THERMOSASH

Metal Folding & Finishing

PRESSINGS | FOLDING | EXTRUSIONS | PEFORATED SHEET METAL

Thermosash
BUILDING ENVELOPE SOLUTIONS™

Thermosash Commercial Ltd

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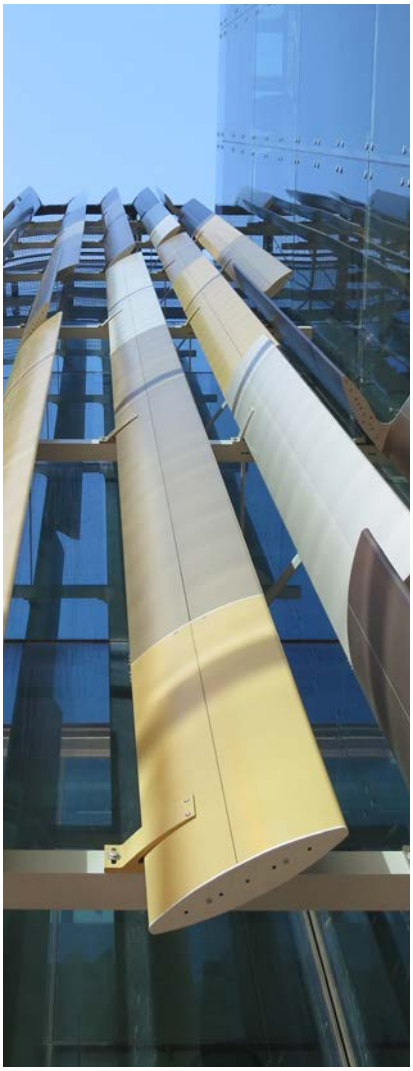
Auckland 0610, New Zealand

www.thermosash.co.nz



Our Aluminium is **green** to the core.

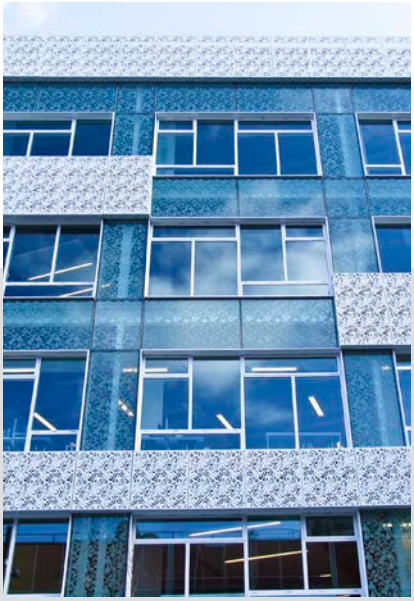
Thermosash is partnered with a NZ-owned extruder providing the lowest embodied carbon aluminium readily available in New Zealand*. The combination of high recycled content and low carbon virgin material forms the high quality extrusion that Thermosash uses.

*Achieving Toitū Carbonreduce certification which far out performs the global average. (Independent audits to stringent European standard PAS 2050 are regularly undertaken, please contact us for the most up to date carbonreduce CO2e/kg of aluminium figures).

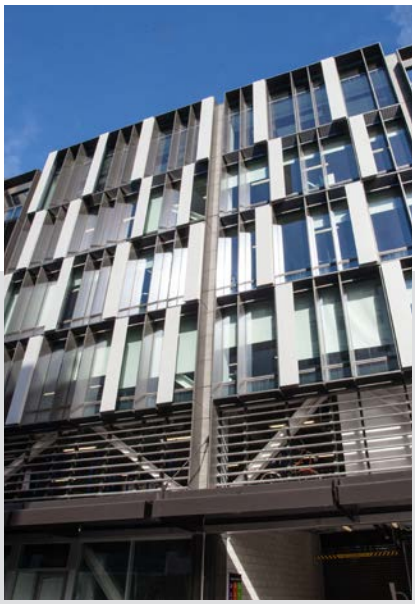
Thermosash recycles 100% of all metal waste products produced during manufacturing operations.

We exclusively use local powder coaters who have stringent chemical handling processes and reuse or responsibly dispose of all waste powder.

ASB North Wharf
AUCKLAND

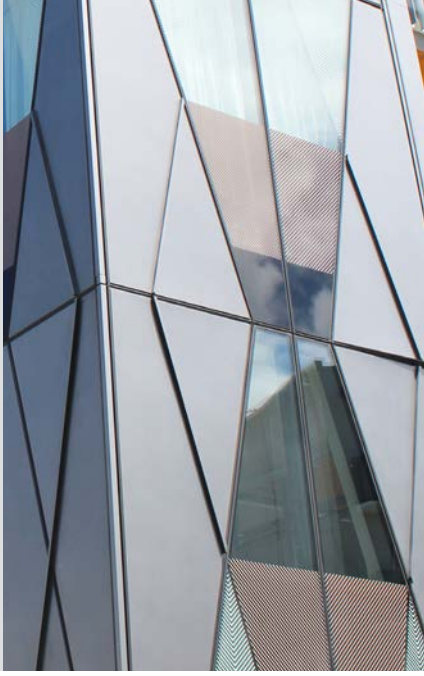


Regent Centre
WELLINGTON



BNZ - Cashel stage 1
CHRISTCHURCH

OVERVIEW
METAL FOLDING & FINISHING



At Thermosash we manufacture literally thousands of architectural pressings a month. These may vary from a simple folded coping or aluminium flashing to a zinc or stainless steel architectural multi-fold with pressing and reinforced welded corners and bracketry. We specifically design and engineer almost all our extrusions, we have engineered in excess of 4000 dies over the last five decades. We can cut practically any material with high precision and very low radius corner enabling us to make anything from fine unique structural elements to full sheet bespoke patternation.

PRODUCT SPECIFICATION

Thermosash provides a specification based on your specific project requirements. Please contact us early in your design process to discuss your project - we can advise on system and material selection.

BENEFITS OF A THERMOSASH SOLUTION

Thermosash is a New Zealand based business and has been engineering and manufacturing specific design facade solutions across the country since 1973. We deliver solutions using our trusted and proven systems, offering increased value in terms of;

- +50 years of experience and expertise in the facade solutions industry in New Zealand, with ongoing trust within the industry
- In-house expertise across the entire process
- Proven experience in complex project delivery
- Totally integrated service with ECI /ECE - engineering, producer statement generation, full shop drawings, manufacture and installation.
- Custom engineered high performance solutions tailored to architectural, environmental and structural requirements - design and detail to accommodate seismic loads and inter-storey differential movement, as well as wind and other live loads
- Proven durability of systems and longevity of product lifespan
- Responsible procurement and waste management
- Risk mitigation through one provider and one warranty - no multiple trades required
- Local precision manufacturing facilities in Auckland, Wellington and Christchurch with logistical site delivery.
- Expert installation with well-considered strategies and safety methodologies

COST SAVINGS

- Reduced number of junctions with other trades if Thermosash engineers, manufactures and installs the building envelope elements such as curtainwall, glazed and non-vision unitised panels, rainscreen, skylights, mechanical air louvres, solar shading and integrated elements, architectural metal folding, canopies, balustrades, flashings etc.
- Reduced number of council inspections during construction and possible delays, saving on compliance costs
- Specifically designed and engineered facade solutions that offer high performance and durability which contribute to cost savings on operational energy and maintenance over the lifespan of the building, and maximises ROI

PREFABRICATION CAPABILITY & ADVANTAGES

There is little that Thermosash is not capable of with these building elements - we see sheetmetal work as an important part of the solution that we provide our customers - to be able to provide a high quality ‘one stop shop’ for building envelopes.

- **Architectural Metal Pressing & Folding** - we can manufacture anything from simple copings and flashings to complex multi-folded elements with pressing and bracketry
- **Aluminium Extrusions** - we engineer our own suite extrusions in-house which generally have a thicker wall section making them stronger and more capable of withstanding greater wind pressures and spans
- **Perforated Sheet Metal** - we can cut almost any material with our waterjet cutter from fine unique elements to full sheet patternation.
- **Full sheetmetal shop capability** - cutting, folding, welding and
- **System integration** - We engineer our architectural metal pressings, metal folding, extrusions and perforated sheet metal elements to fully integrate into Thermosash facade curtainwall systems and rainscreeen
- **Quality assurance and control** - is implemented across the fabrication process and during on-site installation
- High quality product with precision low tolerances
- Engineered to accommodate project specific environmental conditions and design constraints for high performance outcomes
- Site installation is quicker due to the modular construction - enclosing buildings rapidly and reducing on-site programme time
- Off-site fabrication reduces on-site waste and clutter
- On-site delays are reduced during inclement weather - fabrication can continue even if site falls behind and Unitised panels can be placed on completed floors in loading crates ready for installation on a just-in-time basis.

We constantly reinvest in plant and machinery to enable us to undertake work that others cannot do - including CNC saws, wall saws, flat bed routers, water-bed cutters and CAM folding machines. We have expert manufacturing and assembly teams at our local facilities and we provide ongoing training and development.

MAXIMUM SPANNING ABILITY

Thermosash specifically engineers the best options for your project taking into consideration structural, environmental and site specific requirements and imposed loads.

SUSTAINABILITY

SUSTAINABLE MANUFACTURING

Thermosash manufactures all system components in New Zealand, and primarily source materials where available from the New Zealand market. Our precision machinery ensures optimised material usage with 100% of all metal waste products recycled in the factory, saving on-site waste. We recycle 100% uncontaminated soft plastics, timber, cardboard, paper and 99.5% commercial float glass and IGUs.

ALUMINIUM EXTRUSIONS

At the heart of Thermosash's sustainability journey is a partnership with a local New Zealand owned remelt facility producing extrusions with 80% recycled content and low carbon virgin material, that has resulted in a super low sustainable embodied carbon footprint per kilogram of Aluminium. Our aluminium supplier is audited annually, for up to date figures please contact us.

FACADE OPTIMISATION STRATEGIES

To achieve optimised high performance outcomes we offer our clients the option of a Project Sustainability Analysis that covers different aspects of the full sustainability cycle. When specifying our facade systems, clients can engage us to implement one or several of our Facade Optimisation Strategies to achieve their project sustainability goals. To gain the most from our strategies, talk to us early on in the design phase of your project.

Our Thermosash Sustainability Team can assess and provide analysis reports on embodied and operational carbon engineering optimisation and costs, energy and comfort optimisation and costs, as well as assistance with NZGBC Green Star credits - these strategies help to guide material selection, shape a more efficient design and provide clarity on ROI payback periods.

REDUCTION OF OPERATIONAL EMISSIONS

Through a full measurement and target reductions audit undertaken by Toitū Envirocare, Thermosash Commercial Ltd achieved Carbonreduce Certification. This provides a baseline for subsequent emission reduction targets going forwards. Please contact us for up to date certification figures.

PERFORMANCE

PERFORMANCE TESTING

Independently laboratory tested to IANZ (International Accreditation New Zealand)

B1/VM1	AS/NZS1170 Structural Design Actions
B2/AS1	Durability [based on in-service history]
F2	NZS4223 Glazing in Buildings
E2	NZS/AS4284:2008 Water / Air Pressure/ Air Leakage - exceeds minimum requirements

BUILDING CODE PERFORMANCE

Thermosash engineers to the design and performance requirements of each individual project in accordance with the relevant codes - view the table Building Code - Demonstration of Compliance page 5.

INTENDED USE

CLASSIFICATION

- Clause A1 Building Use Classification:
- Housing, Communal residential, Communal non-residential, Commercial and Industrial
- Clause A3 Building Importance Levels from 1-5

BUILDING TYPE

- High-rise
- Low-rise
- Specific design

BUILDING LOCATION

Thermosash provides custom specific design solutions taking into consideration wind zones, climate zones, corrosion zones, seismic risk areas and building importance levels for each project.

CONDITIONS OF USE

To be installed by an Thermosash approved installer.

MATERIALS

Metal	Type
Aluminium	Sheet, plate and mesh
Stainless Steel	Sheet and plate (304/316)
Zinc	Sheet
Copper	Sheet, Decorative Architectural metal finishes - textured, embossed, polished or coloured etc.
Steel	Colour coated and mill

MATERIAL COMPOSITION

Each project will have specific engineered and designed component solutions, fabricated in New Zealand and provided as a complete custom system.

MATERIAL GRADE

Alloy designation to comply with AS/NZS 1866. Extruded for anodising or powder coating. Aluminium extrusions from 6060 grade and with a Temper T6 alloy.

FINISH

- Polyester powdercoat - both standard and special colours available. (Polyester powder organic coating in accordance with WGANZ PQAS and AS 3715, and AAMA 2604).
- Anodised - all anodised colours available - commercial grade 20 Micron finish recommended
- PVF2 Fluorocarbon finishes - available on request

FIXINGS

Fixings and fastenings exposed to the weather are type 316 or 304 stainless steel typically but other suitable fixings back to structure may be designed for specific project requirements complying with AS/NZS 4680.

Fixing gauge and length in accordance with Thermosash PS1.

MAINTENANCE REQUIREMENTS

A maintenance manual is provided on completion of a project for all the elements integrated within a project. Compliance to a maintenance schedule is essential to maintaining the quality of the installed product over time. Using Thermosash-approved facade maintenance contractor/personnel ensures the highest standards are met.

It is recommended by almost all material suppliers that building washing should occur every 3-6 months to prevent staining to glass and prevent environmental pollutants from corroding metals and to maintain the material warranties.

WARRANTY

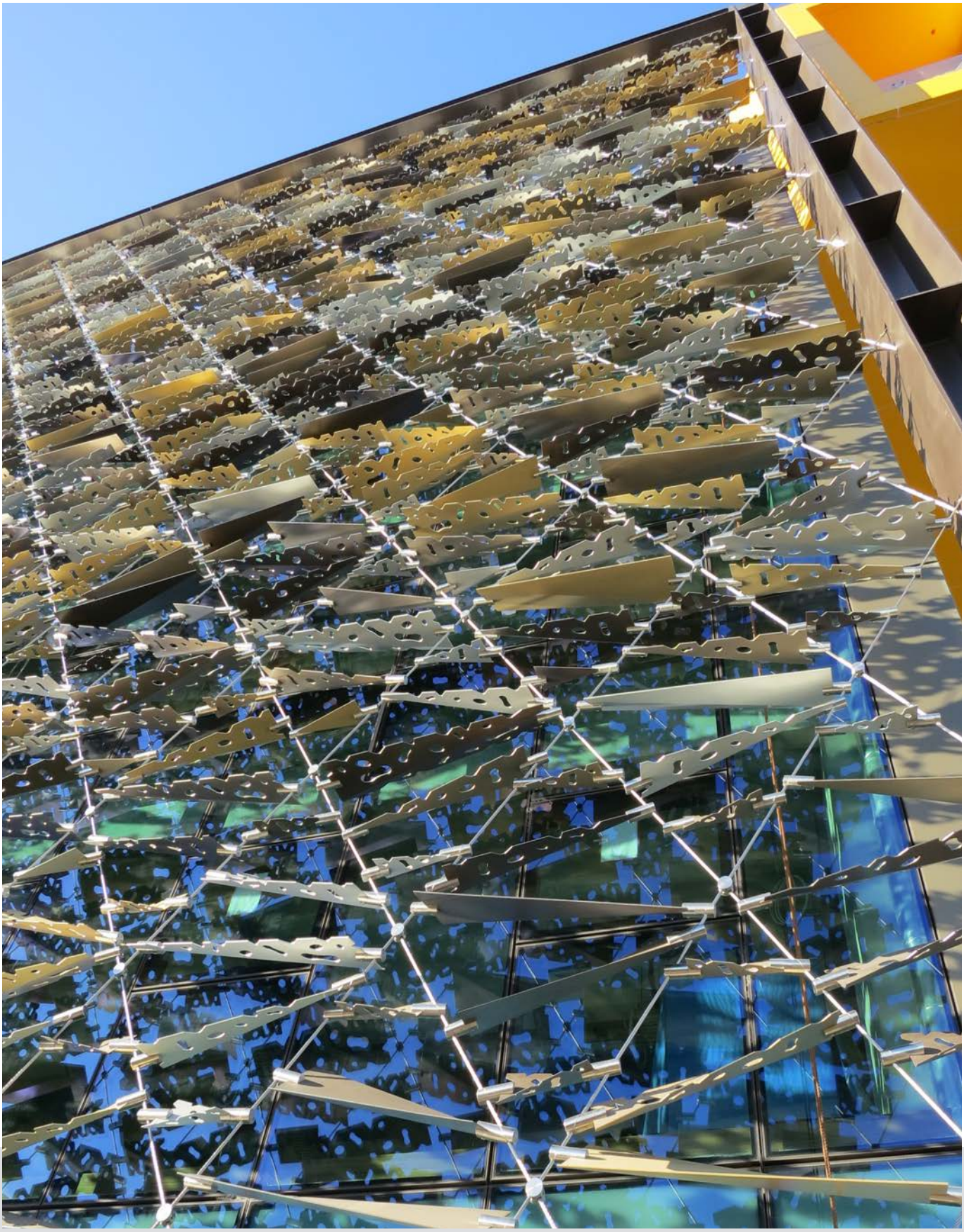
The standard warranty is 10 years from the date of practical completion for these products. This covers workmanship and weather tightness, providing the subcontract includes fabrication, installation and glazing of all components. All warranties are subject to service and maintenance requirements.

BUILDING CODE - DEMONSTRATION OF COMPLIANCE

Thermosash expertly engineers and designs each bespoke facade to the design and performance requirements of the individual project. We ensure that all compliance claims are backed by a comprehensive set of documents, including PS1 Design and PS3 Construction Producer Statements as a compliance pathway.

BUILDING CODE	DEMONSTRATION OF COMPLIANCE
B1 **STRUCTURE**	**COMPLIANCE BY B1/VM1** Compliance with B1 is shown by way of engineering calculations and/or testing, and reports are attached to the compliance pathway submission.
B2 **DURABILITY**	**ACCEPTABLE SOLUTIONS B2/AS1** There are not Acceptable Solutions available for aluminium and steel, and protection is provided through surface treatment in accordance with: • AS/NZS 2312:2014 - Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings. • AAMA 2605-05 - Voluntary specification, performance requirements and test procedures for superior performing organic coatings on aluminium extrusions and panels. • AS 37155:2002 - Metal finishing thermoset powder coatings for architectural applications of aluminium and aluminium alloys. • AS 1231:2000 - Aluminium and aluminium alloys - anodic oxidation coatings. • WANZ - Specification for powder coatings on architectural aluminium products. • SNZ TS 3404:2018 - Durability requirements for steel structures and components **COMPLIANCE BY B2/VM1** All elements of the Thermosash product/system are specified by Thermosash to (with only normal maintenance) satisfy the performance requirements of the Building Code for 5 years (Surface Finish), 15 years (System), 50 years (Fixings/Connections) as appropriate.
E2 **EXTERNAL MOISTURE**	**COMPLIANCE BY E2 ALTERNATIVE SOLUTIONS** Compliance of E2 Alternative solution testing to AS/NZS4284 and good practice detailing as shown by way of testing, and test results are attached to every compliance pathway submission. Any complex/high-risk details that arise will be checked specifically for weather tightness by our in-house Producer Statement Author following best practice design principles, making use of pressure-equalised drained cavities and specialist expertise and experience. If required by the Client's Peer Reviewer, Thermosash can complete QA/QC site water testing in accordance with the following: • AAMA 501.2 test - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems (for fixed elements).

NOTE: THIS BROCHURE CONTAINS A SUMMARISED VERSION OF BUILDING PRODUCT INFORMATION REQUIREMENTS (BPIR) CLASS 2 DISCLOSURE INFORMATION - OUR COMPREHENSIVE DOCUMENTS CAN BE DOWNLOADED FROM:
HTTPS://WWW.THERMOSASH.CO.NZ/DOWNLOADS-RESOURCES/BPIR-DOCUMENTS/

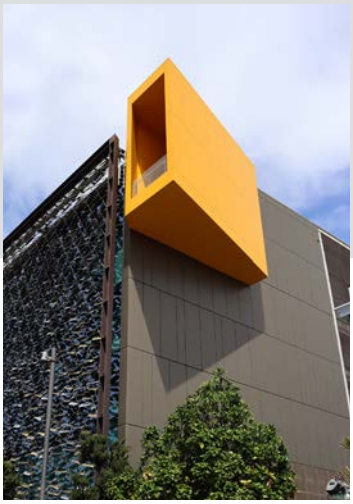


ASB North Wharf, Auckland

TENSION CABLED PERFORATED METAL SUNSHADE ‘LEAF’ ELEMENTS - (CABLES FORM 600 DIAMOND SHAPES WITH 5 ELEMENTS PER DIAMOND ALL SET OUT DIFFERENTLY)

SOLID ALUMINIUM SHEET
FOLDED | CURVED

Aria Apartments, Vinegar Lane, Auckland - architectural folded aluminium

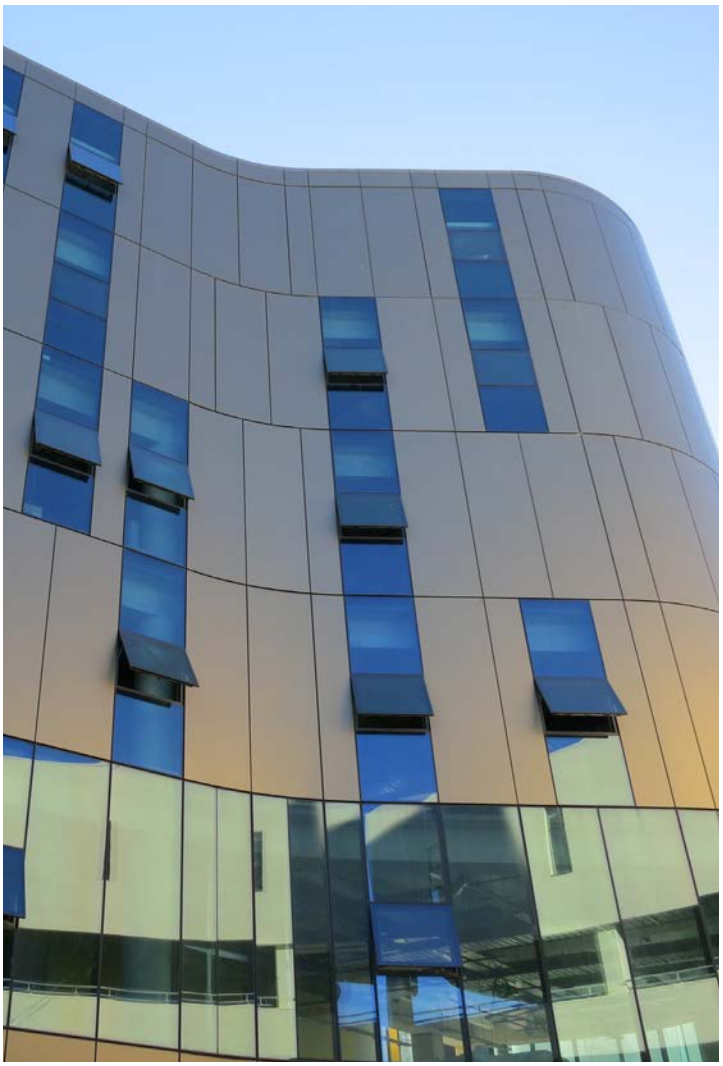


ASB, North Wharf, Auckland - architectural folded aluminium

Toyota HQ, Palmerston North - curved aluminium column cladding

1 Enfield Apartments - architectural aluminium pressings integrated into curtainwall

BNZ Harbour Quays, Wellington - folded metal pressings hung off curtainwall



ASB North Wharf, Auckand - curved unitised aluminium cladding

ALUMINIUM EXTRUSIONS
FINS | SOLAR SHADING | PLANKING

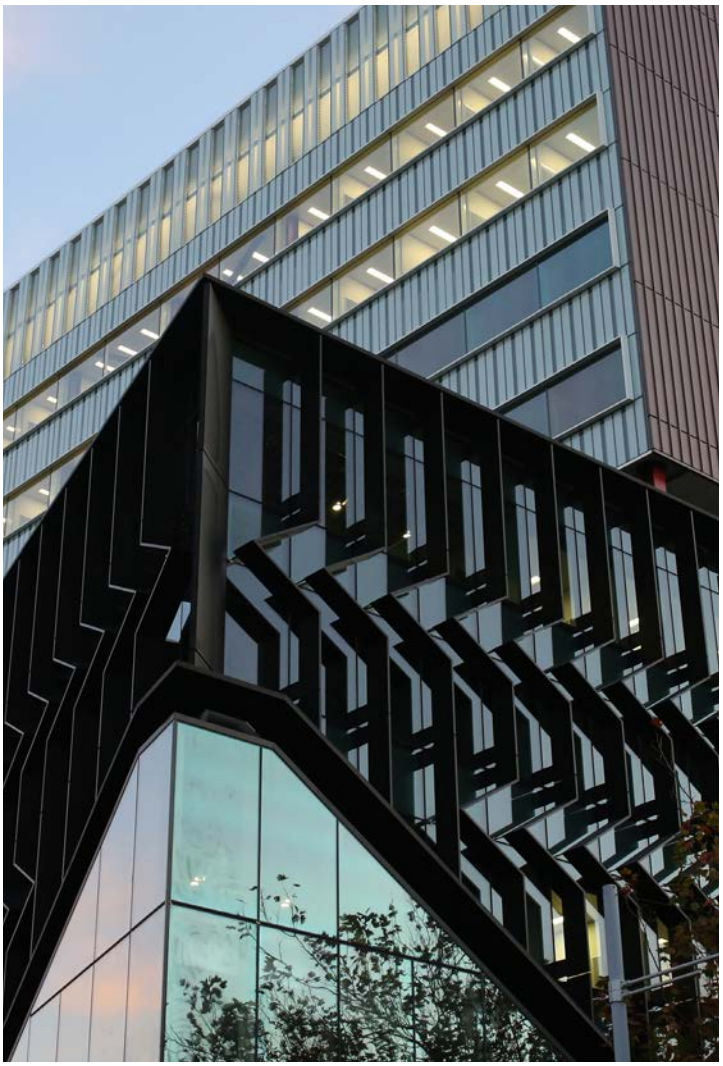
AUT M1 The Mana Hauora Building - facade planking (left), and horizontal solar shading cantilevered off unitised curtainwall

University of Auckland, B201 - unitised aluminium plank

UOA Engineering 405 - custom sunshade elements integrated into unitised curtainwall

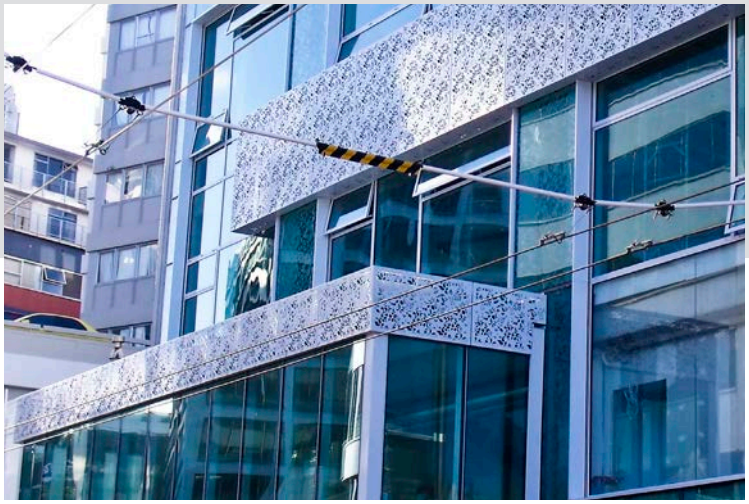
FMG Building - Christchurch - horizontal & diagonal fins with a complex T-section steel bracketry system to connect fins into curtainwall

Project Hauata, ACC, Hamilton - vertical box louvre fins integrated into Thermosash PW1000 unitised curtainwall

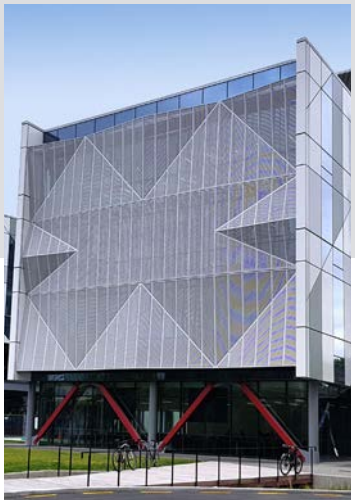


UOA School of Science 302 - Aluminium chevron elements integrated into Thermosash PW1000 Unitised curtainwall

ALUMINIUM SHEET METAL
PERFORATED



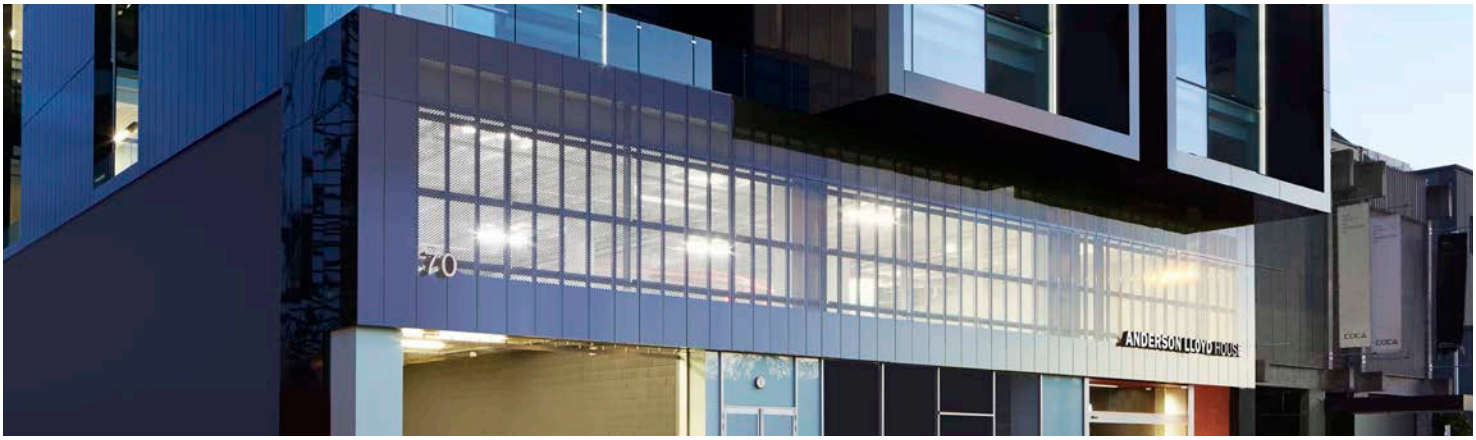
Regent Centre, Wellington - patternated perforated sheet metal balconies



UOC - Rutherford Regional Science & Innovation Centre - 'X Chromosome' perforated architectural metal folding integrated into unitised curtainwall

Bnz Cashel stage 1 - perforated and folded sheet metal installed as car park screening

Rangi Ruru Girls School, Christchurch, perforated metal suncreens to Science and General Academic blocks.



70 Gloucester Street, Christchurch - the black aluminium perforated screen provides shading and ventilation to the upper level car parking.

OUR BRANCHES

AUCKLAND
158-164 Central Park Drive
Auckland 0610, New Zealand
PO BOX 100-340 North Shore,
Auckland 0745, New Zealand
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Lower Hutt 5012, New Zealand
PO BOX 38-645 Wellington Mail Centre,
Lower Hutt 5045 New Zealand
04 939 4500

LEVIN
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Levin 5571, New Zealand
PO BOX 38-645 Wellington Mail Centre,
Lower Hutt 5045 New Zealand
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Thermosash are members of:

NZGBC
TE KAUNIHERA HANGANGA TAUTAIAO

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