockShield Facade Lamella (adhesive fix only),* thickness..... mm†.

The decorative coat is to be Silcoplast/grained/dragged* grain size.....mm†, colour.....† and/or to be painted using Wilhams RockShield Colorsil paint, colour.....†

**Delete as appropriate.*

† Insert thickness, grain size or colour required as appropriate

Health and Safety

Current HSE 'CHIP' Regulations and EU directive 97/69/EC confirm the safety of the mineral wool; fibres are not classified as a possible human carcinogen.

The maximum exposure limit for mineral wool is 5mg/m³, 8 hour time-weighted average.

A Material Safety Data Sheet is available from the Wilhams Marketing Services Department to assist in the preparation of risk assessments.

HeatPro® is the registered trademark of Wilhams Insulation Far East Sdn Bhd

WILHAMS

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