

WHY ALUMINIUM CREATES BEAUTIFUL, SUSTAINABLE BUILDINGS

Architects have been specifying it for over 100 years, but aluminium could not be a more contemporary cladding material. As James Ormerod, Managing Director at Aliva UK, explains, it's a popular choice for 21st Century projects where edgy aesthetics and sustainability meet

A shimmering façade for a brand new flagship leisure centre in Oldham is the latest in a series of stunning projects to use aluminium.



Aliva crafted an Alucovering façade that defies the elements and attracts the eye 24:7 – utilising 2,500 square metres of aluminium in a 'random' pattern of three anodised finishes: two etched and one mirrored. The finish picks up changes in lighting conditions throughout the day, and the reflections generated by the setting sun are particularly dramatic.

The leisure centre is the first in a series of projects as part of the town's £100m redevelopment scheme, including a cinema in the old town hall and an independent quarter for local businesses.

It is a great example of why architects return to aluminium cladding material again and again.

Versatile, stunning and inventive

Not only is it versatile enough for the most stunning and inventive designs, it is also highly sustainable, which is great news for architects seeking the highest 'green' standards. It can be completely recycled and turned into other aluminium products. Seventy-five per cent of all aluminium ever produced is still in use and recycling rates for architectural aluminium are between 92%–98%.

Architects have used aluminium in building design and cladding for over 100 years. In fact, the first known use of it dates back to 1897, when the dome of San Gioacchino's Church in Rome was clad in aluminium sheets. It's still there today, in almost pristine condition.

True 'rainscreen' cladding came later. In 1952, the Alcoa Building in Pittsburgh, USA – a 30-storey building clad in open-jointed aluminium baffle panels – became one of the earliest and best known examples.

But modern aluminium cladding is so much more than silver panels although these are, of course, an option. The varieties are extensive. High quality billets of aluminium are extruded to create the panels, a process which allows us to create any profile, from flat to corrugated, smooth waves, and much more.

And it's not just the shape that can be altered. Panels can be anodised or powder coated, and come in any conceivable colour, as well as looks that mimic Corten, wood and other beautiful finishes.

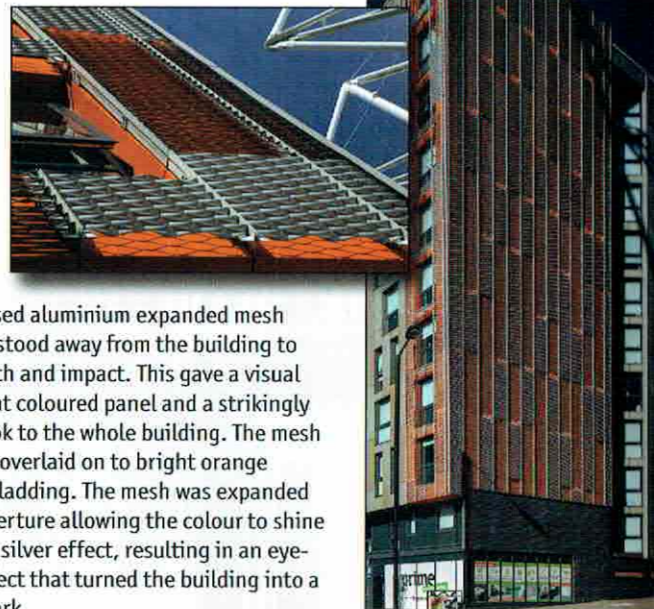
Options with expanded mesh

Aluminium cladding doesn't stop at extruded panels; there is the option to use expanded or perforated mesh and to screen print onto both panels and mesh. A good example of this is our gold mesh façade on a car park for Central Manchester University Hospitals NHS Foundation Trust. The façade base featured a bespoke, screen-printed urban landscape to attract attention at street level and create a focal point for visitors arriving by car.

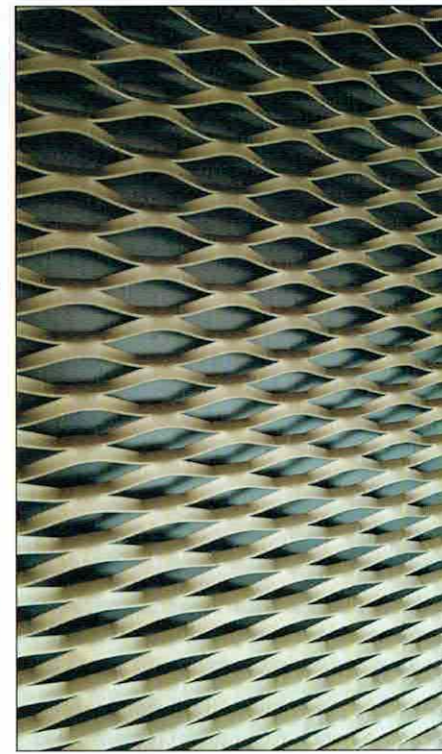


Another mesh façade with high impact was St James Point, a student apartment block in Newcastle. The building was finished in a mixture of aluminium cladding but the architect wanted to add another dimension to make it stand out from others.

Aliva UK designed a stunning silver anodised aluminium expanded mesh façade that stood away from the building to provide depth and impact. This gave a visual lift to the flat coloured panel and a strikingly different look to the whole building. The mesh panels were overlaid on to bright orange aluminium cladding. The mesh was expanded as a wide aperture allowing the colour to shine through the silver effect, resulting in an eye-catching effect that turned the building into a local landmark.



For the luxury Merano residences on a 29-storey tower on the Embankment in London, the architects used bronze aluminium mesh panels to create a striking, contemporary finish. The project for St James, a member of the Berkeley Group, used 1,000 square metres of bronze anodised mesh in a wave pattern on the flank walls and up into the terrace areas on the penthouse to create geometric lines that sparkle in the sun. The huge 2.8m x 1.6m panels appear to change colour throughout the day as the sun hits and refracts the light.



Aluminium also enables architects to create something completely bespoke, as we did for Prada, Las Vegas, where each panel was created individually to encompass conical light fittings producing a truly unique finished look.



Beautiful, practical and lightweight

Aluminium isn't just beautiful; it's practical too. It's extremely lightweight, which means it doesn't place a significant load on the building's supporting structure. Another recent student accommodation project for us in Liverpool involved fitting aluminium cladding to a timber-framed building. This was only possible because aluminium is so light. It's also very easy and quick to install, offering major cost advantages – the bronze and silver cladding for this project was installed in just six weeks.

Durable and energy saving

Aluminium is also extremely durable. The windows of the New University Library at University of Oxford are an excellent example of this. The aluminium window frames have been in place for over 70 years without requiring any maintenance other than occasional cleaning.

Aluminium cladding is highly reflective, making it very efficient for light management, and energy saving. Aluminium ventilated cladding protects the inner skin of the insulation against the elements, ensuring a long design life. The air gap also helps to retain warmth, making it possible to prevent considerable loss of energy from a building.

The material's thermal properties are not just true for new buildings; old buildings can be made more energy efficient too. Take the Torenflat (a high rise apartment block) in Zeist, Netherlands. In 2008, a renovation project enclosed the entire building in a 'warm jacket' of fully prefabricated aluminium façade units. The energy performance has been improved by three categories according to the Dutch building energy labelling system.

Apart from periodic cleaning for aesthetic reasons, aluminium cladding needs no maintenance, which translates into a cost and ecological advantage over the lifetime of the product. Aluminium also does not burn, and is therefore classified as a non-combustible construction material (European Fire Class A1).

Revitalising old buildings

Not only can the myriad design options help architects to realise their dreams for new-build projects, but aluminium cladding can also revitalise old buildings. Its lightweight nature means that it can be added without needing to strengthen or change the existing building structure.

Furthermore, its safe, low-maintenance credentials make it particularly suitable for public buildings like schools and colleges. In London, we helped to deliver a subtle, high end finish for Uxbridge College that enabled the architect to create a brand identity across two different sites as part of a major refurbishment.

We provided advice and product samples to ensure that every detail of the façade was right. We supplied powder coated panels of Alucovering aluminium cladding in four different textures.

The polished, brushed, etched and natural aluminium cladding textures created a living façade that changes its appearance as the ever-changing London weather hits the building. The panels were cut to size and then anodised so that the finish on the corners matched the rest of the panel. The result was a finish fit for Uxbridge College's growing reputation: rated top in London by the Skills Funding Agency for further education.

Our architect clients constantly push our design and consultancy teams to create bespoke, inventive aluminium cladding solutions. We continuously research and develop novel applications for this most versatile of materials. With its flexibility and its chameleon ability to transform buildings, aluminium's possibilities are only limited by our imagination.

● For further information visit www.alivauk.com

