

Next & Beyond.
ALUCOBOND®



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ALUCODUAL®

ENGINEERED SOLID SHEETS

Perfect flatness, Durability and Aesthetics





ABOUT US

As a global leader in composite materials, with its head office in Switzerland, affiliated with Schweiter Technologies Group, 3A Composites employs more than 4400 people in Europe, America and Asia. Presently, 3A Composites is a house of 20+ leading brands in their respective material and application categories. Among them, the flagship product lines used in architectural applications are:

ALUCODUAL® Engineered Solid Sheets (cladding & curtain walls, interior walls, ceilings, soffits & column decoration)

ALUCOLUX® Solid Aluminium Sheets (cladding & curtain walls, interior walls, ceilings, soffits & column decoration)

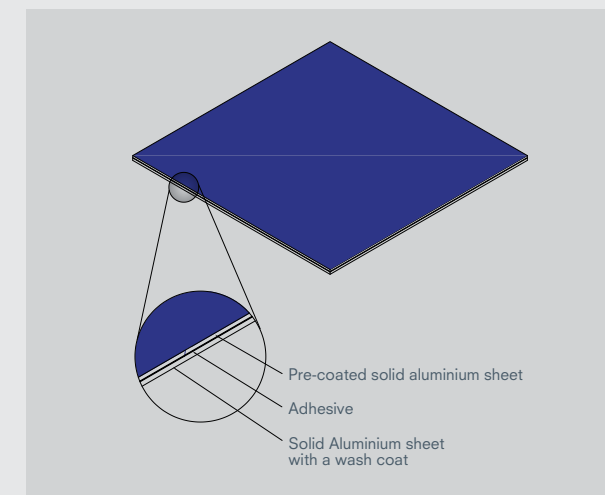
ALUCOBOND® Aluminium Composite Material (cladding & curtain walls, interior walls, ceilings & column decoration)

ALUCORE® Aluminium Core Panels (cladding & curtain walls, roofing & ceilings)

THE PRODUCT

ALUCODUAL® is a pre-coated engineered solid sheet comprising 2/3 layers of laminated aluminium skins. This ensures perfect flatness, which is challenging to achieve with standard post coated solid sheets.

The product undergoes a multi-coat, multi-bake process on a continuous industrial-grade coil coating line, utilizing the highest grade of fluorocarbon based PVDF/FEVE paint system as per AAMA 2605 superior performance specification for exterior to ensure long-term performance and durability.



PRODUCT RANGE:

- Thickness:
ALUCODUAL® - 2mm and 2.5mm
ALUCODUAL® PLUS - 3mm
- Width: 1250mm, 1500mm
- Length: ≤ 6000 mm

In comparison to a single sheet of aluminum of the same thickness, ALUCODUAL® panels offer enhanced stiffness and rigidity. This structural stability allows for their use in larger cassettes and panels, effectively reducing number of joints and overall costs. Additionally, the material's workability in achieving 3D shapes and complex geometric patterns makes it highly versatile for various architectural applications.

One of the key features of ALUCODUAL® is its fire-retardant property. Since it doesn't have a thermo-plastic core, it remains inactive in the event of a fire, emitting no toxic gases or burning droplets. It is classified as Class A2-s1, d0 according to EN 13501-1 test standard, making it suitable for projects with stringent fire safety requirements.

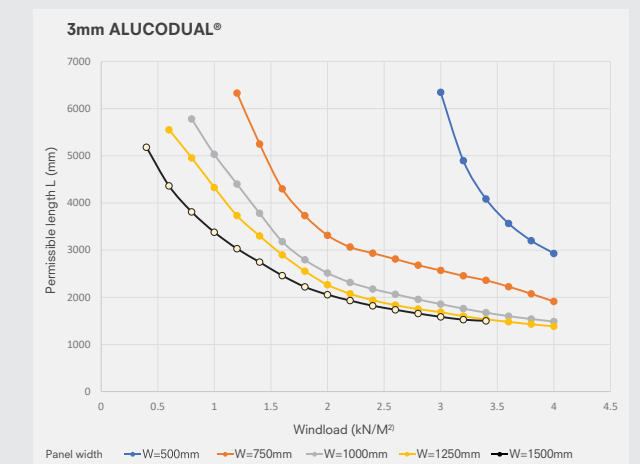
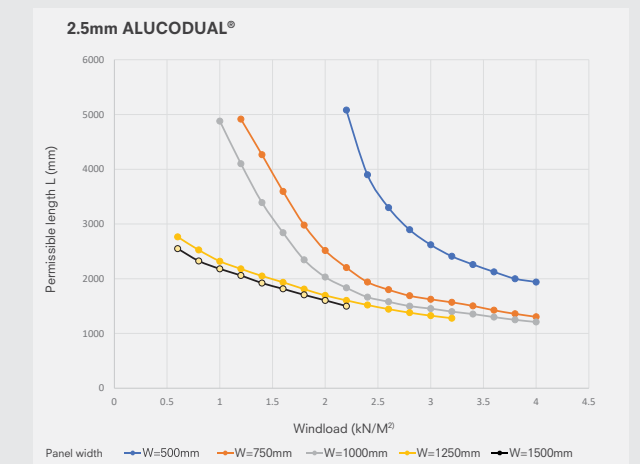
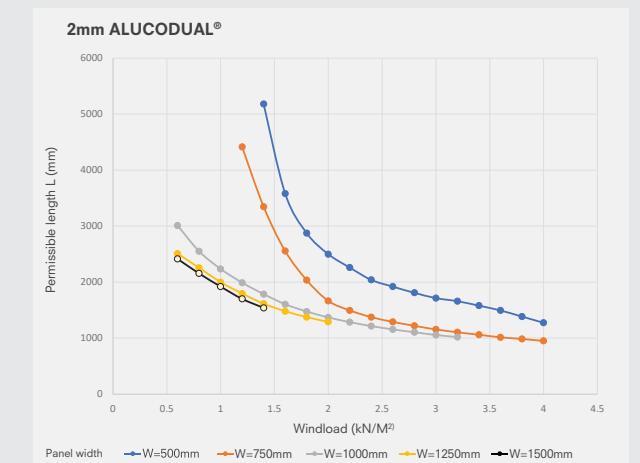
ALUCODUAL® is used for facades, wall cladding, soffits, column cladding and decorative interior walls in various projects like airports, stadiums, malls and residential buildings. It fulfills fire safety needs while providing flexibility, making it a reliable choice for architects and designers to create visually appealing facades.

WIND LOAD AND PERMISSIBLE PANEL SIZES

The diagram indicates the available range of panel sizes and permissible range lengths at a given panel width, depending on the wind load applied.

The diagram apply to panels supported on four sides (corners fixed).

Dimensional values for other systems are available on request.



LEED CERTIFICATION

The LEED program has gained much recognition over the past several years and is now the premier sustainability design tool in the building industry. LEED focuses on constructing buildings that

have minimal impact on the environment during construction and occupation and acknowledges that using recycled materials is an essential part of reducing environmental deterioration.

Material	Recycled % Pre-Consumer	Recycled % Post Consumer	LEED Contribution (1.0 x Post + 0.5 x Pre)
ALUCODUAL®	20%	20%	30%

REASONS TO CHOOSE ALUCODUAL®



Perfect flatness

ALUCODUAL® undergoes a lamination process that enhances its flatness compared to a single solid aluminum sheet. Specifically chosen alloy and temper for architectural applications ensure remarkable flatness in the finished product.



Fire retardant

A fire-retardant panel that has successfully passed non-combustible fire classification Class A2-s1, d0 according to EN 13501-1 test standards.



Durability

Corrosion resistant 5005 marine grade alloy ensures long-term performance.



Range of colours

With a vast range of colours and surface finishes, ALUCODUAL® provides a large variety for you to choose from. Wood, stone and concrete patterns are also possible.



Recyclability

ALUCODUAL® is 100% recyclable material.



Colour consistency

High quality fluorocarbon based PVDF/FEVE coating on a continuous industrial grade coil-coating line conforming to AAMA 2605 and ECCA guidelines.



Formability

Solid and rigid, yet highly formable, ALUCODUAL® can be easily worked with and transformed into intricate shapes and 3D patterns using standard processing methods.



Design Freedom

Utilizing large pre-coated engineered sheets with enhanced stiffness and rigidity allows the creation of larger-sized cassettes and panels for the facade.



Technical support

For recommendations and the design of appropriate fixing systems, as well as any other assistance you may need, the 3A Composites team is here to support you.



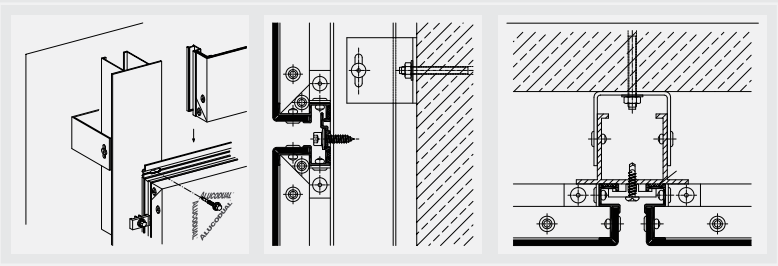
Warranty

ALUCODUAL® comes with a 10-year warranty.

FIXING SYSTEMS

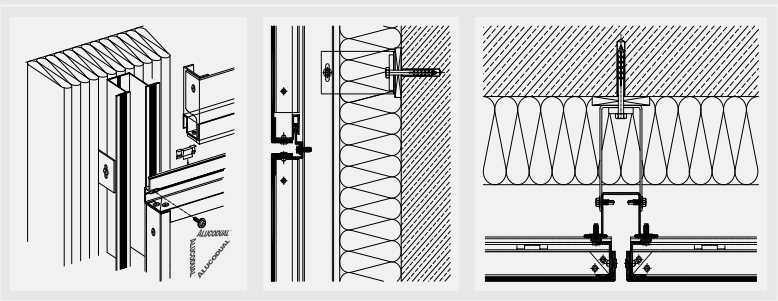
TRAY PANEL

This system is one of the most adaptable systems for facade cladding with either vertical or horizontal panel layouts. Individual panels are of a tray/cassette type, with four sides folded and framed with extruded aluminium profile sections. Individual elements are fastened to an extruded aluminium sub-structure by means of aluminium profiled cleats, which in turn are anchored to the wall. The horizontal and vertical joints between the panels are of minimum 15mm width and all rivets, fastening cleats and screws are concealed within it and kept closed by a profiled strip of matching or contrasting colour.



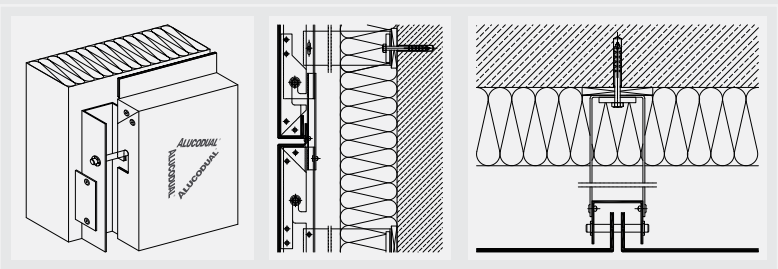
SZ-20

This system assembly is based on the 'tongue and groove' principle and is particularly suited for facade cladding with a horizontal panel layout. Individual panels are folded into a tray and the top and bottom sides are grasped by an extruded aluminium section. The 'Z' and 'S' profiles are riveted to the top and bottom folded edge of the panels respectively, facilitating the 'tongue and groove' assembly. The vertical folded edges are riveted with the 'S' profiles that facilitate fixing with aluminium profiled cleats to the 'Hat' profiled sub-structure. All the rivets, fastening cleats and screws are concealed within the panels.



HOOK-ON

The ALUCODUAL® Hook-on system is an open-joint rear ventilated system with a vertical panel layout. This system facilitates un-impeded movements of the elements in all aspects, as well as allowing the joint widths between the panels to be as narrow as 6mm.



TECHNICAL DATA

PROPERTIES	STANDARDS	UNIT	VALUES
Panel Standard Thickness	Nominal	[mm]	2 / 2.5 / 3
Panel Standard Width	Nominal	[mm]	1250 / 1500
Panel Weight	Nominal	[kg/m²]	5.4 / 6.8 / 8.1

TECHNICAL PROPERTIES:

Rigidity		[kNcm²/m]	500 / 1000 / 1700
Modulus of Elasticity	ASTM E8	[N/mm²]	70000
Alloy of Cover Sheet	ASTM B 209		5005
Temper of Cover Sheets	ASTM B 209		H24
Tensile Strength of Aluminium	ASTM E8	[MPa]	≥ 145

SURFACE:

Lacquering			Coil Coating Pre coated PVDF/ Specially treated coating
Gloss (Initial Value)	ASTM D523		As per the color shade

DIMENSIONAL TOLERANCES:

Panel Thickness		[mm]	± 0.15mm
Weight		[mm]	± 10%
Length		[mm]	+ 6mm

Specifications are subject to change without prior notice / intimation.



CLEANING & MAINTENANCE

Annual cleaning is recommended. The surfaces should be cleaned either manually using a soft brush or by means of a high-pressure cleaner (maximum 50 bar) with clean water. If necessary, a mild cleaning agent (pH 6-7) may be added up to a maximum of 10%. Cleaning should take place from top to bottom. After cleaning, rinse with clean water to remove any cleaning agent residue. Do not clean surfaces heated by the sun (>40°C).

Do not use highly alkaline cleaning agents such as potassium hydroxide, sodium carbonate, caustic soda, any strong acid products or highly abrasive cleaning agents such as household cleaning products that can corrode the paint.

STORAGE & TRANSPORTATION

To protect ALUCODUAL® panels against mechanical damages and harmful effects of weather the following should be observed:

- Ensure careful handling of pallets during transport and unloading.
- Examine the pallets thoroughly upon arrival for any damages due to transportation.
- Stack only three pallets of similar dimensions horizontally above one another with the heaviest at the bottom. Do not let the panels stand vertically.

