AQUARIAN
CLADDING SYSTEMS

Metal Rainscreen

System Guide

Systems Supplier: www.aquariancladding.co.uk

Manufacturer: www.ashandlacy.com

Contents

Introduction

The Ash & Lacy range of rainscreen cladding systems out perform other types of wall construction at an economic whole life cost.

Their systems, known for their low maintenance requirements and use of sustainable materials, are supported by our renowned technical and fabrication expertise. Utilising the latest in digitalised manufacturing, we produce a wide range of parts, from cladding panels to precision aerospace and supercar components.

Also, the VariAL and LineAL façade system ranges are engineered and designed to offer specifiers and contractors the ideal balance between precision and flexibility, incorporating a wide array of metal base materials and aesthetic finishes.

VARIAL LINEAL AXIAL

Sustainability

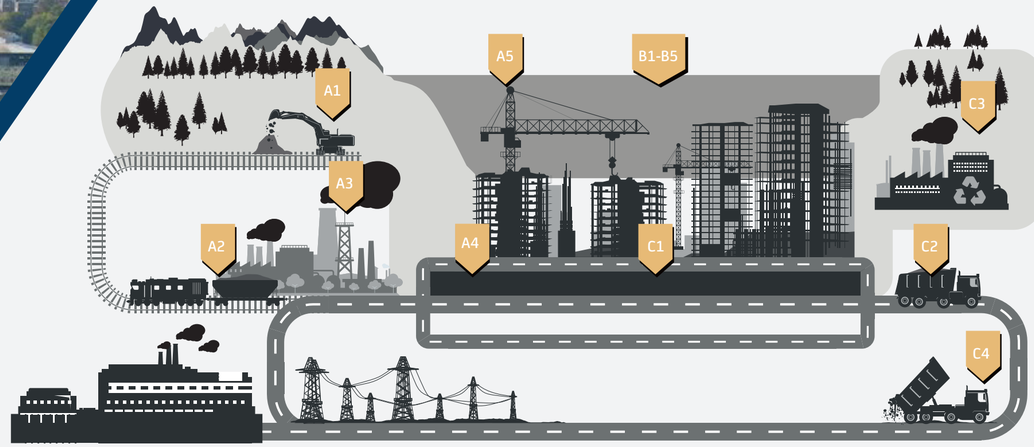
UK manufacturing reduces the carbon footprint of transporting our products from factory to site.

Insulation Performance - Ash & Lacy's Passivhaus certified AxiAL stainless steel support systems provide an opportunity to virtually negate losses through thermal bridging and simultaneously maximise insulation performance.

Life cycle assessment is a methodology to account for the environmental impacts of a product or service throughout its entire life cycle.

The entire life cycle spans from cradle-to-cradle: from raw material extraction through production, packaging, use, end-of-life treatment and recycling to final disposal.

A1 – A3 Cradle to Gate
A1 - A5 Cradle to practical completion
A1 – C4 Cradle to Grave
A1 – D Cradle to Cradle (reuse, recovery, recycling)



A1 - A3 Product Stage
A1 Raw material extraction
A2 Transport to manufacturing site
A3 Manufacturing

A4 - A5 Construction Stage
A4 Transport to construction site
A5 Installation / Assembly

B1 - B4 Use Stage
B1 Use
B2 Maintenance
B3 Repair
B4 Replacement
B5 Refurbishment

C1 - C4 End of life stage
C1 Deconstruction & demolition
C2 Transport
C3 Waste processing
C4 Disposal

Benefits of Aluminium

Incorporating lightweight and cost effective aluminium rainscreen cladding into your projects is a strategic move that supports both environmental responsibility and your commitment to achieving Net Zero by 2030.

CWCT tested systems:

Quality Assurance: CWCT (Centre for Window and Cladding Technology) testing is a rigorous standard in the construction industry. Aluminium systems that pass CWCT tests are validated for their performance in real-world conditions, including weather resistance, structural integrity, and air permeability.

Compliance with Industry Standards: Using CWCT-tested aluminium systems ensures compliance with industry benchmarks, which is essential for meeting building regulations and ensuring occupant safety.

A1 or A2 rated systems to EN13501-1:

Fire Safety: Aluminium systems rated A1 or A2 according to the EN13501-1 standard are classified as non-combustible (A1) or of very limited combustibility (A2). This makes them highly suitable for buildings where fire safety is a critical concern.

Regulatory Compliance: These ratings ensure that the aluminium systems meet strict fire safety standards, which are increasingly required in modern building codes, particularly in high-rise and public buildings.

Recyclability and Sustainability:

100% Recyclable: Unlike many other cladding materials that may end up in landfills, aluminium is fully recyclable. This means it can be recycled repeatedly without any degradation in quality, making it an environmentally responsible choice.

Waste Reduction: The use of aluminium rainscreen cladding supports waste reduction goals since it doesn't contribute to landfill waste, aligning with the circular economy principles that underpin sustainability and Net Zero objectives.

Long-Term Benefits:

Durability and Low Maintenance: Aluminium cladding is known for its durability and resistance to corrosion, which extends its lifecycle and reduces the need for frequent replacements or maintenance. This longevity further contributes to reducing the overall environmental impact.

Energy Efficiency: Aluminium cladding can enhance the energy efficiency of buildings by providing superior insulation properties. This can lead to reduced energy consumption for heating and cooling, further supporting your Net Zero goals.

Compliance & Competency

How our supply chain partner Ash & Lacy can help clients to achieve compliance with standards set by the Building Safety Regulator.

Structural Safety:

Project specific engineering calculations provided by qualified Engineers

All rainscreen cladding systems regularly CWCT tested at specialist UKAS accredited laboratories

PI backed structural design and engineering for loadbearing and non-loadbearing steel frame systems

Fire Safety Measures:

All cladding products and systems certified to BS EN 13501-1:2018 standards achieving Class A2,s1-d0 as minimum

Tested standard details for fire stopping detailing developed in partnership with specialist manufacturers

Large suite of fire resistance tests in accordance with BS EN 1364-1 & BS EN 1363-1 standards for a wide range of applications

Materials Compliance:

All safety critical products and systems certified to BS EN 13501-1:2018 standards achieving Class A2,s1-d0 as minimum

BBA certified systems inclusive of all relevant system components

EPD certified products to EN 15804 standards, incorporating full lifecycle assessments cradle-to-cradle

UKCA marking for applicable products

ISO 9001 Quality accreditation across all manufacturing sites

Qualicoat certified powder coating

Library of product data sheets detailing performance and technical characteristics

Energy Performance:

Thermally efficient stainless steel material options for cladding support systems to limit the impact of heat loss

Project specific thermal calculations provided by qualified engineers using the latest thermal analysis software

Passivhaus certified cladding support systems

Health & Safety:

O&M Manuals

Specialist Installer Training & Support

COSHH Guidance

How Ash & Lacy evidences competency under the requirements of the Building Safety Act

Ash and Lacy have a number of chartered engineers in key roles of responsibility

All engineering staff who are involved in providing calculations or design details related to structural integrity are required to be on a path towards chartered engineer status

They provide ‘guidance’ relating to fire performance, but always recommend the confirmation of a qualified fire engineer

They provide Professional Indemnity insurance for safety critical aspects such as wind load calculations, or structural calculations for light gauge steel framing

The PI providers ensure that we provide evidence that we are competent to provide such services

Their products are supported with the necessary classifications, test reports, and certifications to allow designers and specifiers identify the appropriate solution for their building

To help designers select appropriate products and systems and implement them safely into their designs, Ash & Lacy’s staff must possess the knowledge and competency to answer questions, provide solutions, and make appropriate information available to the designer and installer

They view their ISO 9001 certification as the cornerstone of their manufacturing and process control integrity. As with all our key relevant information, the audits are available to Principal Designers

They have a policy of certifying using a regulated third-party body for our products and systems

A crucial responsibility is to provide those responsible for constructing the building with the information, knowledge, and training required to do it safely. Ash & Lacy have on-site facilities dedicated to hands-on practical training, provided free of charge

Perry Barr Station

One Brewery Wharf, Leeds

Quality

Quality

Ash & Lacy's products are manufactured to the highest quality standards, including BS EN ISO 9001:2015. All products aredesigned to fulfil specific applications and have been engineered to precise standards and tolerances. Ash & Lacy have adopted a strict Environmental Policy for all products.

Fire classifications

Ash & Lacy's rainscreen facade systems and rainscreen support systems have been tested and classified by Warringtonfire to EN 13501-1 standard.

CWCT

Ash & Lacy are members of the renowned CWCT (Centre for Window and Cladding Technology), and the design of all our Facade products adheres to CWCT design principles and has been tested to CWCT standards.

BBA

A selection of VariAL systems carries BBA accreditation and certification. All AxiAL aluminium and stainless steel support systems carry independent BBA certification.

For full details and to access BBA certificates, visit the manufacturer's website:
www.ashandlacy.com/testing-certifications

warringtonfire

Certified System SAI GLOBAL
ISO 9001
Quality

Certified System SAI GLOBAL
ISO 14001
Environmental

BBA

CENTRE FOR WINDOW AND CLADDING TECHNOLOGY

EPD Hub

Technical Support

Ash & Lacy's technical team are on hand to offer a complete through-wall and support package.

The package includes our light-weight steel framing, rainscreen cladding, and interfacing with window design; in fact, everything involved with the secondary elements of a building façade.

System CAD details are available to suit specific requirements. Details include options for support systems, as well as alternative arrangements for cappings, windows, and other openings, corners, and cill or base conditions.

There services include:

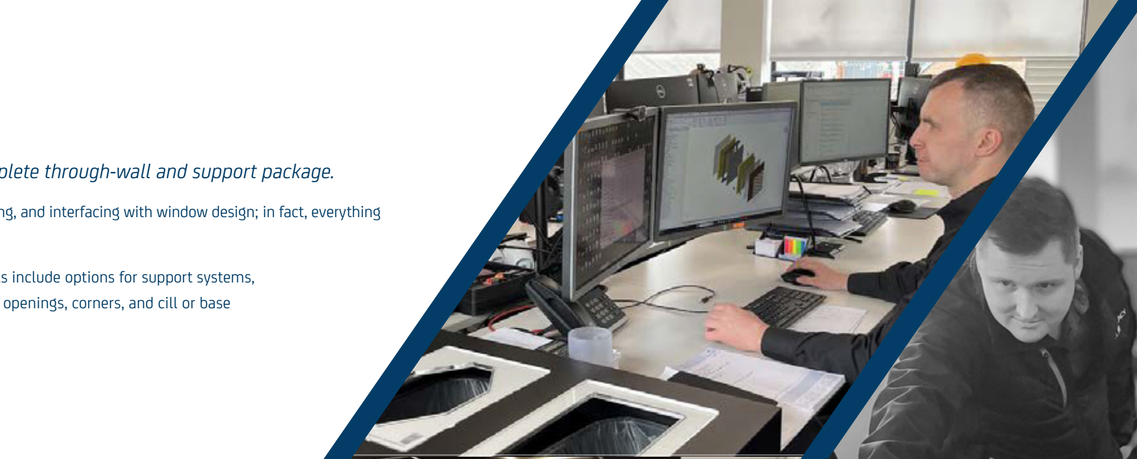
Abutment design
Details, interfaces, co-ordination and fabrication technical services.

CPD's
We take our responsibility to educate very seriously and are committed to providing Continuing Pro-fessional Development to the highest standards. All personnel attending an Aquarian Cladding/Ash & Lacy or technical seminar will automatically receive a CPD certificate.

Project specific calculations
Ash & Lacy offer engineering calculations services including: thermal, static and structural performance.

Steel framing system design and engineering
Infill, oversail and load-bearing cold formed steel design.

For more information, please email:
info@aquariancladding.co.uk



AxiAL

Axial Rainscreen (Marine Grade 6063 -T6 as standard) Support Systems are designed to deliver exceptional standards for both new-build and refurbishment projects.

Specially engineered to provide a superior level of thermal performance, designers have the reassurance of knowing they meet the highest environmental requirements, while ease of installation and reduced build time help to significantly lower costs.

AX1

Aluminium support system suitable for mechanical fixing of cladding elements by means of rivet or screw, with rails used in vertical application.

AX4

Aluminium support system suitable for rainscreen with a shallow cladding zone and no adjustability requirement.

AX2

Aluminium support system suitable for mechanical fixing of cladding elements by means of rivet or screw, with rails used in horizontal application.

Chartist Tower

Tested

AxiAL Rainscreen Support Systems are classified A1 to EN 13501-1 and are tested in conjunction with a wide range of facade materials to EN 13823 and EN 1716 standards, so you can specify Axial with complete confidence in its performance against fire.

Cost Effective

All alloys exceed performance test requirements, yet deliver significant savings (with aluminium brackets using 30% less raw material compared with flat extrusions).

25 Year Warranty included

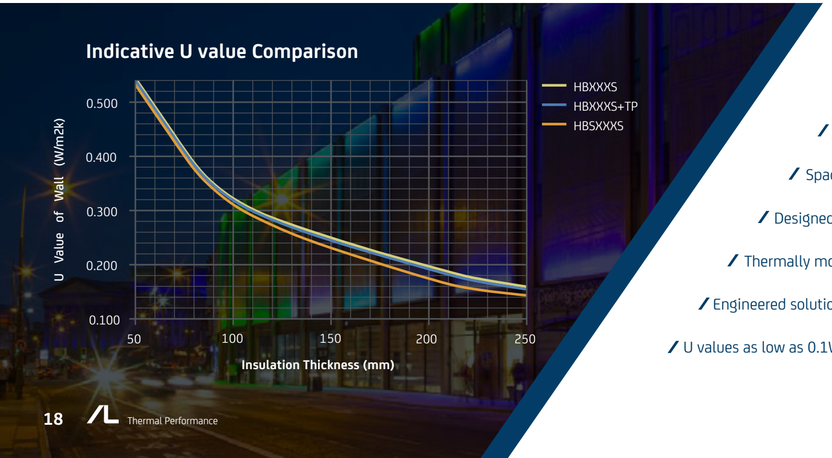
If AxiAL support systems are used, a 25 year system guarantee will be provided

Thermal Performance

When fitting any rainscreen system, thermal performance is critical. Both AxiAL aluminium and stainless steel systems offer considerable thermal protection.

Ash & Lacy's aluminium system, for instance, restricts thermal bridging by including isolation pads between the bracket and the structure – limiting the effect of heat loss through the warm zone. These isolation pads are pre-fitted into all **AxiAL** aluminium brackets to make installation quick and easy.

Choose their stainless steel brackets and you also benefit from low thermal conductivity. This inherent property prevents cold bridging without the need for isolation pads. Our technical team can calculate the thermal value of all our brackets and isolators to ensure that your installation minimises the overall impact of heat loss.



Key features include:

- Certified Passivhaus standard components
- Space saving low thermal bridging
- Designed to meet energy efficiency requirements
- Thermally modelled on a project specific basis
- Engineered solutions to reduce heat loss via thermal bridging
- U values as low as 0.1W/m2k achievable

Thermal Performance Comparisons – Aluminium vs Stainless Steel

Building Regulations – 0.18 U Value

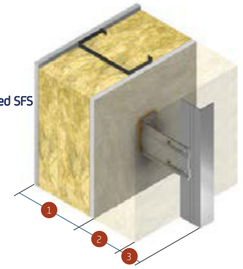
(AL – 120+60)

Aluminium

1) 150mm Insulated SFS

2) 120mm

3) 60mm



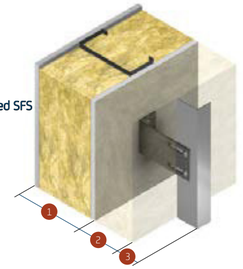
(SS – 110+60)

Stainless Steel

1) 150mm Insulated SFS

2) 110mm

3) 60mm



Future Homes Standard – 0.15 U Value

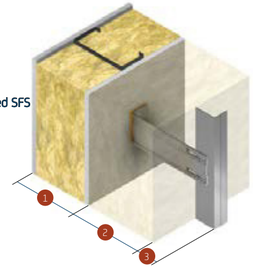
(AL – 200+60)

Aluminium

1) 150mm Insulated SFS

2) 200mm

3) 60mm



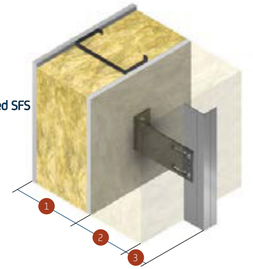
(SS – 150+60)

Aluminium

1) 150mm Insulated SFS

2) 150mm

3) 60mm



Passivhaus – 0.13 U Value

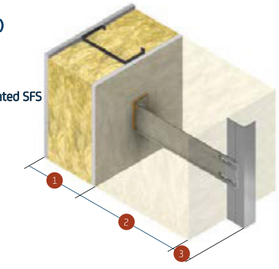
(AL – 320+60)

Aluminium

1) 150mm Insulated SFS

2) 320mm

3) 60mm



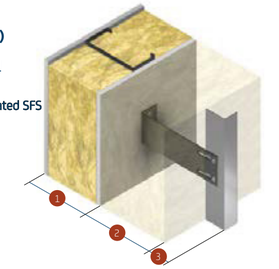
(SS – 200+60)

Stainless Steel

1) 150mm Insulated SFS

2) 200mm

3) 60mm



Drawings Not to Scale

Façade Systems

What are VariAL and LineAL?

The **VariAL** range of rainscreen systems offers ultimate flexibility; panels can be fabricated from a wide spectrum of different materials, including: solid aluminium, Cor-Ten steel, perforated & expanded metals, fixed to our AxiAL range of adjustable aluminium and stainless-steel carrier systems. Specifiers can choose from a wide selection of vertical and horizontal joint configurations, with options for through fix, concealed and secret fix to suit both budget and aesthetic requirements.

The **LineAL** aluminium plank façade systems offers specifiers the versatility of expertly fabricated folded aluminium. Systems employ a robust mechanical secret-fix, suitable for vertical or horizontal linear applications, fixed to our AxiAL range of adjustable aluminium or stainless-steel carrier systems. LineAL planks are available in solid and perforated aluminium with a choice of thicknesses to suit budget requirements, with varying module heights and standard panel lengths.

Ash & Lacy also offer in-house powder coating for flashings and fabrications, designed to perfectly complement your choice of rainscreen system.

Courtyard by Marriott Hotel

LineAL-F

A ventilated, secret-fix system, featuring folded aluminium plank suitable for horizontal & vertical panel arrangements.

See page 26-27

VariAL-CF3

A concealed fix baffle jointed cassette rainscreen system, with a range of fully adjustable aluminium support systems. Only available in solid aluminium.

See page 22-23

VariAL-TF

A versatile flat plate rainscreen system that can be rivet fixed or structurally bonded to a vertical adjustable support system.

See page 28-29

VariAL-H

A fully secret fix baffle jointed cassette rainscreen, with fully adjustable vertical aluminium mullion support system. Best suited to vertical applications.

See page 24-25

VariAL-MF

A selection of expanded mesh patterns offering exponential airflow ventilation options. Available in a range of materials.

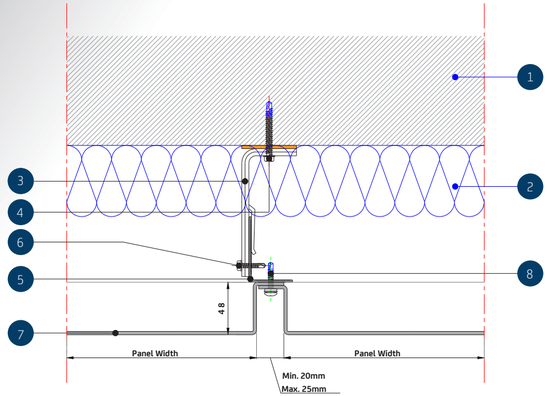
See page 30-31

VariAL Concealed Fix 3

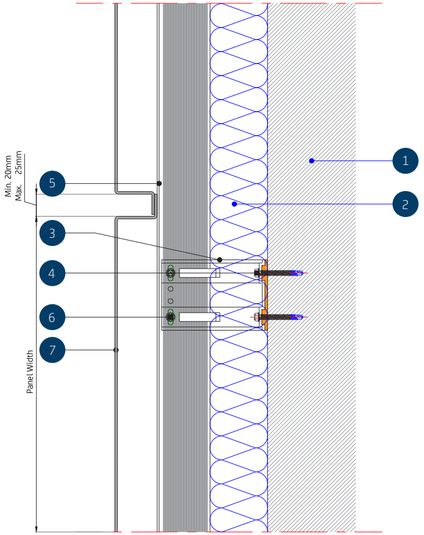
Description VariAL-CF3 offers a cost-effective rainscreen cassette solution where secret-fixed panels are not a project design requirement. Comprising a fully adjustable support system, relying on a colour coated discrete mechanical fixing in the horizontal shadow joint, VariAL-CF3 is designed specifically for solid aluminium facades, which can be finished using a range of coating technologies to stunning effect.

VARIAL-CF3

Vertical Joint



Horizontal Joint



Not to Scale

1. Substrate (by others)
2. Insulation (by others)
3. Bracket
4. Bracket/Wall Fixing (Depending on Substrate
5. Mullion
6. Bracket/Mullion Fixing
7. VariAL-CF3 Panel
8. Panel Fixing - LP-BM-LS28

VariAL Hook On

Description

VariAL ‘Hook On’ is a fully secret-fixed system, delivering aesthetically flat, precise panels with no visible fixings. The system accommodates a multitude of panel shapes and configurations, offering ultimate flexibility in aesthetic design techniques.

The independent panel structure allows for efficient installation around service areas, and easy individual demounting for maintenance or repairs.

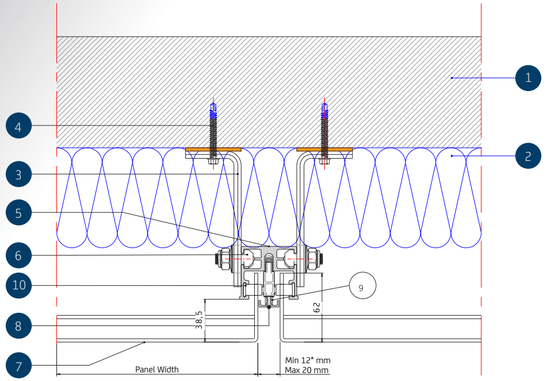
Key features include:

Variable joint sizes: A wide range of joint profiles and treatment options to suit the unique requirements of each project.

Flexible installation: No specific start points are required; panels can be installed in any sequence, thanks to the fully adjustable panel carrier, which can be easily locked and unlocked.

VARIAL-H

Vertical Joint

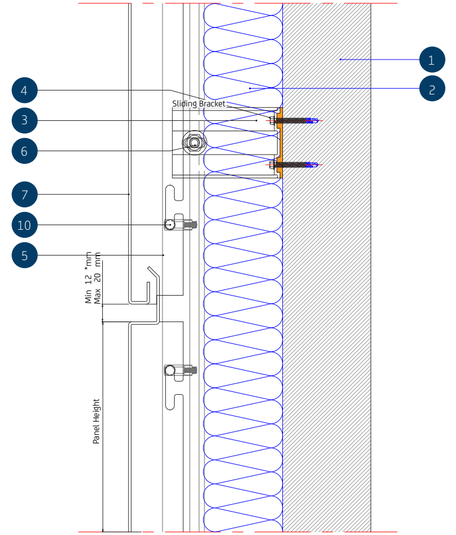


Not to Scale

*Joint Bead only for 14 and 20 mm Vertical Joint - Joint Detail drw SPVH.A.J-00

1. Substrate (by others)
2. Insulation (by others)
3. Bracket + Thermal Pad
4. Bracket/Wall Fixing (Depending on Substrate
5. Mullion
6. ‘T’ Bolt Set
7. VariAL-H Panel
8. Joint Bead
9. Bead Insert Carrier
10. Panel Carrier

Horizontal Joint



*Individual panel demounting please refer Joint Detail drw SPVH.A.J-00

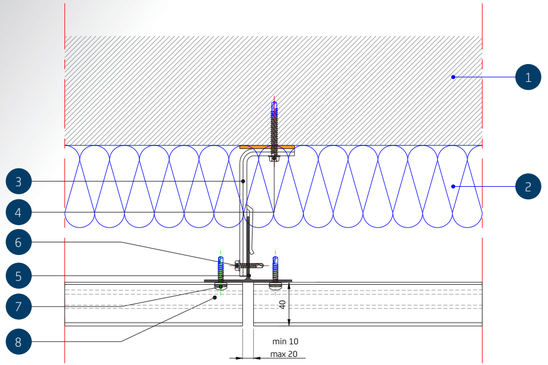
Note: All fixings, insulation and membranes indicated are for guidance only and need to be checked for each individual project.

LineAL Folded Plank

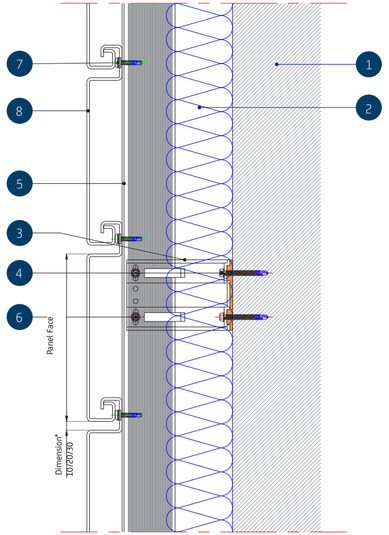
Description LineAL-F is a versatile cost effective lightweight aluminium plank rainscreen system, offering the appeal of secret-fix aesthetics, and fixed to a fully adjustable helping hand secondary support system allowing vertical or horizontal applications. Folded planks can be manufactured to specific module heights, and offered in an array of powder coated or anodised finishes, with options for solid and perforated aluminium.

LINEAL-F

Vertical Joint



Horizontal Joint



*PANEL FACE DIMENSION: min 50 - max 400 mm

Not to Scale

1. Substrate (by others)
2. Insulation (by others)
3. Bracket
4. Bracket/Wall Fixing (Depending on Substrate)
5. Mullion
6. Bracket/Mullion Fixing
7. Panel Fixing - LP-BM-LS28
8. LineAL-F Plank

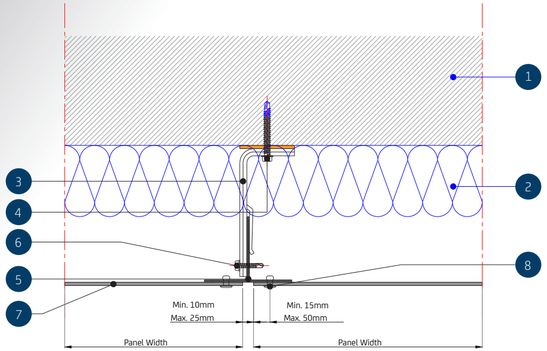
Note: All fixings, insulation and membranes indicated are for guidance only and need to be checked for each individual project.

VariAL Through Fix

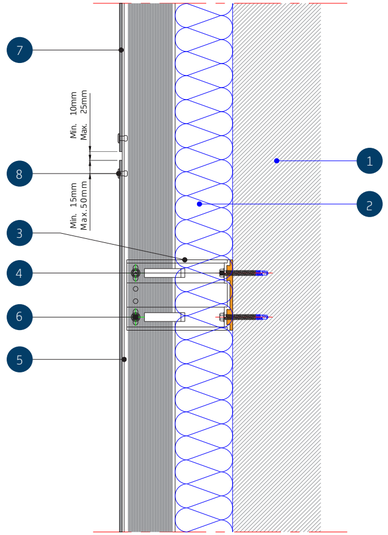
Description VariAL-TF offers a functional and robust solution for flat panel rainscreen cladding applications, which is simple and cost effective to design, detail and install. Fixed by a colour matched rivet through the face of the panel to allow minimal disruption of aesthetics, designers can achieve the effect of a smooth façade by specifying minimal shadow gaps when compared with cassette systems.

VARIAL-TF

Vertical Joint



Horizontal Joint



Not to Scale

1. Substrate (by others)
2. Insulation (by others)
3. Bracket
4. Bracket/Wall Fixing (Depending on Substrate)
5. Mullion
6. Bracket/Mullion Fixing
7. VariAL-TF Panel
8. Rivet (K11/K14)

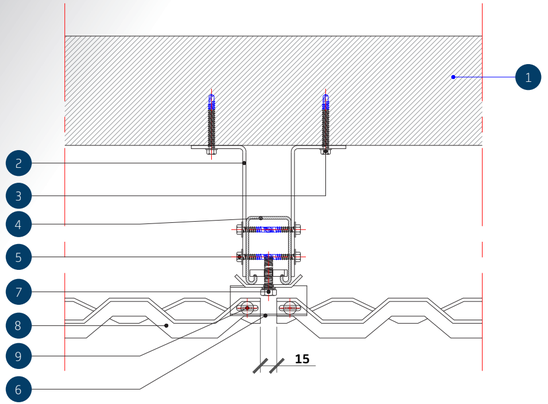
Note: All fixings, insulation, flashings, coping details and membranes indicated are for guidance only and need to be checked for each individual project.

VariAL Mesh Fix

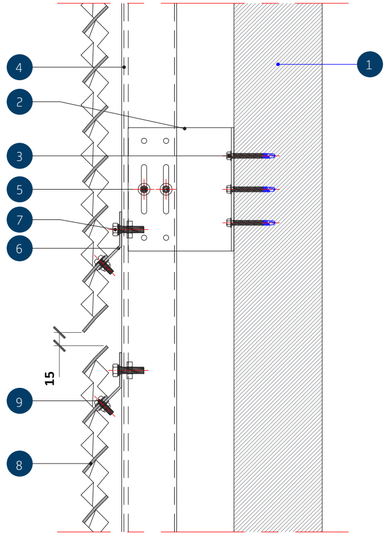
Description VariAL-MF is available in a range of materials and an extensive selection of expanded mesh patterns offering exponential airflow ventilation options. The cost effective support system comprises a fully adjustable bracket and mullion system which is extremely robust.

VARIAL-MF

Vertical Joint



Horizontal Joint



Not to Scale

1. Substrate (by others)
2. Bracket
3. Bracket/Wall Fixing (Depending on Substrate)
4. Mullion
5. Bracket/Mullion Fixing
6. Mesh Bracket
7. Mesh Mullion/Mullion Fixing
8. Screen
9. Screen/Mesh Bracket Fixing

Note: All fixings, insulation and membranes indicated are for guidance only and need to be checked for each individual project.

Perforated Metal & Expanded Mesh

This is a unique collection of perforated and decorative materials, chosen to inspire the architectural specifier; a range of materials, patterns and finishes which allow designs for the real world to come to life.

The range offers fully finished, functional and decorative architectural products ready for installation.

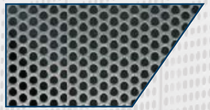

Vision 20%

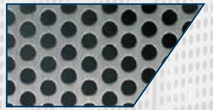

Vision 28%


Vision 30%

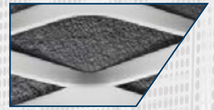

Vision 32%

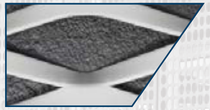

Vision 38%

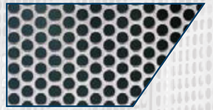

Vision 40%


Vision 41%


Vision 44%


Vision 48%


Vision Neutra 48% & 89%


Vision 50%

Hilton Garden Inn Hotel

Finishes

Ash & Lacy's In-house Powder Coating Finishes

The equipment, processes and quality standards have been recognised and approved by all major powder manufacturers and most recently by QUALICOAT, the world's leading quality label for the coating of aluminium.

Ash & Lacy's façade systems are available in an extensive palette of decorative finishes, with the introduction of an in-house powder coating facility, we have the ability, tools and knowledge to create bespoke high-quality finishes deserving of high-profile projects.

Standard options include:

- NCS/RAL PPC
- Anodised
- Anodised effect PPC
- Patina effect PPC
- Stone effect PPC
- Textured PPC
- PVDF

For our full range visit:
www.ashandlacy.com/finishes

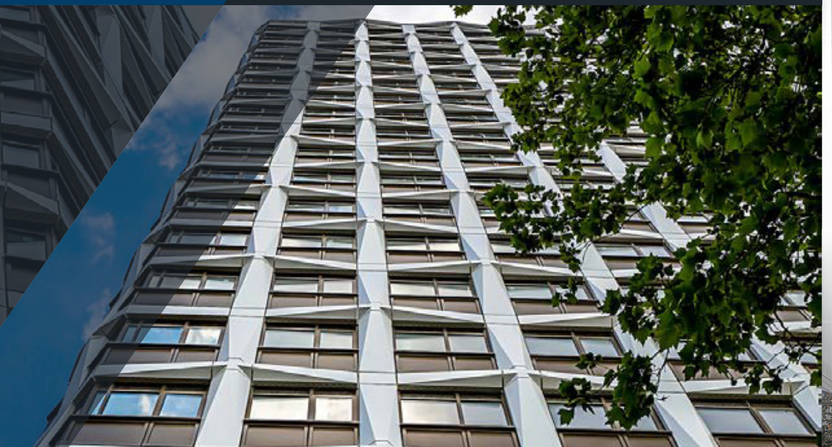
Perry Barr Station

Gateway Scheme, Lime Street

Forbury Place

Beacon Building

Wembley Point



Brentford Football Club

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