



TECHNICAL MANUAL

ULTRALIGN Extruded Aluminium Cladding*

1. Introduction
2. Physical Properties
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4. Installation Instructions

1.1 About This Manual:

This manual has been developed to effectively assist fabricators and contractors to work with ULTRALIGN. Due to the uncontrollable conditions onsite and different methods of job scope, as well as the variable skills and judgment of installers and the quality of equipment, tools, etc, the suggestions and recommendations contained in this manual are provided without warranty. The information and recommendations herein are believed to be correct at time of publishing.

BLUECHIP reserves the right to revise the contents of this manual without prior notice. Any construction or use of the product must be in accordance with all local zoning and/or building codes and in accordance with the current NCC at the time of use. Except as contained in a written warranty certificate, the supplier does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.

1.2 Company Background:

Founded in 2003 by five brothers, BLUECHIP has grown every year since to become one of Australia's leading suppliers of architectural building envelopes. BLUECHIP's product range covers the complete system from the structure out including all types of cladding materials, composite decking, sub-framing, insulation, waterproofing and fixings.

With offices in Sydney, Melbourne and Perth, BLUECHIP has supplied more than 3,000,000m² of materials to Australian projects since 2003. Our commitment to innovation and ongoing investment in R&D ensures BLUECHIP will continue to lead the market with BCA/NCC compliant facade solutions in the years ahead.

For architects and consultants, BLUECHIP's wide range of different materials and 'complete-system' approach enables the creation of inspiring high-performance facades. For builders and contractors, BLUECHIP's large local stock, well established supply chains and genuine appreciation for our clients means you can trust us to deliver as promised every time.

1.3 Company Details:

Company: Blue Chip Group Pty Ltd
ABN: 98 162 282 064
Locations: Sydney | Melbourne | Brisbane | Perth
Phone: 1300 945 123
Email: sales@bluechipgroup.net.au

***Please Note:** This document only covers ULTRALIGN Cladding Profiles and does not cover ULTRALIGN Batten Profiles. For relevant ULTRALIGN Batten information, please refer to the latest ULTRALIGN Battens Technical Manual and Install Details available here: [ULTRALIGN Extruded Aluminium Battens](#)



1.4 Product Description:

Extruded Aluminium Cladding

ULTRALIGN intelligent aluminium facade system is available in a range of solid aluminium profiles providing a reliable and attractive modern facade alternative to other commercial cladding products. ULTRALIGN products have been specifically designed by experienced commercial facade professionals to meet the demands of today's facade industry. Australian made using the finest raw materials and finish options, ULTRALIGN offers an unprecedented level of quality, reliability, and longevity with an extensive range of colours, textures, and finish options, available in both standard and custom sizes.

AS 1530.1 Non-Combustible

ULTRALIGN products are made of 100% solid aluminium which is totally non-combustible to AS 1530.1. Architects, engineers, and tenants can be assured ULTRALIGN will not burn or contribute to fire spread.

Intelligent Installation

The ULTRALIGN profile has been intelligently designed to provide excellent usability such as multi-angle mating and it has double swarf-free contact points for superior consistency and weatherproofing.

Prefinished System

The entire ULTRALIGN range is pre-finished. This means there is no requirement for painting or onsite finishing. Our finish options are durable, guaranteed to stand the test of time.

100% Australian Made

ULTRALIGN is a 100% Australian owned, designed and made product, which contributes to it's outstanding quality and fast lead times. Using ULTRALIGN aids all aspects of the Australian economy

Environmentally Sustainable

ULTRALIGN solid aluminium is a 100% recyclable product. Energy, emissions, wastage and materials are saved in every aspects of the product from manufacturing, to, delivery, installation and recycling.

Minimal Fabrication

ULTRALIGN panels can be ordered to custom lengths which eliminates additional fabrication. Panels are simply interlocked and tightened, then fixed. This also optimises usability and decreases waste.

Incredible Aesthetics

ULTRALIGN profiles all have their own unique look with classic shadow lines, sharp step features or bold standing seams. Add in the choice of any anodised or powder coated finish and the options are limitless.

Industry Leading Warranty

ULTRALIGN's 20-year product warranty (anodised finish) is one of the longest of any facade product on the market today. Clients can be confident that their facade will remain attractive and durable for years to come.

1.5 More Information:

[ULTRALIGN Extruded Aluminium Cladding](#)



2.1 Technical Data – Physical Properties:

ITEM	TEST STANDARD	UNIT	RESULT
Alloy Grade / Temper	Actual	-	6063 T5
Material Density	Actual	Kg/m ³	2,709
Magnesium Content	Actual	%	0.7
Silicon Content	Actual	%	0.4
Thermal Expansion	Actual	mm/m/°C	0.025
Weight per Lineal Metre			
▪ 155 x 18mm Groove	Actual	Kg	1.318
▪ 155 x 25mm Cabin	Actual	Kg	1.431
▪ 155 x 18mm Flute	Actual	Kg	1.217
▪ 155 x 18mm Duoflute	Actual	Kg	1.230
▪ 205 x 48mm Seam	Actual	Kg	2.028
▪ 340 x 25mm Batten-look	Actual	Kg	1.279
▪ J-shape Starter Strip	Actual	Kg	0.267
▪ Z-shape Joint Profile	Actual	Kg	0.426
▪ 2-piece Corner Profile	Actual	Kg	0.828
▪ 2-piece Cover Strip	Actual	Kg	0.483
▪ 2-piece Edge Trim	Actual	Kg	0.426

3.1 Deemed-to-Satisfy Non-combustible:

ULTRALIGN is deemed-to-satisfy non-combustible as per the requirements of the NCC 2019, clause C1.9(e)(v) and NCC 2022, clause C2D10(6)(e) making it compliant for use as external cladding or internal lining on any building of types A, B & C construction, classes 2-9.

3.2 Fire Performance – Timber-look Coating:

ITEM	TEST STANDARD	UNIT	RESULT
Non-combustible	AS 1530.1	CSIRO	Pass
Non-combustible (DTS) – NCC 2019	NCC C1.9(e)(v)	CSIRO	Pass
Non-combustible (DTS) – NCC 2022	NCC C2D10(6)(e)	CSIRO	Pass
Ignitability Index	AS 1530.3	AWTA	8
Spread of Flame Index	AS 1530.3	AWTA	0
Heat Evolved Index	AS 1530.3	AWTA	0
Smoke Developed Index	AS 1530.3	AWTA	4
Group Number	AS 5637	AWTA	1

3.3 Fire Performance – Standard Powder Coating Colours:

ITEM	TEST STANDARD	UNIT	RESULT
Non-combustible	AS 1530.1	CSIRO	Pass
Non-combustible (DTS) – NCC 2019	NCC C1.9(e)(v)	CSIRO	Pass
Non-combustible (DTS) – NCC 2022	NCC C2D10(6)(e)	CSIRO	Pass
Ignitability Index	AS 1530.3	CSIRO	0
Spread of Flame Index	AS 1530.3	CSIRO	0
Heat Evolved Index	AS 1530.3	CSIRO	0
Smoke Developed Index	AS 1530.3	CSIRO	3
Group Number	AS 5637	AWTA	1



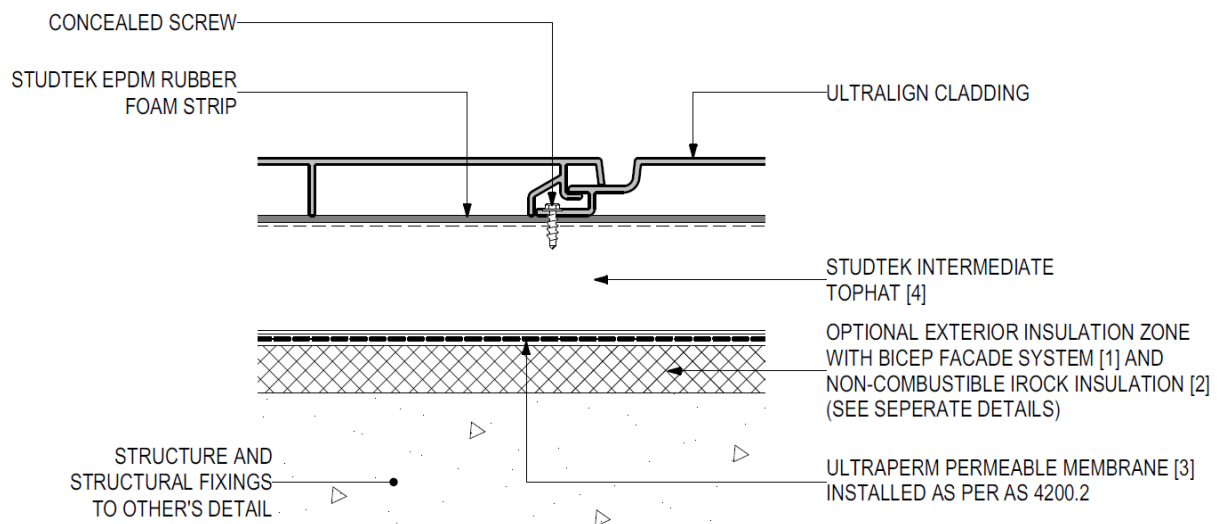
4.1 Installation:

ULTRALIGN cladding is installed either vertically or horizontally using secret-fix screws to STUDTEK steel top-hats or timber framing over AS 4200.1 compliant sarking which has been installed as per AS 4200.2 to satisfy the deemed-to-satisfy (DTS) weatherproofing requirements in accordance with NCC 2022, clause F3D3. Use CLADTRIM colour-matched trims supplied by Blue Chip Group Pty Ltd (or custom trims and flashings supplied by others), for all junctions and joint details, sealed with PROLASTIK sealant as required to ensure weatherproofing.

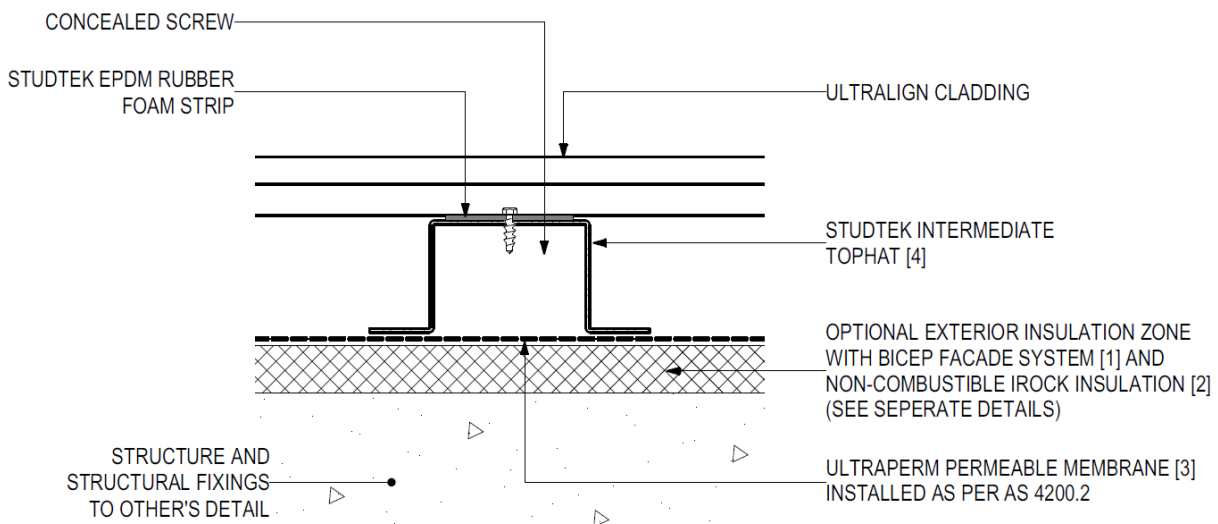
Installation Details:

The panels shall be fabricated and installed in accordance with the most recent version of the ULTRALIGN Cladding Install Details which are available online at www.bluechipgroup.net.au or by emailing sales@bluechipgroup.net.au or by calling **1300 945 123**. (Only PDF installation details are available online. For CAD/DWG installation details email or call as above).

Vertical Installation (Typical Plan Detail):



Horizontal Installation (Typical Plan Detail):





4.2 Acceptable System Components:

Insulated Façade System - OPTIONAL:

For an optional insulated façade system use BICEP façade brackets and support profiles with IROCK non-combustible insulation to achieve an engineered acoustic and thermal barrier.



Sarking:

The sarking shall be ULTRAPERM vapour permeable membrane which is; deemed-to-satisfy 'non-combustible' as per NCC 2022 Clause C2D10(6)(f), is AS 4200.1 compliant and classified as a 'water barrier' as per NCC 2022 Clauses F3D3 and F8D3(1), is classified as 'class 4 vapour permeable' for compliant use in all climate zones 1-8 as per NCC 2022 Clauses F8P1 and F8D3(2), and is installed in accordance with AS 4200.2 for deemed-to-satisfy weatherproofing.



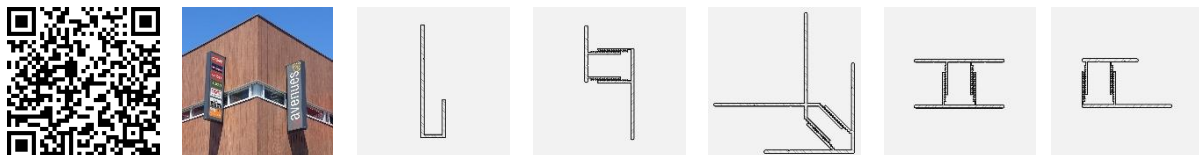
Sub-framing System:

The sub-framing system shall be STUDTEK steel top-hats attached to the main structure (or BICEP Façade System) in a manner to ensure all applied loadings to the cladding is transferred back to the main structure. Size and spacing of top hat members shall be determined according to applied loads and deflection limitations for any given project. Top-hat centres shall be maximum 600mm or installed in a matrix layout to provide full perimeter support to each panel as required to adequately support the cladding system.



Colour-matched Trim Profiles:

Shall be CLADTRIM supplied by Blue Chip Group Pty Ltd and colour-matched to the selected cladding finish. Install and seal with PROLASTIK sealant to ensure weatherproofing.



Dissimilar Materials:

Where two surfaces of dissimilar material come into contact, such surfaces shall be separated with a layer of PVC or Polyethylene tape, or powder-coat finish as required to ensure against bimetallic corrosion.



Joint & Trim Sealant:

All penetrations and junctions shall be sealed with PROLASTIK NC silicone sealant supplied by Blue Chip Group Pty Ltd and installed over closed cell foam backing rod, as applicable, to manufacturer's specifications and as required for weather-proofing compliance.



Fixings:

Fasteners, including concealed screws, nuts, bolts, and other items required for connecting aluminium to aluminium or aluminium to steel shall be in accordance with AS 3566.2 and of a type to suit its application and exposure conditions.

Class 1/2:	Internal applications.
Class 3:	External applications, moderate industrial and marine applications.
Class 4:	Severe marine applications

4.3 General Fixing & Maintenance Instructions:

- ULTRALIGN can be installed either horizontally or vertically.
- ULTRALIGN is to be secret fixed using suitable screws over AS 4200.1 compliant sarking which has been installed as per AS 4200.2 to satisfy the deemed-to-satisfy (DTS) weatherproofing requirements in accordance with NCC 2022, clause F3D3.
- ULTRALIGN anodised finishes are created using a natural process meaning that different grain and shades are possible within a single shipment (plain and/or mottled). In order to obtain a uniform overall finish, we recommend considering this fact and, for example, laying out the cladding profiles before starting with the installation to ensure satisfactory appearance.
- ULTRALIGN boards should be at ambient temperature prior to any cutting or installation.
- ULTRALIGN should be acclimatized as required onsite to ensure temperature equilibrium with the surrounding environment prior to installation.
- All ULTRALIGN boards should be ordered approx. 50mm longer than required onsite to allow for trimming at each board end to remove 20-25mm of uncoated or blemished material resulting from the production and coating process.
- ULTRALIGN can be cut to length with standard high-quality aluminium cutting tools. Recommended blades are a specialised aluminium saw blade with a high number of teeth. Test any proposed blade first for acceptable results before mass cutting.
- When installing ULTRALIGN, leave a minimum 10mm gap at the end of the cladding board between all trims, joints, butt joints, end stops and between any permanent structure and/or penetration to allow for thermal expansion and contraction.



General Fixing & Maintenance Instructions (Continued):

- The sub-frame shall be level and aligned and installed perpendicular to cladding direction at maximum 600 mm centres. The sub-frame shall be minimum 15mm thick to provide adequate ventilation behind the cladding. The back-ventilation cross-section must not be regularly diminished by battens or other objects. The ventilation inlets and outlets must have consistent widths of at least 15mm to avoid excessive heat transfer into the building. Alternatively install onto insulated exterior cladding zone using BICEP façade system and IROCK insulation.
- The ULTRALIGN cladding shall be fixed at maximum 600 mm centres by inserting screws through the grooved v-slot in the cladding boards. Drivers should be adjusted to a low or medium torque and screws should not be overdriven.
- The CLADTRIM corner profiles shall be installed as required using PROLASTIK sealant, suitable structural adhesive such as Sikaflex 11FC and flashings as required to ensure structural integrity and weatherproofing.
- To install the CLADTRIM colour-matched extrusions the base section is to be fixed to the wall or sub-frame first and then after ULTRALIGN cladding is installed, sealant and structural adhesive should be applied as required to ensure weatherproofing before the external CLADTRIM piece is clipped into place until it is flush with the cladding face.
- The cladding shall be installed as per the latest version of the ULTRALIGN Install Details allowing for any site-specific expansion and contraction requirements and using colour-matched CLADTRIM extrusions for all junctions and abutments along with custom trims and flashings supplied by others as required, to ensure weatherproofing.
- The cladding shall be installed as per the latest version of the ULTRALIGN Draft Specification allowing for any site-specific requirements to ensure the desired long-term performance and aesthetics are achieved.
- The cladding system shall be installed in accordance with the latest version of the Australian NCC/BCA as well as any other government regulations or requirements at any given time and for any project.
- The supporting wall must be watertight including sarking installed as per NCC 2022 clause F3D3 and there must be ventilation / drainage at the base of the wall.
- ULTRALIGN use is limited to non-cyclonic wind categories (N1-N6) and should not be used in cyclonic locations without additional site-specific design engineering and structural assessment relative to any given project to ensure suitability and NCC compliance.
- The cladding shall be cleaned and maintained in accordance with AAMA 609 & 610-09 as required to avoid any accumulation of surface contaminants and to maintain the desired performance and appearance.