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What is Proteus GL?

Proteus GL is an integrated modular rainscreen system that offers a flat façade utilising a thin veneer of back painted glass or digitally screen-printed glass.

Proteus GL consists of an aluminium honeycomb core structurally bonded between a toughened back painted glass face and a lightweight metal rear skin. Each panel is supported by the unique Proteus system of aluminium carriers and ancillary components, which can be installed on to any type of wall construction.

The Proteus GL glass rainscreen cladding offers architects a wealth of design options with a range of standard colours, or a more bespoke design through screen printed options which allows images to be generated across a façade.

What is rainscreen?

Rainscreen cladding is the attachment of an outer skin of rear-ventilated cladding to a new or existing building. The system is a form of double-wall construction that uses an outer layer to keep out the rain and an inner layer to provide thermal insulation, prevent excessive air leakage and carry wind loading. The outer layer breathes like a skin while the inner layer reduces energy losses.

The structural frame of the building is kept dry, as water never reaches it or the thermal insulation. Evaporation and drainage in the cavity will remove water that penetrates between panel joints.

Water droplets are not driven through the panel joints or openings because the rainscreen principle means that wind pressure acting on the outer face of the panel is equalised in the cavity. Therefore, there is no significant pressure differential to drive the rain through joints.

During extreme weather, a minimal amount of water may penetrate the outer cladding. This, however, will run as droplets down the back of the panels and be dissipated through evaporation and drainage.

Lightweight, up to 40% lighter than typical glass rainscreen systems

Each panel can be individually adjusted and demounted

Certified to EN13501 achiveing A2-s1, d0

Panels available in a range of sizes, thicknesses and glass finishes

All panels assembled at our factory and pre-finished for rapid installation on site

Fully tested and compliant with **CWCT** standards

Composite construction can be broken down and fully recycled

1. Backing Wall The backing wall shall be a structure that will carry both the self-weight of the rainscreen system and wind loading; it will provide fire

resistance and will provide an airtight seal for the building. The Proteus GL system is designed to be installed on all types of backing walls such as Blockwork, Precast Concrete, and SFS.

2. Vapour Control Layer

It is important to recognise and address the need for including a vapour check or perhaps a breather paper to the warm side of the insulation should the backing wall not be adequately sealed. This is an essential consideration to avoid the problem of interstitial condensation and air leakage.

3. Insulation

Thermal properties shall be selected in order to reduce the total in-service energy consumption of the building, thus limiting the levels of carbon emissions. Carbon emissions will be lower when heat transfer and air leakage through the building envelope are reduced, and cooling loads arising from solar gain are reduced. The specified insulation can be provided either within the inner wall or in the air cavity. In all cases, we recommend a clear air cavity of at least 38mm between the rear of the panel and the face of the Insulation/Substrate.



4. Panel Support System

Proteus GL panels are fitted to vertical mullions that are fixed to the backing wall with adjustable support brackets. Mullions consist of extruded aluminium sections, including location channels, which provide adjustable fixing locations for panels and support brackets. We can provide support systems both horizontally & vertically, for shallow & deep cavities and for both long-spanning and continuously fixed applications.

5. Panels

Pre-engineered glass outer skins which are structurally bonded to the aluminium honeycomb core. The panels peripheral extrusion provides a fixing location for the support brackets to all edges of the panel. The panels provide the main defence from water, snow and wind transferring these loads through the carrier system back to the backing wall. Panels are supplied shrink-wrapped on pallets, with a strippable film. Each one is individually numbered, providing full traceability.

6. Panel Joints

Panel joints are baffled with the intention to prevent the gross ingress of water and snow either impacting on the joint surfaces or falling out of suspension in the air and draining out of the joint. The standard jointing arrangement provides a 10mm wide vertical and horizontal recessed joint. The baffle strip is inserted into the joint after fixing the panels which conceals all fixings, the infill strip is provided in black as standard but can also be a contrasting colour or a metal baffle matching the panel skin.



Proteus GL projects

Proteus GL is suitable for a range of buildings, from offices and other workplaces through to public buildings and residential developments. The images here reflect just a few of the high-profile schemes that have used Proteus GL.





Project: Holbrook House

Sector:ResidentialArchitect:Simpson Haugh & PartnersFinish:Various RAL References







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Project: Premier Inn Hub

Sector: Leisure Architect: Axiom Architects Finish: AGC Lacobel Cool White

Project: Lambeth Road

Sector:Student AccommodationArchitect:KKA ArchitectsFinish:RAL 7011, RAL 7016



Project: St. Albans Primary School Maths Block

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Sector: Education Architect: PHP Architects

Designed by PHP Architects the new maths building at St Albans primary school provides a dedicated educating experience for their pupils.



Finish: Digital Screen Printed Glass



Section drawings

Horizontal joint

Vertical joint



Termination











The Proteus GL system uses various forms

of back painted glass which will have their own intrinsic durability properties and will

be determined by geographical location,

local environment and possibly the colour

in accordance with BRE Digest 346, Part 7,

wind speeds for serviceability and fatigue

selected. The Proteus system has been tested

Capping

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Durability

assessment.

Performance

Fire performance

The Proteus GL system is certified to EN13501 achieving an A2-s1, d0 rating. Any specified fire breaks / insulation should be supplied by a competent contractor. For further information, please contact our technical department.

Weather testing

The Proteus GL system has successfully undergone testing in accordance with CWCT standard test methods for walls and ventilated rainscreens. The Proteus GL system passed the water tightness testing using dynamic pressure and wind resistance testing for both Safety (3.6kn/m2) and Serviceability (2.4kn/m²).

Maintenance

Proteus GL is a low-maintenance system that can be easily cleaned with water and a mild detergent. The back-painted glass face is impervious to chemicals, and with its nonporous surface, it makes graffiti easy to clean.

Proteus GL span performance

Proteus GL panel span performance

Front Skin Material 4mm Glass

The data shown here is a guide to the span performance of Proteus GL panels. The spans are based upon 40mm honeycomb.

All dimensions stated are in millimetres.

Proteus GL 50mm x 50mm mullion span performance



mullior

The data shown here is a guide to the span performance of Proteus GL 50mm x 50mm aluminium mullion.

All dimensions stated are in millimetres.

Vertical span of mullion	1800	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3
	1600	1.2	1	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.4	0.4
	1400	1.8	1.5	1.3	1.1	1	0.9	0.8	0.7	0.7	0.6	0.6
	1200	2.9	2.4	2	1.8	1.6	1.4	1.3	1.2	1.1	1	1
	1000	4.9	4.1	3.5	3.1	2.7	2.5	2.2	2.1	1.9	1.8	1.6
Horizontal spacing		1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000

Vertical span of mullion	2200	1.1	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4
	2000	1.5	1.2	1.1	0.9	0.8	0.7	0.7	0.6	0.6	0.5	0.5
	1800	2	1.7	1.5	1.3	1.1	1	0.9	0.8	0.8	0.7	0.7
	1600	2.9	2.4	2.1	1.8	1.6	1.5	1.3	1.2	1.1	1	1
	1400	4.3	3.6	3.1	2.7	2.4	2.2	2	1.8	1.7	1.5	1.4
Horizontal	spacing	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000

Proteus GL 100mm x 50mm mullion span performance



The data shown here is a guide to the span performance of Proteus GL 100mm x 50mm aluminium mullion.

All dimensions stated are in millimetres.

Vertical span of	2800	1.6	1.3	1.1	1	0.9	0.8	0.7	0.7	0.6	0.6	0.5
	2600	2	1.6	1.4	1.2	1.1	1	0.9	0.8	0.8	0.7	0.7
mullion	2400	2.5	2.1	1.8	1.6	1.4	1.2	1.1	1	1	0.9	0.8
	2200	3.2	2.7	2.3	2	1.8	1.6	1.5	1.3	1.2	1.2	1.1
	2000	4.3	3.6	3.1	2.7	2.4	2.2	2	1.8	1.7	1.5	1.4
Horizontal of mullion	spacing	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000

Vertical span of mullion	3600	1.8	1.5	1.3	1.1	0.9	0.8	0.8	0.7	0.7	0.6	0.6
	3400	2.1	1.8	1.5	1.2	1.1	1	1	0.9	0.8	0.8	0.7
	3200	2.5	2.1	1.8	1.6	1.4	1.3	1.2	1.1	1	0.9	0.8
	3000	3.1	2.6	2.2	2	1.8	1.5	1.4	1.3	1.2	1.1	1
	2800	3.8	3.2	2.7	2.7	2.4	1.9	1.7	1.6	1.5	1.4	1.3
Horizontal of mullion	spacing	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000

Maximum Panel Span in mm

0.8 kN/m ²	1.0 kN/m ²	1.2 kN/m ²	1.4 kN/m ²	1.6 kN/m ²	1.8 kN/m ²
3200	3000	2800	2600	2600	2400

Single Span - Allowable wind loads in kN/m², maximum deflection L/200

Double Span - Allowable wind loads in kN/m², maximum deflection L/200

Single Span - Allowable wind loads in kN/m², maximum deflection L/200

Double Span - Allowable wind loads in kN/m², maximum deflection L/200



AGC Lacobel T

AGC

AGC Glass Europe produces, processes and distributes float glass for the construction sector Its Lacobel range offers a true enamled glass with a glossy finish.

Moka

Moka



AGC Metelac T



Metalac T is the highest quality back painted glass range from AGC with a uniform satin finish for a safe subtle look created by acid etched float glass.



Misty White

Oyster White

Saint Gobain Emalit Evolution



EMALIT Ref: 44 700

Saint Gobain Emalit Evolution range offers a classic standard range of finishes, or a more tailored / colour match option upon request.





Standard Colours

A full range of RAL or BS colours available



Digital Screen Printed

Digital screen printing offers unique and endless contemporary design options.



Pilkington (\mathbf{B}) PILKINGTON

Pilkington offer a range of 7 standard colours, supplemented by a variety of white finishes. The panes can be developed to match the visual effects of tinted or reflected glasses within the Pilkington range.



Crisp White

Cool White



EMALIT Ref: 19 300

EMALIT Ref: 39 600





EMALIT Ref: 28 300



EMALIT Ref: ES 125





EMALIT Ref: SAS 110





EMALIT Ref: ES 124

Proteus GL is available in up to 3100mm length panels and a maximum width of 1515mm.

The finishes shown are a small sample of the available finishes, please see our website for more v

Project services

Consultation

We offer a full consultation service at the early stages of your project, helping you choose the right specification for your scheme and your budget. Our technical department will provide design assistance to ensure compliance and provide a cost-effective solution. As part of the consultation process we can provide standard product samples and can also assist in the development of project specific prototypes, mock ups and project samples to allow you to visualise your perfect Proteus solution.

Estimating

Our experienced estimators can advise on all aspects of the Proteus system and its application, along with detailed cost information in a timely manner. We can provide robust budget estimates for cost plan purposes through to full project take-offs with detailed quotations taking into account all Proteus materials required to complete your project.

Manufacture

All Proteus products are custom manufactured in our UK factory for each individual project. All elements are supplied pre-finished, ready for on-site installation. Our manufacturing operation features stateof-the art production facilities, backed up by an uncompromising approach to quality control. Our CNC-driven process offers full flexibility in terms of dimensions.

Proteus product range



The Proteus HR system is a honeycomb panel system that utilises the Proteus aluminium support and fixing system. The face of the panel utilises a range of thin metal veneers such as aluminium, zinc, stainless steel, and copper resulting in optically flat and stunning facades.



The Proteus SC system is a single-skin panel system that can be provided in all metal finishes both solid, perforated and mesh. The panel system uses the same aluminium support system as Proteus.



The Proteus CX system is a honeycomb panel system that utilises the Proteus aluminium support and fixing system. The face of the panel has a 3.5mm thick ceramic layer, giving the appearance of large-format stone/ceramic panels.



The Proteus AR system consists of a range of continuous and modular louvres and modular brise soleil. The system is manufactured from aluminium and is fixed to the Proteus carrier system via an ingenious plastic clip system.



Quality assurance

We manufacture all our products to the highest quality standard, operating a BSI accredited Quality Management System in compliance with the requirements of ISO 9001. Our products are manufactured from the highest-quality materials from our approved supply chain, using state-ofthe-art production equipment which is rigorously controlled through inspection and testing at each production stage. Our products are designed and manufactured in accordance with all related and prevailing standards.



FS 581452

Environment

We operate a highly efficient manufacturing facility that operates an accredited Environmental Management System in compliance with the requirements of ISO 14001. We are constantly focused on increasing our understanding and improving the sustainability of our products. By continually improving our products and processes we aim to recover and recycle all our waste. Using the most precise material optimisation software, we ensure our yield of finished product from raw materials is maximised, thus reducing our waste. As a direct result, we reduce our carbon-dioxide emissions, reducing our environmental footprint and that of our customers. Our systems can be simply disassembled on site and transported to be reused or recycled.



Health and safety

Our Business Delivery is managed efficiently and responsibly through the practice of our accredited Occupational Health & Safety Management System in compliance with the requirements of ISO 45001. Through our Management System we promote a safe and healthy working environment by providing a framework that allows our organisation to identify and control its health and safety risks, reduce the potential for accidents, ensure legislative compliance and improve overall performance.









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