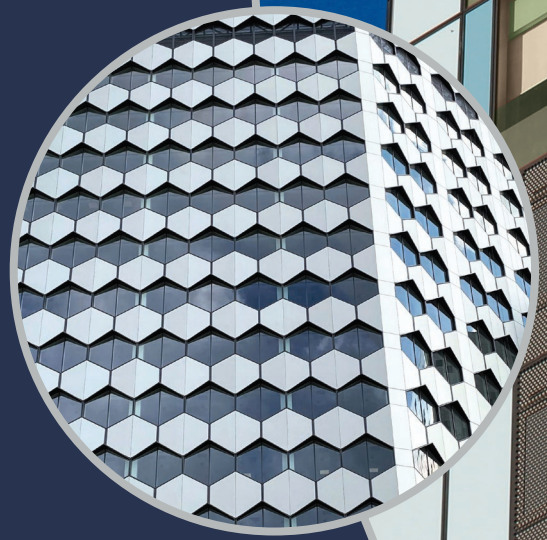
METALLINE®

ARCHITECTURAL FABRICATIONS



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METALLINE®
ARCHITECTURAL FABRICATIONS

Metalline is a leading fabricator of specialised aluminium facade products in the UK, operating the latest state-of-the-art manufacturing equipment, allowing a highly skilled workforce to deliver precision fabrications in a wide range of materials for the architectural, building and construction sector.

As an award-winning facade specialist, Metalline is dedicated to being industry leaders in innovation and testing. We rigorously test all our panel ranges for Impact Resistance, Wind Resistance and Fire Performance, setting the standard for safety and reliability in architectural metalwork solutions.

CPD

Metallines' **Continued Professional Development** (CPD) presentation will help you develop and enhance your knowledge and skill base in terms of architectural fabrications. This CPD looks at the design and fabrication processes of aluminium cladding products, testing and certification requirements in an ever-changing industry and the sustainability and environmental practices integral to the modern façade. If you would like more information about our CPD please do not hesitate to contact us at **cpd@metalline.co.uk**.

MEMBER OF CENTRE FOR WINDOW AND CLADDING TECHNOLOGY

As proud members of the Centre for Window and Cladding Technology, we make vital use of the standards, guidance and technical publications they offer as we strive to achieve the highest quality and most stringently tested products on the market.

NBS

Our NBS Source specification tool provides details of our available products specifications. Visit our website to learn more.

CONTENTS

SUSTAINABLE CLADDING SOLUTIONS

Metalline is dedicated to ensuring the sustainability of our products throughout the typical lifespan of a building. We strive to minimise our environmental footprint by incorporating eco-friendly practices in both the design and manufacturing phases. Our commitment extends to fostering a sustainable future, promoting high-quality architecture that utilises environmentally conscious materials and methods, whilst prioritising fully recyclable materials. This commitment not only influences the sustainable design of new structures but also plays a crucial role in urban regeneration initiatives. Metalline's approach to sustainability throughout the project life-cycle contributes towards a circular economy and is evident in our collection of Environmental Product Declarations (EPD). Our EPD's outline the life cycle of our products in accordance with EN15804+A2 and ISO 14025 / ISO 21930 standards. If you would like more information about our EPD's please do not hesitate to contact us.

CLAD-LINE®
FRAMING SOLUTIONS

CLAD-LINE is one of the UK's leading manufacturers of extruded aluminium non-combustible subframe systems. With over 30 years' experience in the manufacture and supply of rainscreen systems, CLAD-LINE have developed a complete set of framing solutions.

CLAD-LINE aim to simplify the design process, reduce installation time, and provide products which make everybody's life that little bit easier. What better way is there to do this than to work in conjunction with our valued customers and draw upon their first-hand industry knowledge to develop a structurally efficient and fully compliant subframe offering.

FACADE ENGINE®
SPECIFICATION BUILDER

Facade Engine is a state-of-the-art analysis tool for all of your rainscreen subframe requirements. This free to use software provides comprehensive static calculations to help our customers generate the optimum framing design.

- **ANALYSE** internal forces, support reactions and system deflections
- **VERIFY** the analysed forces and deflections are lower than the system resistance
- **OPTIMISE** your framing design by iterating system variables
- Integrated wind load calculator
- Fixing analysis and specification
- Secondary support top hat analysis

ULTIMA

Aluminium Spandrel Panels

The ULTIMA aluminium insulated spandrel panel is the most tested spandrel panel on the market and offers high-performance solutions to construction projects requiring both technical excellence and aesthetic appeal.

Tested rigorously to BS EN 13501-1 standards, ULTIMA spandrel panels can be manufactured to achieve either A1 or A2 – s1,d0 classifications, ensuring compliance with regulations regarding the use of non-combustible cladding. With the widest field of application on the market, ULTIMA panels offer designers the flexibility they require to meet specific project requirements while maintaining optimal fire performance and documented compliance.

Additionally, the ULTIMA range has been subjected to impact and wind resistance testing to CWCT standards, successfully meeting all designated criteria. Whether for new construction or cladding replacement projects, ULTIMA panels provide a versatile, compliant and reliable solution.

REACTION TO FIRE PERFORMANCE
A1 & A2 - s1,d0 classification to BS EN 13501-1

IMPACT RESISTANCE
Soft & hard body impacts fully tested to CWCT TN75/76 Standards

WIND RESISTANCE
Fully tested to CWCT standards

- Low maintenance
- Strong and durable
- Ease of installation
- Limitless colour options
- Perfect for replacement of non-compliant spandrels
- Panels can be fitted into Structural Glazing systems

REACTION TO FIRE CLASSIFICATION IN ACCORDANCE WITH BS EN 13501-1

IMPACT RESISTANCE

Metalline's ULTIMA spandrel panels have been impact tested in accordance with CWCT TN75/76 (soft body and hard body impacts) achieving the highest classification.

Soft Body Impacts		
120 J Serviceability	350 J Safety	500 J Safety
Class 1	Negligible risk	Negligible risk

Hard Body Impacts		
3 J Serviceability/Safety	6 J Serviceability	10 J Serviceability/Safety
Class 1/Negligible risk	Class 1	Class 1 / Negligible risk

WIND RESISTANCE

Metalline's ULTIMA spandrel panels have been tested in accordance with CWCT standards for wind resistance.

1. Resistance to wind load – deflection
2. Wind resistance – safety

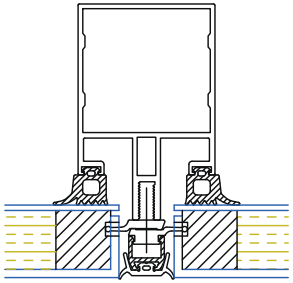
Serviceability = 2400 Pascals (positive and negative)

Safety = 3600 Pascals (positive and negative)

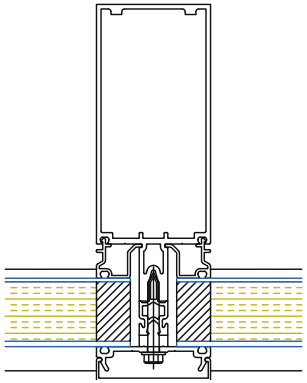
Ultimate = Wind resistance to failure (or up to 4500 Pascals)

THE MOST TESTED SPANDREL PANEL ON THE MARKET!

TECHNICAL DRAWINGS



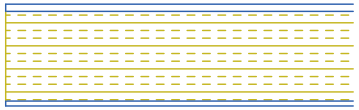
Typical detail for panels used with structural glazing systems



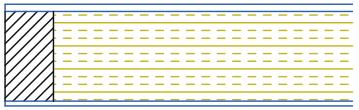
Typical detail for panels used with curtain walling systems

EDGE DESIGN OPTIONS

ULTIMA A1 - Outer tray with thermal break and mechanically fixed inner sheet



Insulation core

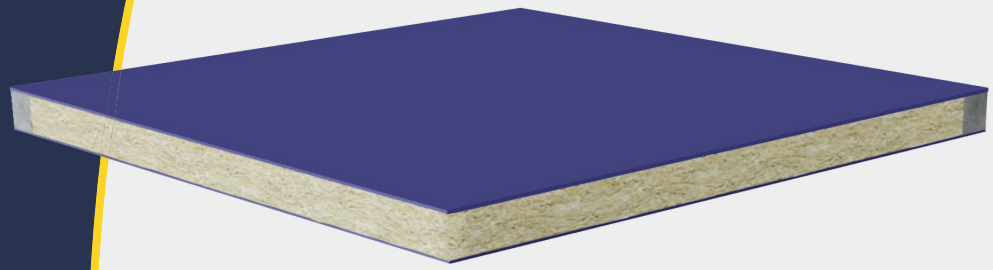


Perimeter edge/thermal break

Routered edge detail for structural glazing

ULTIMA 1

Aluminium Spandrel Panels



External: Aluminium sheet with anodised or PPC finish

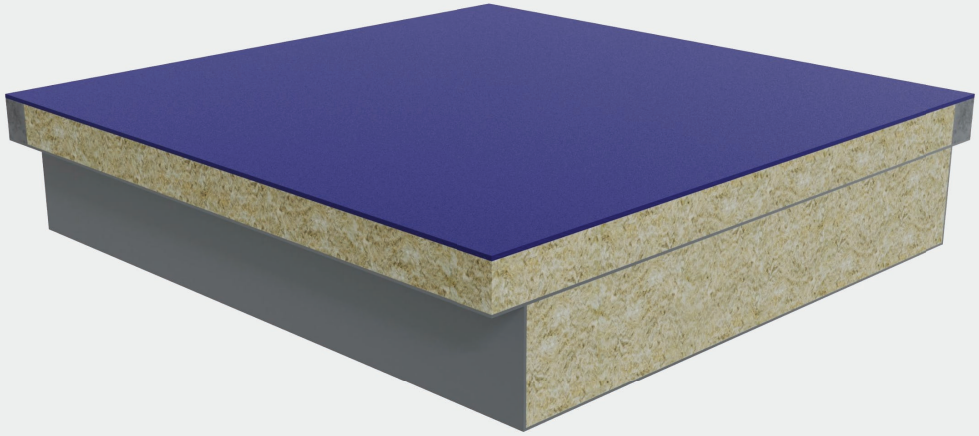
Core: Fabrock Clad insulation

Internal: Aluminium tray with anodised or PPC finish / Mill finish aluminium / Pre-galvanised steel

Adopting a stepped tray design like in ULTIMA 2, 4 and 5 allows for increased amounts of insulation to be used to improve the panel's thermal performance whilst maintaining the desired glazing edge thickness.

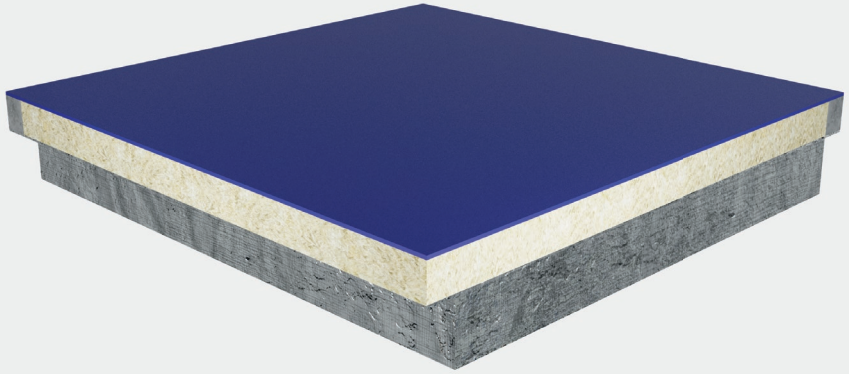
ULTIMA 2

Aluminium Spandrel Panels



ULTIMA 3

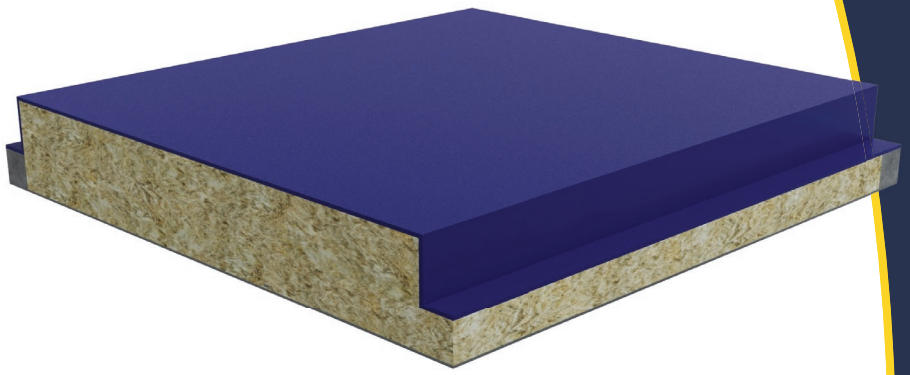
Aluminium Spandrel Panels



The ULTIMA 3 design uses an aluminium foil encased section of mineral wool insulation bonded to the back of an ULTIMA 1 panel to improve the panel's thermal performance whilst maintaining the desired glazing edge thickness.

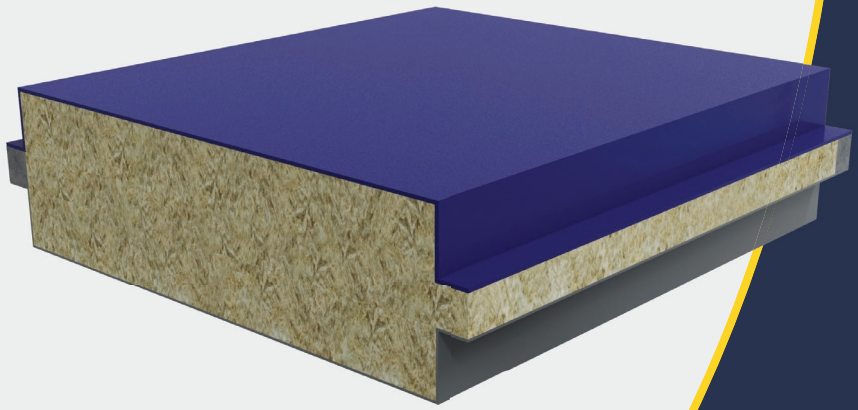
ULTIMA 4

Aluminium Spandrel Panels



ULTIMA 5

Aluminium Spandrel Panels



UNITY

Aluminium Rainscreen Cladding

Metalline offer a wide range of fire-rated aluminium rainscreen cladding panels and facade systems. Perfect for use on a diverse range of construction projects, our UNITY cladding systems have been fully tested against the required standards for fire and structural performance.

Metalline's UNITY range of aluminum cladding panels have been designed to deliver a non-combustible solution for typical rainscreen applications. From secret-fix hook-on cassettes to flat face-fixed panels, the UNITY range offers architects, specifiers and contractors a fully tested and compliant rainscreen cladding system for both new build and cladding remediation projects.

REACTION TO FIRE PERFORMANCE

Anodised aluminium – A1 classification to BS EN 13501-1
Pre-coated aluminium – A1 classification to BS EN 13501-1
Powder coated aluminium – A2- s1,d0 classification to BS EN 13501-1

SUPERIOR REACTION TO FIRE TESTING OF POWDER COATED PANELS

Powder coated panels tested fixed back to aluminium rails with horizontal and vertical joints, the appropriate ventilation space and a mineral wool substrate. All colours covered by the test's Field of Application

WIDEST SCOPE OF TESTING

Over 25 colours tested to EN1716 ensuring the powder coated range of UNITY panels has the widest field of application on the market

IMPACT RESISTANCE

Soft & hard body impacts fully tested to CWCT TN75/76 Standards

WIND RESISTANCE

Fully tested to CWCT standards for serviceability and safety

DYNAMIC WATER RESISTANCE

Fully tested to CWCT standards

REACTION TO FIRE CLASSIFICATION IN ACCORDANCE WITH BS EN 13501-1

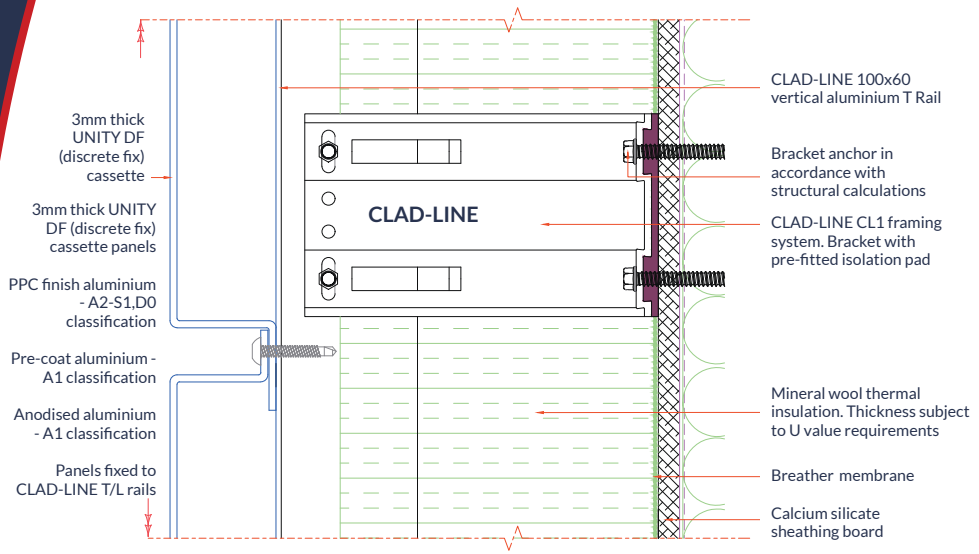
FIELD OF APPLICATION

25 colours were tested to BS EN ISO 1716: 2018 of varying mass/density, composition and organic content in order to ascertain the worst case GHC (Gross Heat of Combustion). BS EN 13823:2020+A1:2022 (SBI) testing conducted on PPC aluminium panels mechanically fixed to aluminium rails with a 15mm to 40mm air gap and a mineral wool substrate. Horizontal and vertical joints were incorporated within the test specimen.

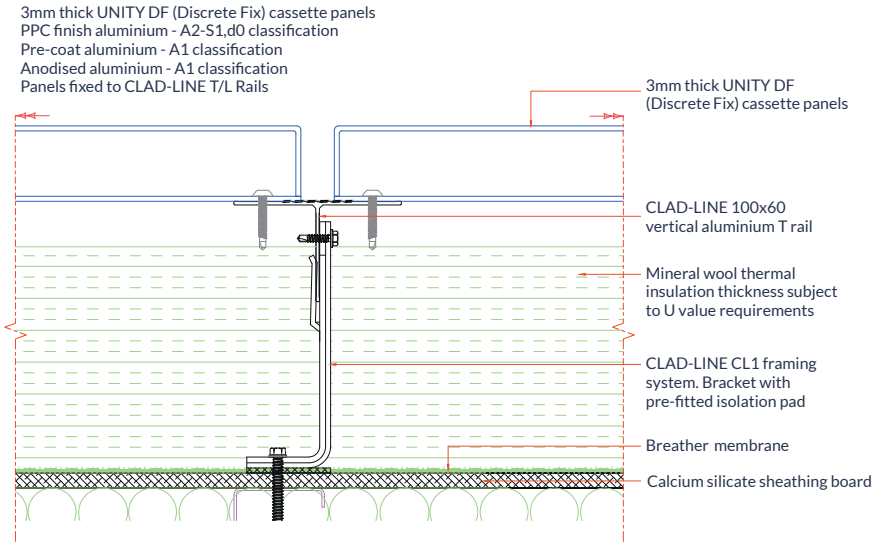
Component	Covered within A2-s1,d0 classification
Thickness of the aluminium	Valid for 3 mm or greater
Thickness of the coating	Valid for 60 - 120 µm
Asymmetry	Valid for fire on either side
Colour	Valid for all colours
Substrate	Mineral wool plus valid for any substrate of class A1 or A2-s1,d0 with a density of at least 37.5 kg/m^3
Airgap / cavities	Valid with airgap/cavities of at least 15 mm between the product and the substrate
Size and positioning of the test specimen	Valid for all product sizes
Joints	Valid for horizontal and vertical joints as tested

TECHNICAL DRAWINGS

UNITY A2 DF HORIZONTAL JOINT

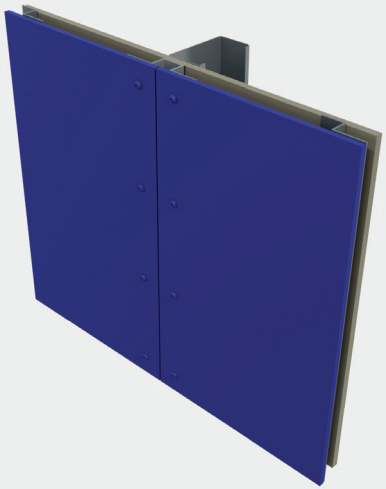


UNITY A2 DF VERTICAL JOINT



UNITY TF

Aluminium Rainscreen Cladding



FINISHES

Anolok™ Anodised

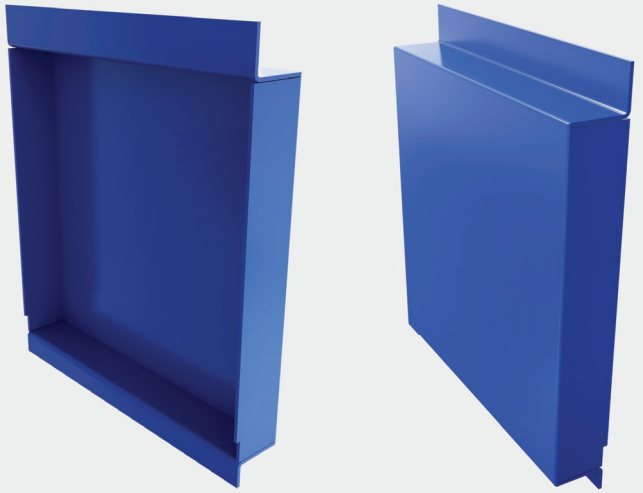
All anodised finishes available with a lifetime finish warranty. Anodised finishes require little if any maintenance.

Polyester Powder Coating

Powder coating offers a durable and versatile finish to an aluminium rainscreen panel. Available in all RAL colours plus special finishes including woodgrain, stone and corten effect. Up to 40-year project specific coating warranties are available and maintenance will be required as part of the finish warranty.

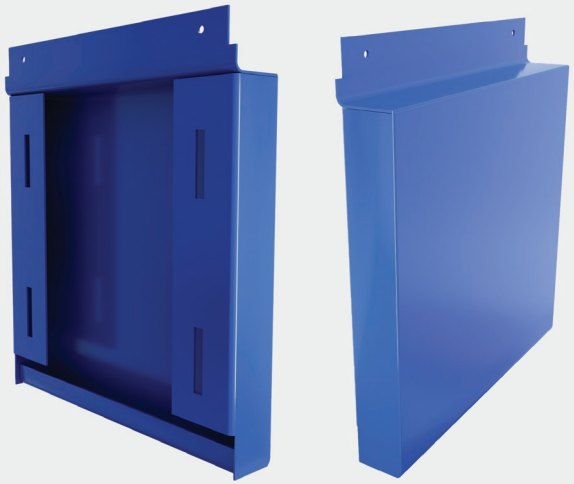
UNITY DF

Aluminium Rainscreen Cladding



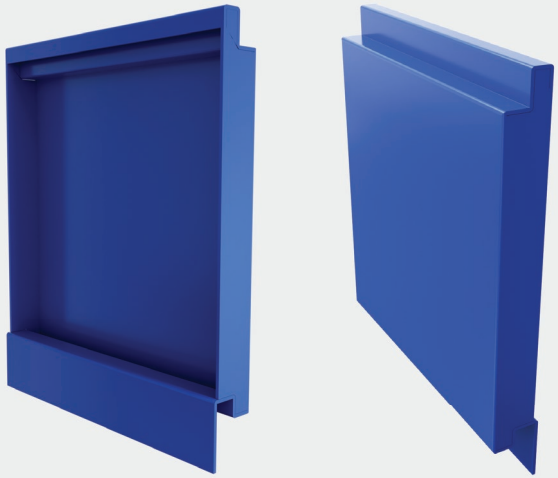
UNITY SF

Aluminium Rainscreen Cladding



UNITY IL

Aluminium Rainscreen Cladding



UNITY X-TRU

Extruded Plank System

SPECIALISTS IN RECLADDING PROJECTS

Metalline's extensive testing demonstrates both competence and product compliance, making us the ideal choice for both reclad and new build projects.

There is now a more stringent building regulatory framework required in design and construction for new and high-rise residential buildings, care homes and hospitals. It is imperative, now more than ever, that the Golden Thread of information is complete. With the widest BS EN 13501-1 Field of Application on the market, Metalline have all the information and certification required for a comprehensive and compliant Gateway 2 submission.

Our vast experience within the reclad sector allows us to assist with product selection, optimisation and verification, all backed up with industry leading testing.

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ARCHITECTURAL FABRICATIONS

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PEERS QUALITY ASSURANCE LTD ISO 14001:2015 UKAS MANAGEMENT SYSTEMS 9940

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