

SUSTAINABLE REGENERATION

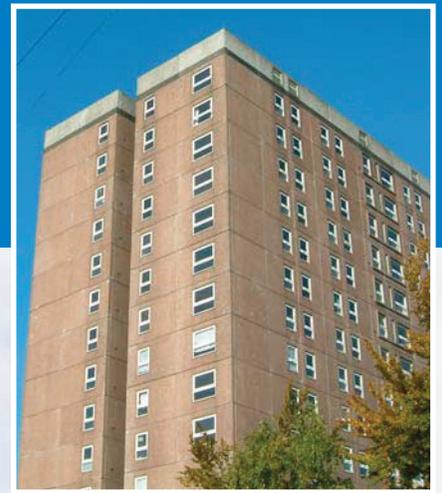
Meeting the needs of
generations to come



Rainscreen Overcladding System Description

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d+b facades high-quality non-combustible overcladding system has an anticipated service life well in excess of 60 years. It will perform and look good for the duration of its life, retaining its as-new appearance without the need for periodic maintenance and cleaning.



RAINSCREEN OVERCLADDING SYSTEM

General Description

A non-combustible, pressure-equalised, back-ventilated, mineral wool insulated, aluminium rainscreen cassette system secretly fixed to an aluminium framework using epoxy resin, stainless steel anchors with full fill, mineral wool, cavity barriers at compartment walls/floors and around all openings in accordance with 2020 regulations with fully integrated high-performance, composite windows. This system is proven to perform, maintenance free, in service for more than 30 years and comprises only inert, aluminium and stainless steel products with an anticipated service life well in excess of 60 years.



Appearance

Cassette panels offer architects extensive design flexibility as they are readily fabricated in a wide variety of shapes, sizes and finishes, both flat and curved, to meet the required aesthetics. Fabricated panels are polyester powder coated in any colour from the full RAL range as well as an extensive selection of special textured and metallic finishes, all of which are backed by a 30 year guarantee. Other finishes such as anodising are also readily available.

The material for panels, window pods and support structure is predominantly recycled aluminium, which is fully recyclable at the end of its useful life. Cassette panels are manufactured from 3mm aluminium coil, which is fully welded and dressed to form a diaphragm, thus ensuring panels remain flat in service, providing outstanding strength and longevity.



Design flexibility permits a variety of balcony treatments, from open balconies through to glazed 'winter gardens'.

Here, balconies have been fully enclosed creating additional internal living space.





Vertical and horizontal joints of the secretly-fixed cassette system are baffled and designed to manage water run-off, channeling water and atmospheric residue away from surfaces. This prevents pattern staining, minimises the need for periodic cleaning of both windows and cladding and enables buildings to retain as-new appearance throughout their service life. The system does not rely upon limited service life sealants or gaskets and comes with a 25 year guarantee. The matrix of ventilated joints in the pressure-equalised system allows the use of full fill mineral wool cavity barriers as opposed to open state, intumescent barriers, surpassing 2020 regulations and future proofing against more stringent legislation.

Installation

The lightweight system is engineered to maximise off-site fabrication for improved quality control and enabling rapid assembly on site, avoiding reliance on site workmanship, inclement weather and minimising disruption to users.

d+b facades recognise that a new building envelope relies upon the existing structure for support and existing structures rely upon new building envelopes for protection, they are mutually dependent, therefore both are covered by a single, new build equivalent, collateral design warranty. The existing structure and building fabric is geometrically and structurally surveyed, opened-up, inspected, tested and calculations made to ensure it can withstand the additional load imposed by the overcladding. Prior to overcladding, the existing building fabric is repaired and strengthened as required, so that its life expectancy is comparable to that of the new rainscreen.

The extruded aluminium carrier system provides three dimensional tolerance permitting accurate alignment and can be manufactured in a wide range of section sizes to accommodate different building modules and wind load conditions. It is readily adaptable to both strengthen and reinforce the existing building whilst restraining the new rainscreen. The sub-structure is secured back to the existing structure using Hilti epoxy



resin and stainless steel fixings. Their type, spacing and embedment depth is specified and tested on a project- specific basis by Curtins, our Structural Engineer.

Cassette panels are supported and laterally restrained in place by keyhole slots in the panel flanges, which locate onto pins in the support rails. This hook-on system allows for thermal movement and tolerance fit for high- rise performance and enables each panel to be individually removed and/or replaced thereby aiding construction sequence, future maintenance and/or subsequent client changes that may be required.

High-performance aluminium-timber composite windows are seamlessly integrated into the rainscreen system with fully-welded window pods manufactured from 3mm aluminium using proprietary techniques, which achieve rapid installation and minimum disruption to occupants. The entire new façade is designed to be installed forward of the existing windows, which have safety/privacy film applied to them thereby isolating the construction site from the building users, maintaining protection and weatherproofing for occupants at all times and enabling the overcladding process to proceed independently of other works, thus expediting project delivery. Existing windows are removed from within the building and new prefabricated window linings installed in a flexible sequence and programme to suit the occupants.

Since refurbishment with high-quality aluminium rainscreen overcladding these high-rise blocks have become highly desirable sought-after accommodation with very high occupancy levels and low tenant-turnover.

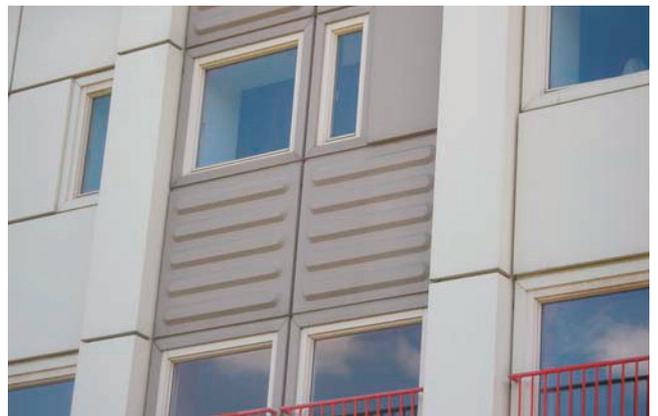


Sustainability

System longevity is the true determinant of sustainability. All system components are inert and expected to last considerably longer than the projected 60 year design life. Innovative water management prevents staining of surfaces, deterioration of visual appearance and the need for periodic cleaning such that the new facade remains aesthetically pristine throughout its installed life. The protection afforded to the existing building once overclad ensures that its useful life is similarly extended by the life of the system.

Environmentally aluminium is the third most abundant element in the earth's crust, infinitely recyclable and in practice an inexhaustible construction resource.

Thermal insulation to surpass current standards by up to 30% is readily incorporated substantially reducing heating energy consumption and 'future proofing' to meet the needs of generations to come. Our 25 year old Hyde Park project not only looks pristine today, despite having never been cleaned or maintained, it also meets today's U value standards.



Hyde Park, Sheffield, remains pristine after 25 years and meets today's U value standards.

Through this powerful combination the system is proven to deliver sustainable development of dated building stock without depleting resources or having harmful impacts, thereby realising the Brundtland Commission's widely accepted definition of sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs".

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