Alitherm Heritage
The smart solution for heritage applications
In the last 35 years, Smart Architectural Aluminium has grown to become the UK’s leading manufacturer and supplier of aluminium systems.
During that time, we have built an enviable reputation not only for the quality, breadth and depth of our product ranges, but also for our innovative and flexible approach to product innovation and the quality of our design expertise and technical support services.

In the UK, we operate from a purpose-built 45,000m² plant which houses offices, three state-of-the-art extrusion presses, two 100% chromate-free polyester powder coating paint lines and our logistics and distribution hub – all of which are dedicated to meeting our customers’ specific needs. We have also installed a dedicated paint line for hardware and accessories, ensuring we deliver consistent and precise colour matches for every project.

As a business, we are fully committed to delivering sustainable processes and materials – a manifestation of which is our objective of becoming both carbon-neutral and energy self-sufficient.

Our continued investment in and focus on sustainable solutions, builds on the success of a number of recent initiatives, including the implementation of a range of environmental policies and procedures; an ISO14001 Environmental Management System and the introduction of strict recycling protocols.
Providing a modern, like-for-like replacement for traditional materials, Alitherm Heritage is the ideal solution for projects where planning or design demands dictate the installation of sympathetic materials – even for listed buildings. The system has already been approved for projects in a number of Local Authorities (including the London Boroughs of Islington, Camden and Tower Hamlets, Watford Borough Council and Essex County Council) as well as Cadw, the Welsh Government’s historic environment service.

The Alitherm Heritage door and window ranges both feature the slim profiles and sight lines that are associated with traditional steel doors and windows.

However, the system’s timeless elegance is also accompanied by the outstanding thermal performance of a modern aluminium system – each delivering a ‘B’ Energy Rating. Featuring slim, thermally-broken profiles, Alitherm Heritage windows are available in a number of formats, including fixed-pane, sash, top-hung and side-hung casement, pivot and tilt and turn. These different options may be installed in a combination of horizontal modules, which are stacked using our coupling options to form a multi-part window.

Suitable for both single and double door application, Alitherm Heritage balcony doors are available in a wide range of sizes and are supplied with a multi-point lock mechanism as well as face-mounted finger thrown locking bolts. Both the window and door systems deliver a U-Value of 1.5 W/m²K, when installed with a suitable sealed unit, and are available in either single or dual polyester powder coated finishes.
Aluminium versus Steel
Delivering improved thermal efficiency and long-life performance.

Building on over 35 years’ design and development experience, our R&D engineers have produced a complete range of integrated door and window systems that deliver not only the aesthetics required for sensitive Victorian and Art deco refurbishment projects, but also the thermal efficiency that is demanded by developers, architects, planners and building occupiers.

Alitherm Heritage provides a modern light-weight, high-strength and cost-effective alternative to traditional steel window and door systems, offering a wide range of benefits:

Increased Lifespan
Because aluminium does not rust or rot, window frames provide great longevity and can last indefinitely. This also means that the aluminium windows have the longest lifespan of any window framing material, with typical replacement periods of 40 years – compared to a typical 35 year replacement period for steel, PVC and timber.

Improved Thermal Efficiency
Modern aluminium windows are thermally-broken using polyamide, an excellent insulator which helps to insulate windows against heat loss. The thermal conductivity of polyamide is 160 times better than steel, which for a typical terraced house would provide a saving of around £95 each year in fuel costs. In addition to these energy savings, the polyamide also raises the internal temperature of a house, helping to reduce the risk of condensation.

Reduced Maintenance
Maintenance for aluminium systems is simple and straightforward, with a routine ‘wipe-clean’ all that is required to keep the products looking their best. With no requirement for re-painting or re-varnishing, aluminium windows and doors will never fade, deteriorate or rust, even in harsh environments, such as coastal locations, where steel windows can be particularly prone to rust, requiring regular maintenance and eventually replacement. For example, the Sully Hospital overlooking the Bristol channel, the building’s original steel window frames became heavily corroded and covered in rust. These were then replaced with aluminium window frames with a marine grade polyester powder coating to provide long-life performance with minimal maintenance.

(Source: BRE British Research Establishment)

Above Left – Polyamide thermal break technology and modern profile design enhances the thermal performance of Alitherm Heritage compared to steel windows.

Above – Alitherm Heritage closely replicates the aesthetics of steel windows. The window shown above is steel, the window below is Alitherm Heritage.
Hardware

Both the window and door systems, and accompanying hardware and accessories may be supplied in any colour from our extensive Naturals and RAL ranges, as well as our bespoke Sensations colours and our recently launched Alchemy range. Alchemy offers eight anodised colour matches, including shades of gold, bronze, silver, grey and black, and combines the unique style and aesthetics of traditional anodising, with the advantages of a high quality powder coating process.

Our Alitherm Heritage ranges are all available with a full suite of hardware options, with products specifically designed to match the door and window furniture that is synonymous with Victorian and Art Deco styles – including ‘Monkey Tail’ and ‘Bulb’ options.
Alitherm Heritage provides the ideal solution for heritage applications such as listed building renovations and large scale replica-refurbishment projects where planning constraints are to be considered.

The Alitherm Heritage window is designed to be built as a series of horizontal modules which can be stacked using horizontal couplers to form a multi-part window featuring a specially design drip bar between modules.

**Application**
- Fixed windows
- Single or double sash, side hung open out casements
- Top hung open out casements
- Tilt & turn windows
- Pivot windows*

**Features**
- Polyamide thermal break provides enhanced thermal performance
- Designed as a direct replacement for steel windows

**Finish**
Single or dual colour, marine quality polyester powder coat as standard

**Technical Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>WER Rating</td>
<td>B</td>
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<tr>
<td>BRE Green Guide (Commercial)</td>
<td>A+</td>
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<tr>
<td><strong>U Value</strong></td>
<td>1.5 W/m²K (using sealed unit 1.0 W/m²K)</td>
</tr>
<tr>
<td><strong>Air</strong></td>
<td>Class 4, 600Pa</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Class 9A, 600Pa</td>
</tr>
<tr>
<td><strong>Wind</strong></td>
<td>Class AE, 2400Pa</td>
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**Dimensions**
- Frame Depth: 47mm
- Glass: 24mm, 28mm, 32mm & 36mm

**Recommended Design Limits**
- Side Hung Vent Max o/a Width: 700mm
- Side Hung Vent Min o/a Width: 300mm
- Side Hung Vent Max o/a Height: 1400mm
- Maximum Vent Weight: 40kg
- Top Hung Vent Max o/a Width: 1400mm
- Top Hung Vent Max o/a Height: 1300mm
- Top Hung Vent Min o/a Height: 275mm
- Maximum Vent Weight: 40kg

*Available soon, check with your supplier
Product Specification
Choice of single and double doors specifically for heritage projects.

Alitherm Heritage Door
The Smart Alitherm Heritage door is the ideal replacement for steel balcony doors on heritage applications such as building renovations or apartment conversions. The Alitherm Heritage door provides the solution for conservation areas where planning regulations require a like-for-like product replacement.

Alitherm Heritage door profiles feature the system’s signature slim sightlines and elegant lines that complement Smart’s existing Alitherm Heritage window and mimic those of steel doors. The system has all the advantages of modern aluminium profiles that feature polyamide thermal breaks, allowing the system to achieve a U Value of 1.5 W/m²k when installed with a suitable sealed unit.

Application
✦ Single or double doors

Features
✦ Slim sightlines
✦ Tape or gasket glazed
✦ Multi point locking and face mounted shoot bolts

Technical Performance

<table>
<thead>
<tr>
<th>Feature</th>
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</thead>
<tbody>
<tr>
<td>U Value</td>
<td>1.5 W/m²K (using sealed unit 1.0 w/m²K)</td>
</tr>
<tr>
<td>Air</td>
<td>Test result pending</td>
</tr>
<tr>
<td>Water</td>
<td>Test result pending</td>
</tr>
<tr>
<td>Wind</td>
<td>Test result pending</td>
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<tr>
<td>Glass</td>
<td>24mm – 32mm</td>
</tr>
<tr>
<td>Typical Sightlines</td>
<td>59mm</td>
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</tbody>
</table>

Recommended Design Limits
Max Sash Width  900mm
Max Sash Height 2100mm
Profile Chart
Section details for all window and door system profiles. Not to scale.
Casement Windows

Traditional casement windows are ideal for both residential and commercial applications. Frames can be manufactured in a wide variety of configurations and accept a range of hardware and locking options. Casement windows offer good ventilation and light ingress.
Section Drawings: Pivot Window

Examples of Typical Sections

Pivot Windows

Pivot windows are hinged at their horizontal midpoint and open by pivoting on their horizontal plane. This method offers easy access to the exterior of the window and facilitates cleaning and maintenance. This style of window is commonly used in multi-story buildings where easy access to the outside of a window is required.

*Available soon, check with your supplier

Note: Diagrams not to scale.
Tilt Turn Windows

A tilt turn window opens in two ways; either by an inward opening side hung operation allowing easy cleaning or egress from the window, or by tilting inwards from the top of the sash which provides ventilation whilst ensuring safety and security.
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Balcony Doors
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Note: Diagrams not to scale.
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