

THERMOSASH

# Metal Folding & Finishing

PRESSINGS | FOLDING | EXTRUSIONS |  
PEFORATED SHEET METAL



**Thermosash**  
BUILDING ENVELOPE SOLUTIONS™

**Thermosash Commercial Ltd**

158 Central Park Drive, Henderson  
Auckland 0610, New Zealand

[www.thermosash.co.nz](http://www.thermosash.co.nz)



## Our Aluminium is green to the core.

Thermosash is partnered with the lowest embodied carbon NZ-owned extruder in the world\*.

The combination of high recycled content and low carbon virgin material forms the super-low embodied carbon 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.

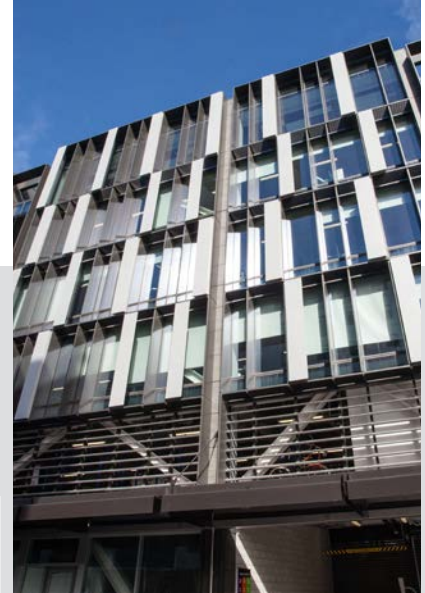
We exclusively use local powder coaters who have stringent chemical handling processes and reuse or responsibly dispose of all waste powder.



**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 will provide a specification based on your specific project requirements. Please contact us to discuss your project.

### KEY ADVANTAGES

- Full in-house design and engineering service
- New Zealand sourced raw material
- Local manufacturing facilities in Auckland, Wellington and Christchurch.
- High quality product / low tolerances
- Fully integrated into Thermosash facade systems
- We can process practically any sheetmetal material, from flashings to complex multi folds.
- Full sheetmetal shop capability - cutting, folding, welding, integration into curtainwall or rainscreen cladding system.

### 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.

## MAXIMUM SPANNING ABILITY

Thermosash specifically engineers the best options for your project taking into consideration material type, span, structural system, load imposed by glass thickness, seismic, wind & snow loading. The spanning ability will vary depending on the above.

## INTEGRATED ELEMENTS

We engineer our architectural metal pressings, metal folding, extrusions and perforated sheet metal elements to fully integrate into Thermosash facade systems.

## CAPABILITY

- Architectural Metal Pressing & Folding - 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.

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 'one stop shop' for building envelopes.

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, CAM folding machines etc.

## MAINTENANCE REQUIREMENTS

A maintenance manual is provided on completion of each project. It is recommended by almost all material suppliers that building washing should occur every 3-6 months, depending on location, to prevent environmental pollutants from corroding metals and to maintain the material warranties.

## WARRANTY

The standard warranty is 5 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.

## SUSTAINABILITY

### SUSTAINABLE MANUFACTURING

Thermosash manufactures all components in New Zealand, and primarily source materials where available from the New Zealand market. We recycle 100% of all metal waste products produced during manufacturing operations.

### ALUMINIUM EXTRUSIONS

Our extrusions are a combination of high recycled content and low carbon virgin material from a local NZ remelt facility - achieving a super low carbon footprint that significantly outperforms readily available global alternatives.\*

\* 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).

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

### REDUCTION OF OPERATIONAL EMISSIONS

Through a full measurement and target reductions audit undertaken by Toitū Envirocare, Thermosash Commercial Ltd achieved Carbonreduce Certification with result of 1,369.93 tCO2e (tons of carbon dioxide equivalent) in the 2021/2022 NZ financial year period. This established a baseline for subsequent emission reduction targets going forwards. Please contact us for up to date certification figures.

## BENEFITS

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
- ongoing trust within the industry
- high performance solutions
- durability of systems and longevity of product lifespan
- totally integrated service with ECI /ECE - engineering, producer statement generation, full shop drawings, manufacture and installation.
- design and detail to accommodate seismic loads and inter-storey differential movement, as well as wind loads
- risk mitigation through one provider construction methodology and one warranty.

### 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 energy and maintenance over the lifespan of the building.

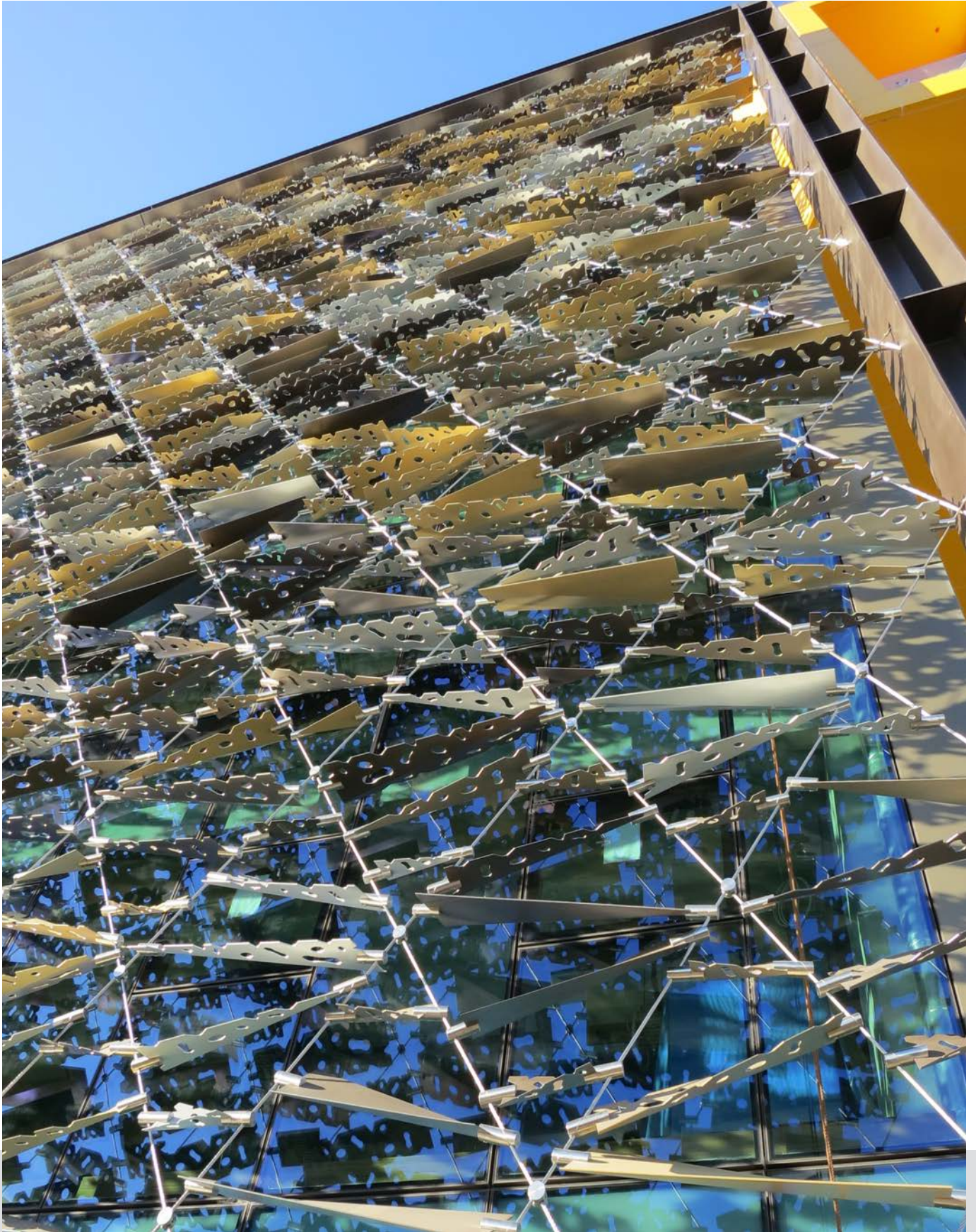
## BUILDING CODE - DEMONSTRATION OF COMPLIANCE

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
<b>B1 STRUCTURE</b>	<p><b>COMPLIANCE BY B1/VM1</b></p> <p>Compliance with B1 is shown by way of engineering calculations and/or testing, and reports are attached to the compliance pathway submission.</p>
<b>B2 DURABILITY</b>	<p><b>ACCEPTABLE SOLUTIONS B2/AS1</b></p> <p>There are not Acceptable Solutions available for aluminium and steel, and protection is provided through surface treatment in accordance with:</p> <ul style="list-style-type: none"> <li>• AS/NZS 2312:2014 - Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings.</li> <li>• AAMA 2605-05 - Voluntary specification, performance requirements and test procedures for superior performing organic coatings on aluminium extrusions and panels.</li> <li>• AS 37155:2002 - Metal finishing thermoset powder coatings for architectural applications of aluminium and aluminium alloys.</li> <li>• AS 1231:2000 - Aluminium and aluminium alloys - anodic oxidation coatings.</li> <li>• WANZ - Specification for powder coatings on architectural aluminium products.</li> <li>• SNZ TS 3404:2018 - Durability requirements for steel structures and components</li> </ul> <p><b>COMPLIANCE BY B2/VM1</b></p> <p>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.</p> <p>Generally, all elements are designed from aluminium. Where engineering requirements demand stronger materials stainless steel (304 or 316 as appropriate), or steel (coated to SNZ TS 3404:2018) will be used.</p>
<b>E2 EXTERNAL MOISTURE</b>	<p><b>COMPLIANCE BY E2 ALTERNATIVE SOLUTIONS</b></p> <p>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.</p> <p>If required by the Client's Peer Reviewer, Thermosash can complete QA/QC site water testing in accordance with the following:</p> <ul style="list-style-type: none"> <li>• AAMA 501.2 test - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems (for fixed elements).</li> </ul>

**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/](https://www.thermosash.co.nz/downloads-resources/bpir-documents/)





## **ASB North Wharf, Auckland**

TENSION CABLED PERFORATED METAL SUNSHADE ELEMENTS



# SOLID ALUMINIUM SHEET FOLDED | CURVED



Aria Apartments, Vinegar Lane, Auckland - architectural folded aluminium



ASB, North Wharf, Auckland - architectural folded aluminium



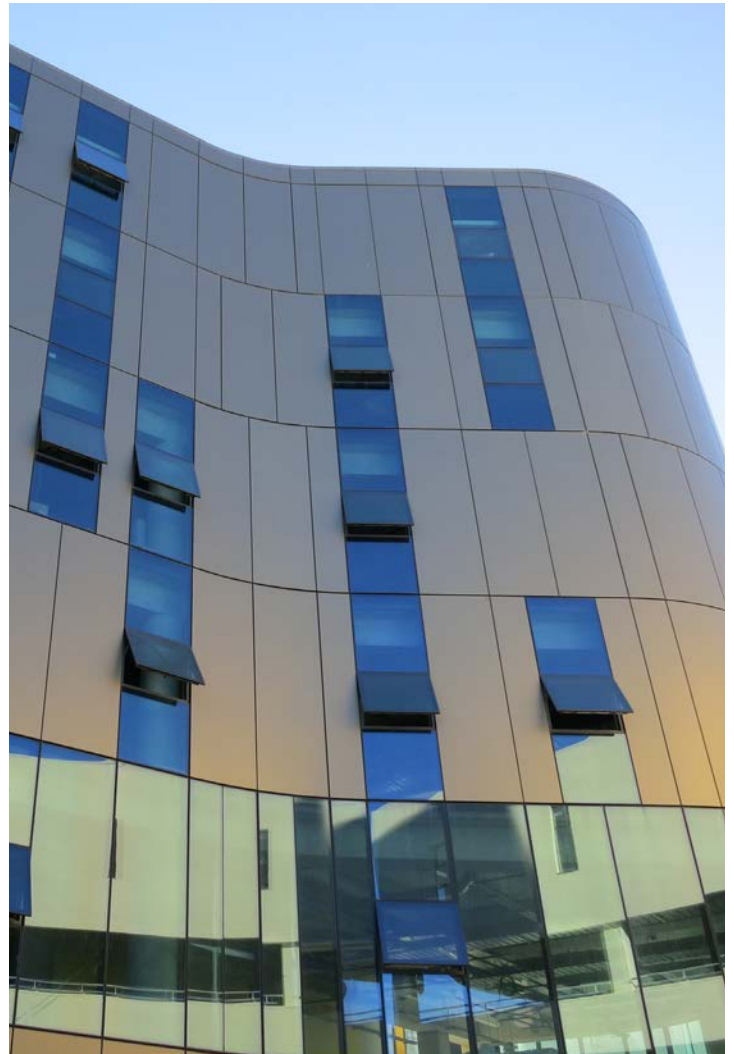
Toyota HQ, Palmerston North - curved aluminium column cladding



1 Enfield Apartments - architectural aluminium pressings integrated into curtainwall



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



ASB North Wharf, Auckland - 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



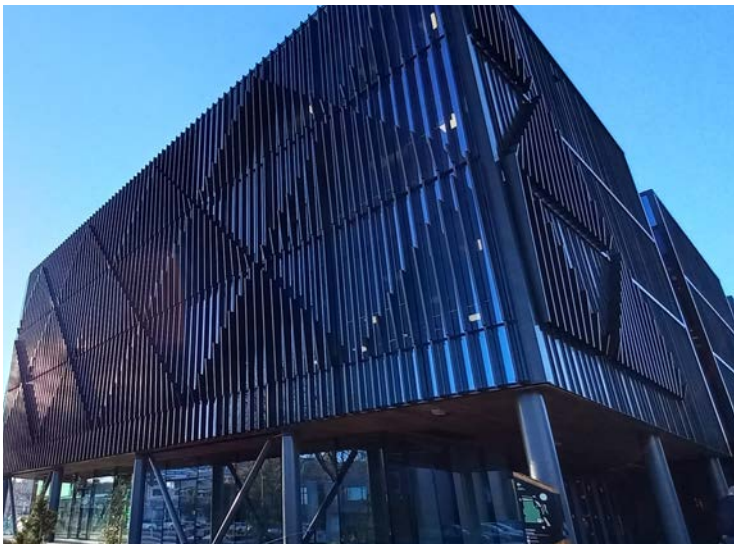
University of Auckland, B201 - unitised aluminium plank



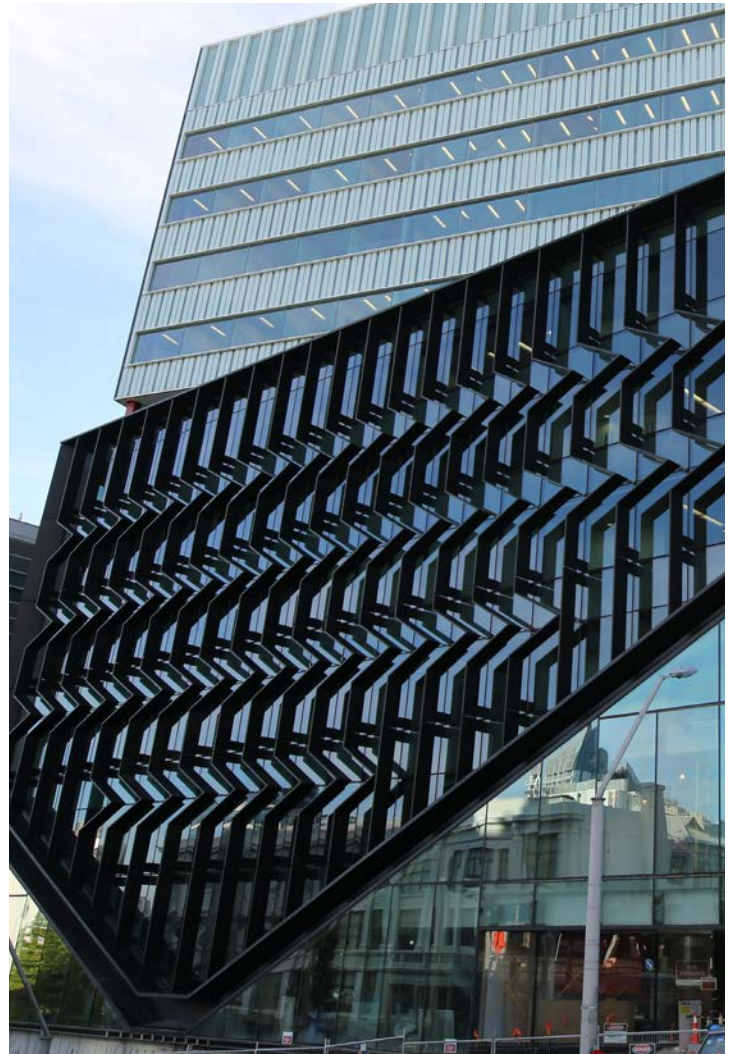
UOA Engineering 405 - custom sunshade elements integrated into unitised curtainwall



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



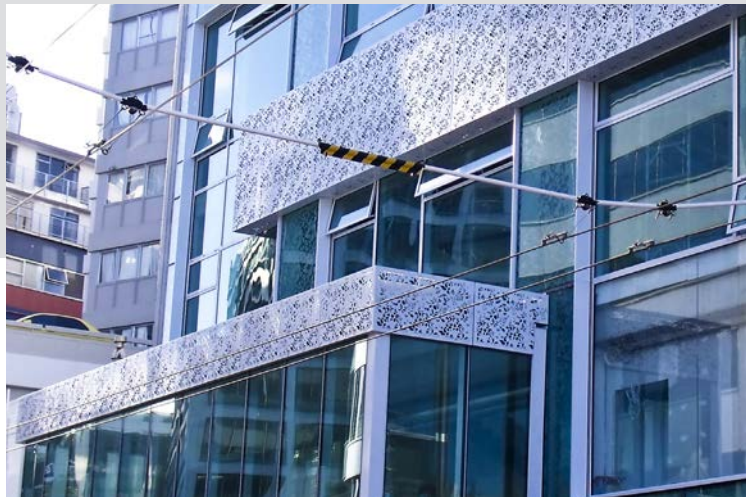
Project Hauata, ACC, Hamilton - vertical box louvre fins integrated into Thermosash PW1000 unitised curtainwall



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



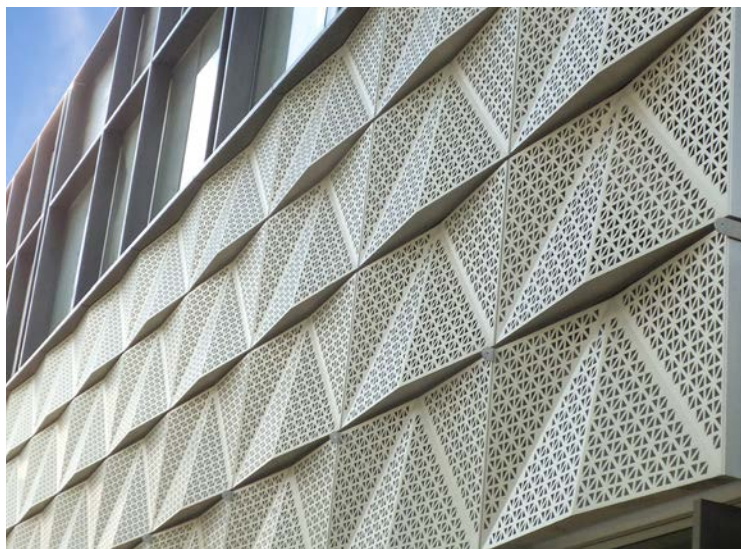
UOC - Rutherford Regional Science & Innovation Centre - 'X Chromosome' perforated architectural metal folding integrated into unitised curtainwall



Bnz Cashel stage 2, Christchurch - perforated decorative sheet metal canopies and solar shading



Rangī Ruru Girls School, Christchurch, perforated metal sunscreens to Science and General Academic blocks.



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

# OUR BRANCHES

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Thermosash are members of:



Brochure version 2.0 April 2024

