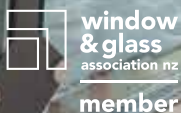




# Great ideas start here



**Success is better shared**





Traditional Villa to Modern Living, Auckland.  
41Architectural™.



### Welcome to the Altus Look Book.

On the following pages you'll discover inspiring examples of how Altus NZ Limited has helped to create better spaces to live, work and have fun in.

The book also provides you with an overview of our product range and the benefits that each provides.

You'll be introduced to our nationwide network of fabricators and see how some of New Zealand's most innovative aluminium extrusion manufacturers came together to form Altus, a leading name in New Zealand aluminium window and door manufacturing and fabrication.

*Kia Ora, I'm Al. We've put together  
heaps of info and ideas to  
**help you choose the right  
systems for your projects!***





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Cover image: The Remarkables Base Building.  
For more information go to [www.altus.co.nz/inspiration](http://www.altus.co.nz/inspiration)



The Ministry of Primary Industries Building, Auckland.  
Flushglaze™ Curtain Wall.

The Dacha, Queenstown.  
Southern41 Thermal™ Stacker and Cavity Slider doors with Clerestory windows.





Window Fabrication, Bradnam's Auckland.

# About Altus

Altus is a leading New Zealand designer, manufacturer and exporter of aluminium extrusions and extrusion-based building systems. We also import and distribute rolled and specialty extruded product for markets here and overseas.

Altus was formed in 2016 from a joint venture between Fletcher Aluminium and NALCO to bring to the industry new benefits of scale, leading edge technologies and product knowledge.

Our strategies for success, our passion and direction enable us to provide our customers, staff, suppliers and stakeholders with ongoing:

- Customer Experience
- Operational Excellence
- Product Leadership

### Our Pillars of Success

Everything we do from design, manufacturing and marketing is guided by one or more of our three core principles.

**Core Principle One**  
Customer Experience.  
Understanding our customers and delivering excellence.

**Core Principle Two**  
Operational Leadership.  
Best in Industry for quality, usability and delivery.

**Core Principle Three**  
Product Leadership.  
Leading the New Zealand market in product design and manufacturing.

### Together, better

At Altus, our purpose can be summed up in four words: "Success is better shared".

We recognise that our contribution is always one part of someone else's whole – and that the whole helps to create better, safer and more productive environments. That's why we work closely with our customers, our suppliers and our team to raise standards. Our partnerships are built on respect and integrity and are demonstrated through transparency, accuracy and reliability across everything we do.

We're proud of our legacy around New Zealand and the relationships we've forged, both as a supplier and a partner.

### Health and Safety

We're serious about keeping everyone safe.

We take all reasonable steps to ensure the safety of our workers, visitors and customers while they're on-site. We encourage all of our team to be aware of any potential harm and to look out for each other. And we listen and respond appropriately, with the urgency that fits the level of assessed risk.

View our Workplace Health Policy and Safety Policy at [altus.co.nz](https://altus.co.nz).

### Manufacturing and supply

Our manufacturing plant in Hamilton produces all of our extrusions and powdercoated material.

These are then provided to local manufacturing and export customers, and to our extensive window and door fabricator network around the country.

Our Industrial customers are serviced through our three Distribution Centres in Auckland, Hamilton and Christchurch. These Centres stock and supply sheet, plate, treadplate, coil and extruded aluminium profiles that can be custom designed and extruded to order.

### Sustainability

We've put in place effective management practices to minimise the impact that our activities may have on the environment.

All of our inputs, outputs and processes are monitored via our accredited Environmental Management System 14001:2015. Practical steps for helping to make our world a better place include:

#### Lean Manufacturing

Our lean manufacturing principles are geared towards reducing waste and improving worker safety. They include:

- Avoiding the creation of waste wherever we can;
- Recycling waste products where avoidance isn't possible;
- Showing preference to suppliers who use green policies that are similar to ours;
- Reducing energy use;
- Using zero or low VOC (volatile organic compounds) products;
- Promoting green principles with Altus and to all of our stakeholders;
- Providing a safe and healthy workplace for our team;
- Choosing workplace environments that have been designed with green principles;
- Doing our best to reduce the impact of what we do on the environment.

- 1953**
- Fisher™ brand established.
- 1954**
- Rylock™ brand established.
- 1961**
- Aluminium mill opens in Wiri.

- 1963**
- Roofing sheet exported to Nepal as part of the Sherpa community schools and hospitals building project spearheaded by Sir Edmund Hillary. Continues until 1967.

- 1965**
- Nulook™ brand established.
- 1968**
- Nebulite™ brand established.

- 1970s**
- Extrusion capacity doubled at Wiri mill.
  - Investments in Rolls Holdings (Hamilton) and Nulook (Cambridge) means both businesses can start fabrication of windows and doors.

- 1979**
- Nalco consolidates position in the high rise windows market through acquisition of Horizon Aluminium.
- 1982**
- A new high technology press is installed at the Wiri mill.

- 1986**
- Des McCarthy becomes the first employee to celebrate 25 years service.
- 1987**
- Vistalite™ brand established.

- 2002**
- NALCO formed with Joint Venture from Capral.
  - Bradnam's is established in New Zealand.
  - Early pioneers of V6.

- 2003**
- WeatherTight™ windows and doors are launched onto the market.

## Recycling Aluminium

Aluminium is one of the most successfully recycled products in construction. Scrap aluminium from manufacturing, building demolition and market collections is much in demand and fetches high prices.

It's one of the most environmentally friendly recycled construction products on the market. Reprocessing scrap only uses around 5% of the electricity needed to produce the original primary aluminium. The CO2 emissions footprint is a lot smaller too.

## Gate to Gate

This initiative was instigated by Altus to reduce the environmental impact of aluminium at every stage of its journey, from the smelter gate to yours. This includes transportation, manufacturing, packaging, fabrication and the recycling of any off-cuts.

## Building for Climate Change

Following guidance from MBIE (Ministry of Business, Innovation & Employment), we are working on reducing emissions from buildings both during their construction and when in operation. We're also preparing buildings to withstand the fluctuations caused by changes in the climate.

View our Environmental and Sustainability Policy at [altus.co.nz](http://altus.co.nz).



Vertical Point Line Te Rapa, Hamilton.

## Sustainability

We source aluminium from New Zealand's Aluminium Smelter (NZAS). Based in Bluff, it is the only aluminium smelter in the country.

NZAS is owned by Pacific Aluminium and Sumitomo Chemical Company Ltd of Japan. Pacific Aluminium is a wholly owned subsidiary of Rio Tinto with assets in Australia and New Zealand, producing more than one million tonnes of aluminium every year.

Why Altus' relationship with NZAS and Rio Tinto is important.

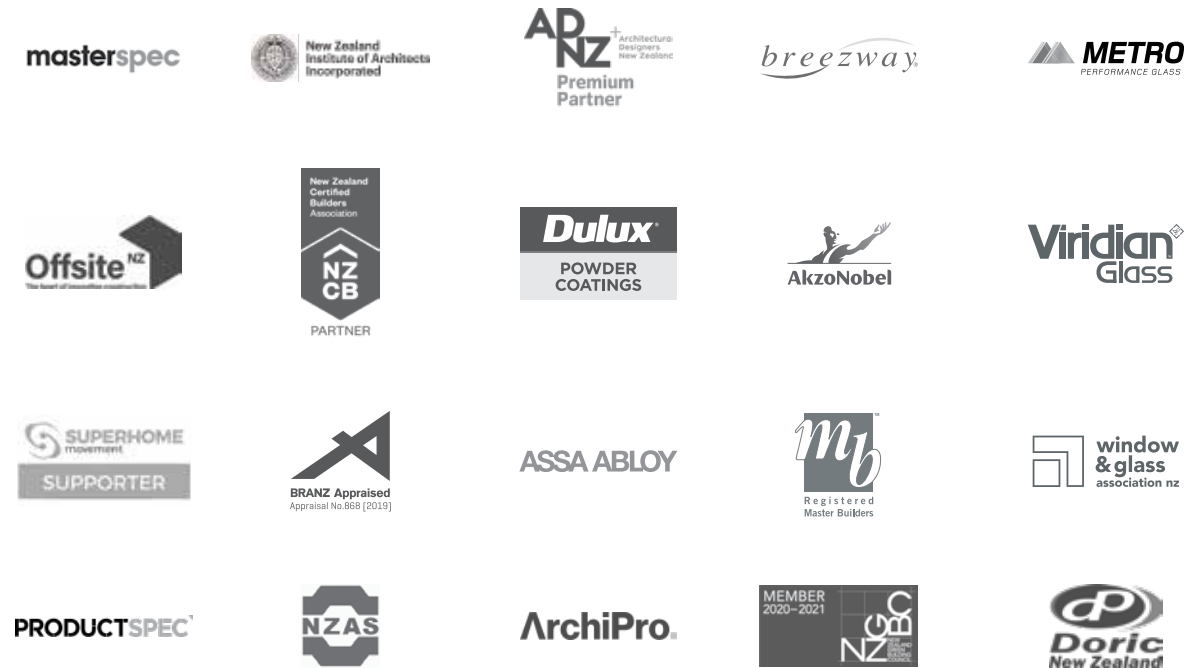
- NZAS produces a wide range of value-added products that are cast from low carbon aluminium. These include high purity ingots, foundry alloys and specialty billets.
- NZAS is one of only two smelters in the world that produces ultra-high purity aluminium. It is the only one in the world that uses renewable energy to do so.
- Responsible manufacturers demand all-of-life product certification and raw material verification. NZAS is one of just a handful of smelters to have its metal recognised as one of the lowest carbon aluminium producers in the world. This is externally certified under Rio Tinto's RenewAl brand.

## Rio Tinto NZAS

NZAS produces some of the world's cleanest aluminium at approx..2Mt CO<sub>2</sub>-e/t Al, compared to China which is predominantly coal @ ~18Mt/CO<sub>2</sub> per t/Al.

Rio Tinto launched START Responsible Aluminium: the first sustainability label for aluminium using blockchain technology. START stands for Sustainability, Traceability, Assurance from Rio Tinto and is another Aluminium Industry first, bringing radical transparency to our ESG credentials.

## Our Partners and Associations



**window  
& glass  
association nz**  
member

## Member of the Window & Glass Association of New Zealand

Established to maintain the highest possible degree of industry-wide quality and performance, WGANZ provides management and technical advice to serve the industry. For more information go to: [www.wganz.org.nz](http://www.wganz.org.nz).

<b>2009</b> <ul style="list-style-type: none"> <li>NALCO wins the Manukau Business Excellence Award.</li> <li>SovereignSeries™ windows and doors are launched onto the market.</li> <li>Dual Glaze launched.</li> </ul>	<b>2011</b> <ul style="list-style-type: none"> <li>Southern41 Thermal™ windows and doors are launched onto the market.</li> <li>Pilkington Way opened to cope with the Christchurch earthquake rebuild.</li> </ul> <b>2012</b> <ul style="list-style-type: none"> <li>NALCO moves to larger site at Highbrook in Auckland.</li> </ul>	<b>2014</b> <ul style="list-style-type: none"> <li>41Architectural™ windows and doors are launched onto the market.</li> <li>Decision made to extend the Hamilton factory and invest in new extrusion operation.</li> </ul>	<b>2015</b> <ul style="list-style-type: none"> <li>The innovative Stellar Doors Selector is launched on the NALCO, Nulook and Bradnam's websites.</li> <li>Company invests in Enterprise Resource Planning for window business.</li> <li>Nulook celebrates 50 years.</li> </ul>	<b>2016</b> <ul style="list-style-type: none"> <li>Joint Venture between NALCO and Fletcher Aluminium Ltd is announced. Altus brand established.</li> <li>New Turla Press at Hamilton mill pushes its first billet.</li> <li>"We Are One" Joint Venture between NALCO and Fletcher Aluminium Ltd is announced on July 1.</li> </ul>	<b>2016 continued</b> <ul style="list-style-type: none"> <li>NALCO and Fletcher Aluminium become Altus.</li> </ul> <b>2019</b> <ul style="list-style-type: none"> <li>New flat bed router increases capacity to process flat sheets 9m long x 2.4m wide and from 3mm to 25mm thick.</li> </ul>	<b>2020</b> <ul style="list-style-type: none"> <li>Launch of single system that consolidates Altus range: <ul style="list-style-type: none"> <li>Tasman 35</li> <li>Pacific 41</li> <li>Atlantic 48</li> <li>Southern Thermal</li> <li>Baltic Commercial</li> </ul> </li> </ul>	<b>2022</b> <ul style="list-style-type: none"> <li>Altus launches 'Al and Alisha' from Altus, and friends. They are the new faces of Altus.</li> <li>Altus Announces the partnership with Women's Rugby WIRA.</li> </ul>
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# Develop your vision



Aluminium Truck Body.

**We have the skills and resources to provide a total solution for any industrial aluminium application, here or around the world.**

Our extensive capabilities include aluminium sheet and plate, extrusion, fabrication, surface finishing and customised design.

We also have a number of value-added applications and services, such as flat bed routing CNC fabrication.

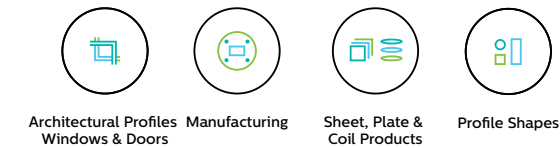
This is all backed by a highly experienced team who can assist with complex design to bring even the most challenging project to fruition.

Our total solution works for a number of diverse industries that include:

- Marine
- Transport
- Insulation
- Architectural
- Sign Profiles
- Appliance Manufacturers
- Metal Fabricators

## Products and Services

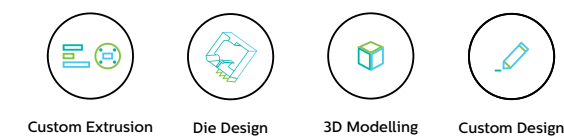
### Industrial Products



We supply rolled and extruded products from stock and can extrude products that are available for Mill runs in standard quantities. Stocked profiles include: Angles, Channels, Rod & Bar, Tubes & Hollows, Tee's, I-Beams, Marine sections, Transport sections, Insulation sections, Signs sections and Architectural profiles.

Our partnerships with overseas manufacturers also allow us to source special alloys and products.

### Custom Extrusion and Die Design



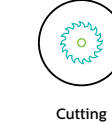
Our total solution includes made-to-order services for custom designs and large mill run orders. We can also draw on our experienced design team to create new dies from scratch or modify existing ones.

### Export/International Services



We provide tailored product and service solutions to customers throughout the Pacific and Australasia.

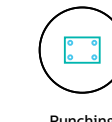
### Aluminium Fabrication



Cutting

Standard and Precision Cutting can be done at all of our Trade Centres. Our saws can do standard cuts on plate and bar up to 300mm thick. We can precision cut to any angle between 40 and 140 degrees, and up to 6000mm in length.

### Punching



Punching

Customers can order precision sheet metal punched parts and extrusion as required.

### Drilling



Drilling

We provide drilling-related services across extrusion, plate and sheet.

### CNC Router



CNC

Our fast, high-precision CNC machines can profile cut flat sheets and plates up to 2400mm wide and 12000mm long, and extrusions up to 6m in length.

**Contact the Altus Industrial team:**

**0800 777 744**  
**[altus.co.nz/industrial](http://altus.co.nz/industrial)**  
**[sales@altus.co.nz](mailto:sales@altus.co.nz)**



# Sharing your vision

Go with one system or  
mix and match to **create**  
**the look you're after!**

## Windows, Doors and Façades

The Altus range of  
window and door systems  
provides a solution for  
every area in your residential  
or commercial project.

The Hotel Britomart, Auckland.  
Al Structurally Glazed.

The DNA House, Coromandel Peninsula.  
Pacific Architectural.

## Residential Systems



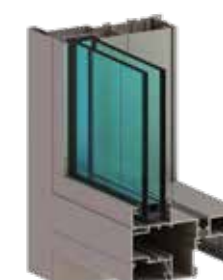
### Tasman35™

(formerly Weathertight™ and Pacific Residential)

This versatile 35mm frame platform  
combines modern aesthetics with  
practical functionality, to create  
the perfect solution for homes and  
apartments.

The system comes in square frame, angle frame,  
protruding and flush face options. It's robust  
enough to carry heavy, double glazed panels of  
up to 2.4m high, providing home owners with  
increased light and ventilation and the freedom to  
create a relaxed indoor-outdoor flow.

## Architectural Systems



### Pacific41™

(formerly 41Architectural and Pacific Architectural)

These systems have been crafted to  
help bring an architect's vision  
to life.

Sleek, robust and functional, the windows and  
doors are the ideal choice for architecturally  
designed homes, educational facilities, aged care,  
and low rise commercial and industrial buildings.  
The system features a 41mm platform for larger  
IGUs and can accommodate sliding panels up to  
2.6m high for vast glazing expanses. The superior  
flat frame aesthetic complements well-chosen  
materials, fixtures and fittings.

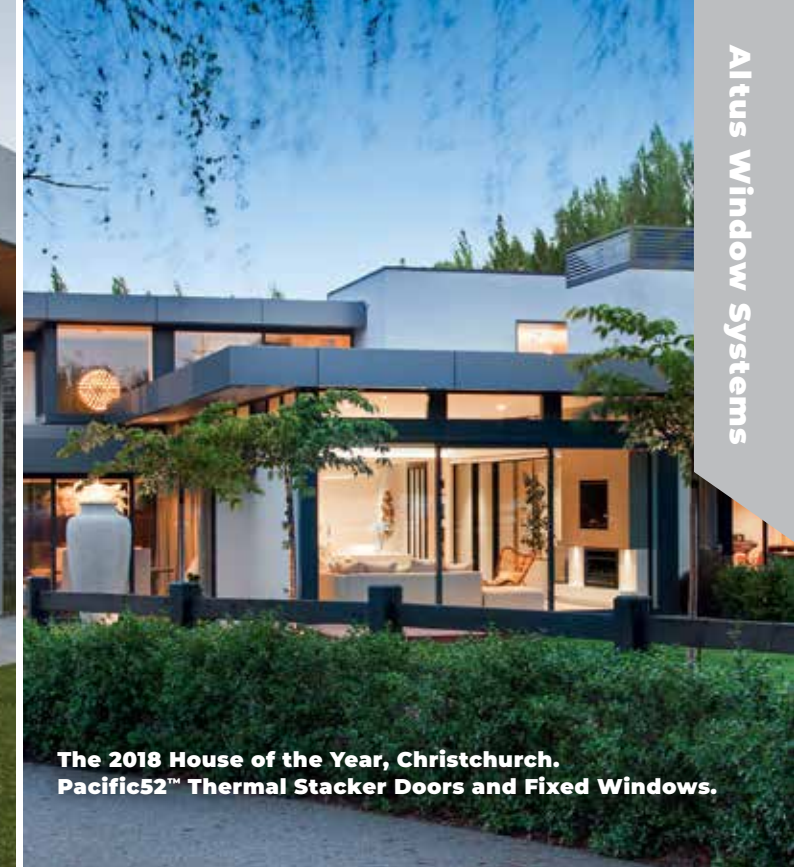




**Rose Garden Apartments, Auckland.**  
Atlantic48™ Euroslider™ Doors, Pacific Architectural, and Altus 106 Shopfront.



**The Dacha, Queenstown.**  
Southern41™ Thermal Stacker Doors.



**The 2018 House of the Year, Christchurch.**  
Pacific52™ Thermal Stacker Doors and Fixed Windows.

## Thermally Broken Systems



### Southern41™ Thermal

This system is a residential aluminium joinery range that has a thermal break built into the design.

In essence, the thermal break reduces the thermal transference of cold or heat through the frame. This in turn reduces the energy required to heat or cool a home.

Put simply, a thermal break extends the benefits of double-glazing to the frames of your windows and doors. Just as double-glazing prevents warmth or coldness escaping through the glass, the thermal break does the same for your joinery.



### Pacific52™ and Pacific60™ Thermal

This system can add up to 50%\* more thermal efficiency to what double glazing alone can provide.

This is achieved through a thermally broken frame. Unlike standard aluminium joinery which is highly conductive, the frame has a nylon thermal barrier which prevents heat transfer and considerably reduces the chance of condensation, thus keeping the inside of your home warmer, drier and more comfortable.

\*The Pacific52™ and Pacific60™ Thermal system, when combined with higher performing glass (double glazed IGU with Argon gas and a Low E coating) can add up to 50% more thermal efficiency than standard double glazing alone.

## High Performance Architectural & Light Commercial Systems



### Atlantic48™

This system is the logical choice when the project calls for grand designs, edgy architecture, extreme locations, super weights and applications that generally push the boundaries.

Homes, apartments and commercial developments of superior style and scale demand the highest quality product. This Altus system fits perfectly with all high-end fixtures and fittings. The windows and doors are available with seismic frame options and increased capacity for double glazed units to provide superior protection against the elements. Sliding panels can be up to 3 metres high for vast unobstructed views and access.





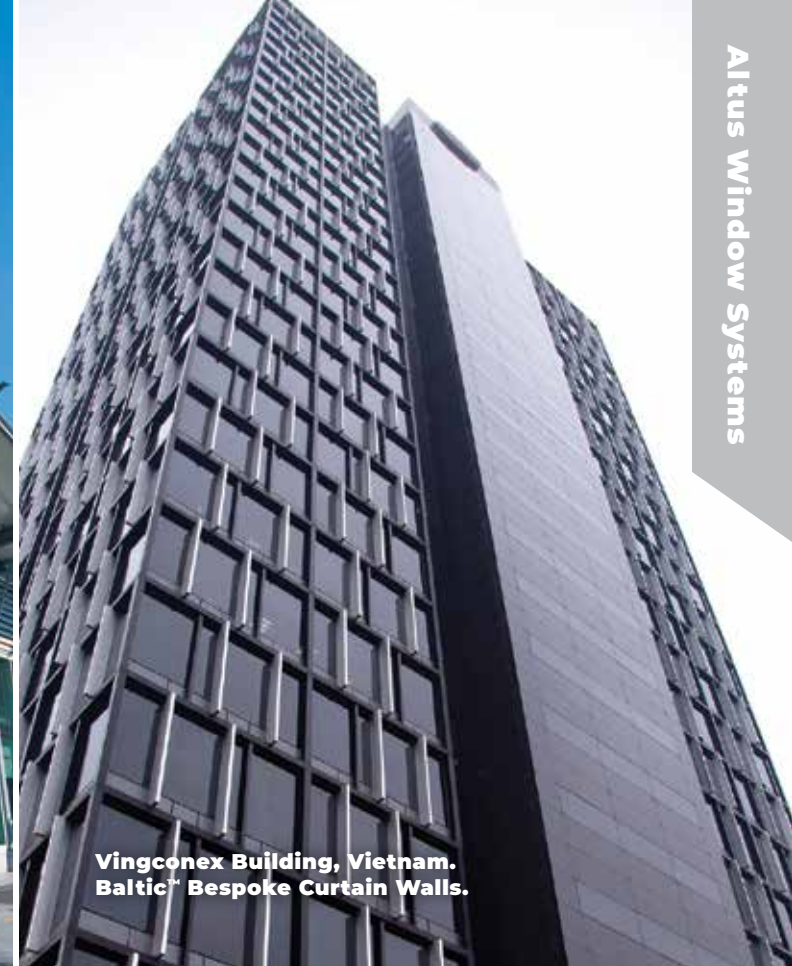
**Euroclass Building, Auckland.**  
Baltic™ Flush Glaze Systems.



**MPI Building, Auckland.**  
Baltic™ Commercial Systems.



**Queens Wharf Ferry Terminal, Auckland.**  
Baltic™ Shopfront 106 Systems.



**Vingconex Building, Vietnam.**  
Baltic™ Bespoke Curtain Walls.

## Baltic™ Commercial Systems

Our commercial systems range provides proven performance across a variety of applications, from low, medium and high-rise buildings, to shopfronts, roof glaze and curtain walls.



### Curtain Wall & Flush Glaze Systems

These systems are perfect when the application requires a curtain wall system that provides superior strength, increased spans and greater depths (106mm, 136mm and 159mm).

They integrate seamlessly for cross platform compatibility with other Altus window systems. You can choose single or double glazed, captive or structurally glazed, or as a combination of both.

- Flush glaze
- A1 Curtain Wall
- Stickform Curtain Wall (can be thermally broken)
- Roof glaze



### Shopfront 106 System & Commercial Doors

The larger door options, increased glazing specifications and the ability to seamlessly integrate with the high performance Atlantic48™ architectural system ensure flawless performance and enhanced design flexibility for low rise and commercial ground floor applications. Single glaze Shopfront 75 is also available for commercial interiors.



### Bespoke Curtain Walls

Squares and rectangles look great, but sometimes a special project demands more. Talk to the Altus commercial team about customised curtain wall designs. Engage them early on in the process so you can explore the best way to bring your vision to life.



The Altus technical team can be contacted on  
0800 925 500 or [technical@altus.co.nz](mailto:technical@altus.co.nz)



## Unique Product Features

Altus Window Systems have been creating better living environments across New Zealand for over 60 years.

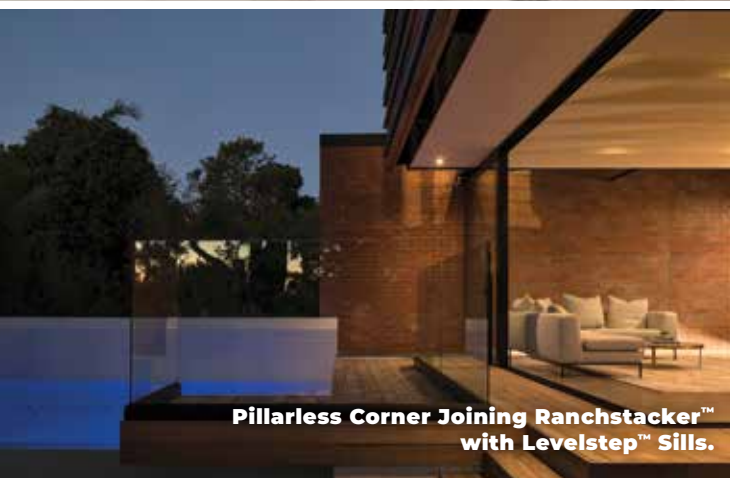
Our innovative product range includes unique design features that offer superior functionality, style and performance.



**Eurostacker™ Doors.**

### Sliding Doors & Windows

Both our Euroslider™ and Ranchslider™ sliding doors and windows can be configured as corner sliders or stackers with sliding panels meeting at a corner without the need for a pillar. Also available as overwall sliders or cavity sliding panels for increased access and views.



**Pillarless Corner Joining Ranchstacker™ with Levelstep™ Sills.**

### Ranchslider™ & Ranchstacker™ Doors & Windows

These Kiwi classics have an internal sliding panel or panels so there are no intrusive panels to obstruct views. Fixed or opening windows can be incorporated onto the non-sliding panel. The option of a LevelStep™ Sill provides a safe, flush entry.



**Bi-parting Eurostacker™ Doors.**

### Euroslider™ & Eurostacker™

The outside sliding panels of the Euroslider™ are exposed without a sill channel trough. This not only provides a superior aesthetic, but also reduces the collection of dirt, dust and water all of which adds up to increased durability and less maintenance.

### Levelstep™

Levelstep™ can be incorporated into any Ranchslider™ or Ranchstacker™ system to create seamless indoor/outdoor flow. Levelstep™ meets the 20mm step accessibility requirements, making it ideal for aged care facilities and schools.



**Ranchslider™ with Levelstep™ Sills.**

### Foldback™ Bifold

The Foldback™ Bifold's unique patented system allows up to three door panels to fold flat against the exterior cladding of a home for unobstructed traffic flow and increased space.



**Foldback™ Bifold Doors.**

### Aluvent™ Passive Ventilation

Passive ventilation helps to create healthier, more energy efficient buildings with improved air flow. The Aluvent™ passive ventilation system allows rooms to ventilate while windows and doors are closed. This reduces condensation and helps to achieve the minimum air exchange requirements set by the Building Code.



**External view of Aluvent™ Passive Vent.**



# Altus Hardware Options

Specifically designed for Altus Window Systems, there's a style to suit every taste – from elegantly discrete to distinctly architectural.

## Malta™

With Malta™ window and door hardware, you can achieve a modern, consistent look throughout the home or office.



**Malta High Profile**



**Malta Low Profile**



**Malta Venting**



**Malta Internal**



**Malta Sash Pull**



**Malta Apex**



**Malta Apex**



**Malta Hinged**

## Lucerne

Lucerne hardware is crafted from Stainless Steel (316) with a sleek profile for a consistent look.



**Lucerne Bifold Door Handle**



**Lucerne D Pull Sliding Door Handle**



**Lucerne Lever Door Handle**



**Lucerne Sash Handle Locking**



**Lucerne Sash Handle**



**Lucerne Sliding Door Flush Handle**



## Aria

Aria provides both internal and external hardware solutions. With an array of powdercoated colour finishes, it's easy to co-ordinate colour aesthetics throughout the home.



**Aria Endeavour Sliding Door Handle**



**Aria Hinged Door Handle**



**Aria Optimum With Lock Alert**



**Aria Sliding Door D Pull Handle**



**Aria Sliding Door Pull**



**Aria Twinbolt Bifold Handle**



**Aria Low Profile**



**Aria High Profile**



**Aria Double Tongue**





# Our window and door fabrication brands

**Got a clever design?** We've got the brand to bring it to life.



**Rawhiti Estate, Auckland.**  
41 Architectural™ and Baltic™ Commercial Systems.

## Building together

Bradnam's has established a successful track record for supplying residential and commercial joinery to leading national building companies throughout New Zealand.



Bradnam's New Zealand business unit is owned by Altus. Because they're company owned, you can be sure that superior quality of product and service are maintained on both a national and regional level.

Performance, durability, comfort, security, safety and style – Bradnam's brings it all together in an outstanding range of window and door systems.

**0508 BRADNAMS (0508 272 363)**  
[bradnams.co.nz](http://bradnams.co.nz)



**Tasman View House, Tasman Bay.**  
Pacific52™ Thermal System.

## Creators of the original Ranchslider™

Fisher™ Windows has been part of the New Zealand landscape for longer than any other joinery brand.



So when customers buy Fisher™ Windows and Doors, they know they're getting a quality product that's backed by the kind of superior knowledge and after-sales support you get from being in business for over 60 years.

Fisher™ Windows and Doors are designed to make the best use of light and the natural environment, while providing the practical benefits of smooth operation, lower maintenance, longer life and better security.

**0800 FISHER (0800 347 437)**  
[fisherwindows.co.nz](http://fisherwindows.co.nz)



**All In The View, Canterbury.**  
Atlantic48™ System.

## Inspiring excellence

Since starting business in the early 1970s, Nebulite™ has built a reputation around innovation and quality.



It was the first to develop the revolutionary passive ventilation system (Supervent™) that was the starting point for what is now an integral part of many window systems.

Nebulite™ tailors its products and services to specific consumer needs. The nationwide network of fabricators tend to be large-scale businesses with strong residential design and commercial building expertise.

**0800 NEBULITE (0800 632 854)**  
[nebulite.co.nz](http://nebulite.co.nz)





### Designed for life

Nulook™ is a nationwide network of independently owned licensed window and door fabricators, providing a range of solutions for New Zealand's diverse climate and conditions.

The local teams have a wealth of experience when it comes to providing customers with practical advice on technical points around manufacturing, installation and product performance.

**0800 NULOOK (0800 800 755)**  
**nulook.co.nz**



### Because first impressions count

Stellar Doors™ are a premium range of entrance doors.

They're designed to enhance the entranceways for residential homes, holiday homes and apartments.

The classic entrance door range includes 17 door styles, from classic to contemporary. The standard sizes of single, double, half and sidelights can be extended to custom-made and thermally broken options.

Stellar Doors are available exclusively from the Altus Window Systems fabricator network across the country.

**0800 STELLAR (0800 783 552)**  
**stellardoors.co.nz**



### Enhancing the way you live

Rylock™ started life back in the fifties as a manufacturer of aluminium fly screens.

Today, it is one of New Zealand's most well-known window and door joinery brands.

Rylock's™ philosophy is all about designing windows and doors that fit the varied Kiwi lifestyle. It's committed to being at the forefront of leading-edge design, providing home owners and businesses with the most up-to-date products and features on the market.

**0800 RYLOCK (0800 795 625)**  
**rylock.co.nz**



### Results you can see

Vistalite™ could be described as the friendly brand of joinery.

The systems are modern in design and exceed all New Zealand standards for windows and doors.

The key difference with Vistalite™, however, is the people.

The friendly professionals are happy to explain the benefits of the various windows and doors in non-technical language, so customers know they're getting exactly what they're after.

**0800 VISTALITE (0800 847 825)**  
**vistalite.co.nz**





# Altus Showcase

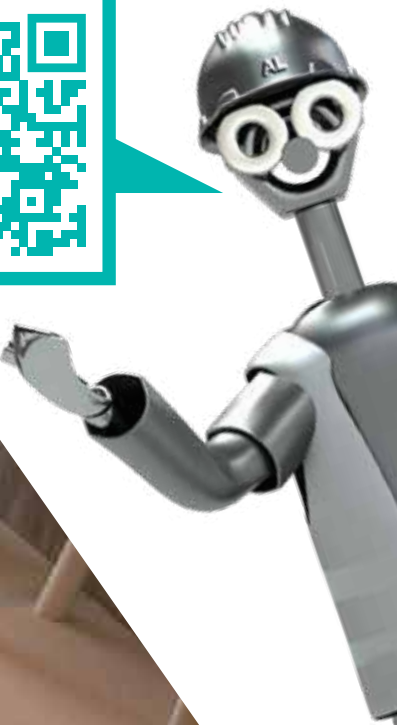
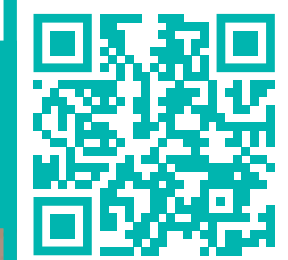
## Making your vision a reality

The diverse range of projects on the following pages demonstrate how Altus Window Systems and their fabricator network have been integral to achieving the vision of a building's architect and owner.

At Altus, we understand the challenges you face as part of the design process. That's why we provide a wide range of technical support.

We can help you to scope projects, supply technical information, assist with the consulting process, liaise with fabricators and put you in touch with our technical team for shop drawings and similar requirements.

**Check out our projects online!**



**Cascata, Queenstown.**  
**Pacific60™ Thermal Windows with Stitched Polyamide Thermal Barrier.**



# Connecting with the landscape

## PROJECT

Cascata

## LOCATION

Queenstown

## ARCHITECT/DESIGNER

Gary Todd Architecture

## BUILDER

B.J. Hill Builders

## ALTUS WINDOW SYSTEMS FABRICATOR

- Vistalite™ Otago
- E13 Performance Windows

## ALTUS WINDOW SYSTEMS

The Pacific52™ and Pacific60™ Thermal systems with stitched polyamide thermal barrier. Double and triple glazing with added low-E coating and argon gas.

In Italian, Cascata means “falling water”. It’s an apt name for this cleverly designed multilevel home.

The overall impression is one of a waterfall cascading down a hillside. This effect is enhanced by an actual waterfall feature at the back door.

Fusing the home to the natural landscape around it was something that architect Gary Todd had in mind from the outset.

He wanted to use a biophilic approach, where the house has an intimate connection to its surrounding environment.

Another important consideration was to maximise views from every area in the house - hardly surprising when your vista includes Lake Wakatipu and the Remarkables.

The house is south facing to capture the views and north facing to capture the sun. Gary’s solution was ingenious in its simplicity - design a home that’s 70% glass.

Floor to ceiling windows and doors that were so large they needed a crane to put them into their frames, provide commanding views of the lake and mountains. Two custom Pacific52™ Thermal over-wall multi-stackers are on both sides of the kitchen and dining areas, so someone standing at the back of the house can see right through to the views at the front.

## Pacific52™ Thermal Euroslider™

## Pacific52™ Thermal Over Wall Custom Multi-Stackers



These same stackers, with Eurostacker™ sills for superior weather performance, create two generous six-metre openings for uninterrupted indoor-outdoor flow to the spacious entertaining areas.

Of course, in a region where temperatures fluctuate from -10 to 35 degrees, creating a house with such a large glass footprint had its challenges.

High performance glazing was essential to maintain a comfortable living environment all year ‘round.

Gary Todd, B.J. Hill Builders and the team at Vistalite™ Otago worked closely to come up with the solution that delivered both on lifestyle and thermal performance.

“The sheer size of the windows and doors meant we needed the best performing aluminium system available,” Michael Brensell, Manager of Vistalite™ Otago says.

After carefully weighing up the options, it was agreed that the Pacific52™ and Pacific60™ Thermal systems were the best solution.

A number of elements came together to create maximum thermal efficiency: 140mm framed walls with R4.0 batts, 60mm thermally broken windows with an R<sub>co</sub> 1.82 using 48mm IGU. All of the joinery incorporated airtight seals for peak performance.

“Solar energy is used to heat the house,” Michael Brensell explains. “The increased R<sub>Window</sub> value reduces the heat loss when the sun goes down, to maintain a warm, comfortable environment.”

The inside surface temperature of the triple glazing is a lot warmer too. “This means indoor heat isn’t drawn to the cold glass and then lost through the glazing,” says Michael Brensell.

An “Intello” airtight system, together with recycling air conditioning units that are concealed from view in the sub floor spaces, controls moisture and maintains a healthy filtered airflow throughout the home.

Glazing was an integral part of Gary Todd’s biophilic design for Cascata.

Vistalite™ Otago came up trumps in helping to achieve Gary’s vision, with windows and doors that delivered both in terms of lifestyle and thermal performance. Their work on the project won them the Window and Glass Association of NZ award for a contract over \$175,000, as well as the 2018 TIDA New Zealand Architect-designed New Home Award.



# Serenity, sustainability and speed

## PROJECT

Metlifecare's Greenwich Gardens  
– Stage Three

## LOCATION

Auckland

## ARCHITECT/DESIGNER

Peddle Thorp Architects

## MAIN CONTRACTOR

Haydn + Rollett

## ALTUS WINDOW SYSTEMS FABRICATOR

- Vistalite™ North Harbour
- Rylock™ Auckland

## ALTUS WINDOW SYSTEMS

- Atlantic48™ Eurostacker™ doors.

At first glance, newcomers to Metlifecare's Greenwich Gardens in Auckland's Unsworth Heights will be struck by the simple elegance of it all.

Which is just as it should be.

Peddle Thorp Architects wanted the premium retirement village to have a classic feel; a traditional design that wouldn't date. But that was just part of the brief.

Another key consideration was the eco-friendly intent of the village. "The apartments had to be fitted with features that would enhance their insulation and energy efficiency," says Miller Guirguis from Peddle Thorp.

It was a brief well met. The villas built in Stage Two of the village achieved a 6 Homestar Built rating for energy efficiency and sustainability.

When it came to building Stage Three of the development, the precedent had been set – one that would have important implications for the choice of windows and doors.

"The new wing has 24 apartments," says Mike Koot from Vistalite™ North Harbour. All of the windows and doors are double glazed for improved insulation and soundproofing.

Acoustic performance was a major consideration. "The building sits right next to the village's hospital and rental accommodation and is near a busy road, so a high level of acoustic performance was key," says Mike.

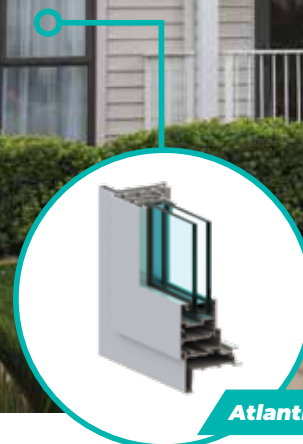
And then there was the fact that the whole build would be conducted in an environment where there were already residents living in Stages One and Two of the village.

The build had to happen quickly and efficiently.

The team from Vistalite™ North Harbour put their heads together with the technical team from Altus Window Systems to arrive at a solution that would tick all the boxes around serenity, sustainability and speed.

A ready-to-fit cassette window system not only achieved the desired aesthetics, weathertightness and wind loading standards, it was also quick to install.

The Atlantic48™ Eurostacker™ sliding door system, which, along with the windows, give residents expansive views of the village's landscaped grounds from the comfort of their apartments. At the same time, the system provides increased strength and improved water tightness to create a cosy environment. "They also come with seismic frame options," says Mike, which bolsters their strength credentials even more.



Atlantic48™ Awning Window



# Stunning views in the lap of luxury

## PROJECT

The Dacha Luxury Lodge

## LOCATION

Wanaka

## ARCHITECT/DESIGNER

Eliska Lewis Architects

## MAIN CONTRACTOR

Plimmer Building Contractors Ltd

## ALTUS WINDOW SYSTEMS FABRICATOR

Nulook™ Wanaka

## ALTUS WINDOW SYSTEMS

- Southern41™ Thermal system with pour and de-bridge polyamide thermal barrier.

Successful projects are often the result of good teamwork. The Dacha Luxury Lodge overlooking Lake Wanaka is no exception, with collaboration between owner, architect, builder and joiner creating luxury accommodation that captures some of the best views in the world.

A key objective of the project was to maximise the view of the lake.

Clever design by Eliska Lewis Architects has certainly achieved that – and more. Guests can enjoy views from every room – not only directly but through corners and adjoining rooms as well, to create a true panoramic effect.

Glimpses of the lake can even be had from the slotted windows at the entrance porch under the two car drive through porte cochère.

Of course, when the brief is all about the views, the solution is logically going to include lots of large window and door configurations.

Not just any windows and doors would do.

“We discussed the design with the architect and recommended the Southern41™ Thermal system,” Laurie Hay from Nulook™ Wanaka

says. “This allowed us to create the larger than usual configurations that the design required. The System can also cope with extra high wind zones.”

Thermal efficiency was another key influencer in the decision-making process.

In addition to the Low E double-glazed high performance glass, the System also features a thermal break in the joinery for even better insulation.

Large sliding doors are used along the front of the building. The outside slider design means the larger panels can move freely on the track for effortless opening and closing. “It also provides a cleaner surface appearance,” Laurie explains.

Clerestory windows above the sliding doors in the lounge add to the sense of visual drama and can be operated electronically.

A mix of sliding, bifold and hinged doors are used throughout the rest of the Lodge for views and indoor/outdoor flow.

The Dacha Luxury Lodge was a winner at the 2017 NZIA Southern Architecture Awards, with the judges commenting on how the windows and joinery help the house take full advantage of the breathtaking views.

Southern41™ Thermal Stacker

Southern41™ Thermal Cavity Slider





# Award winning comfort and style

**PROJECT**  
2018 House of the Year

**LOCATION**  
Christchurch

**ARCHITECT/DESIGNER**  
O'Neil Architecture

**MAIN CONTRACTOR**  
Metzger Builders Ltd (MBL)

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Rylock™ Canterbury

**ALTUS WINDOW SYSTEMS**

- The Pacific Thermal system with stitched polyamide thermal barrier.
- The Atlantic48™ system with bespoke pivot doors.

This ultra-smart 6 bedroom home was the National Supreme Award Winner 2018 at the Master Builders House of the Year awards. But that, as they say, is just the tip of the iceberg.

It also won the Gold Award for New Homes Over \$2 Million, the National Lifestyle Award (Bathroom), the Regional Lifestyle Award (Bathroom again), and the 2018 TIDA New Zealand New Home award.

The sharp lines and modern glazed volumes reflect the client's brief to create a home that is both minimalistic and practical.

Windows play a major role in the design, allowing huge amounts of natural light into the multi-level spaces as well as providing relaxing views of the surrounding tree scape.

The property boasts 52 windows and doors, including 15 Eurostacker™ doors that make the most of indoor/outdoor flow, and two glass pivot doors that measure an impressive 2.9 metres high.

In fact, big is a common theme that runs throughout the joinery. Many of the windows are 2.7 metres tall, with some nudging the three metre mark.

The team at Rylock™ Canterbury recommended using the thermally broken Pacific52™ Thermal

Pacific52™ Thermal Fixed Window

Pacific52™ Thermal Eurostacker

Pacific52™ Thermal slider

system for the majority of the windows and doors, with the Atlantic48™ system being used for the two large pivot doors. The glass selection was Low-E with thermal warm edge spacer.

"The Pacific52™ Thermal system is perfect for a region like ours where harsh winters can sometimes discourage designers from using large amounts of glass," says Ricky Facoor of Rylock™ Canterbury.

"The Pacific Thermal system adds up to 50% more thermal efficiency than standard double glazing so we were confident about designing a home with stunning views that didn't sacrifice thermal comfort."

The use of smart technology is another aspect that sets this home apart. Many of the features in the property can be connected to the occupants' smartphones – even some of the windows.

"We've added electric openers to a number of the higher sash windows so they can still be operated even though they're out of physical reach," Ricky explains.

Teamwork between all of the parties involved ensured everything went smoothly. O'Neil Architecture's drawings were well detailed and the set-out from Metzger Builders Ltd was meticulous.

"The builders have used Altus Window Systems products in the past, so they knew what we needed for our installation," Ricky says.

Because there is no timber frame around the windows – the walls and ceiling run directly into the glass – everything had to be measured perfectly in order to fit.

Thanks to the forethought of O'Neil Architecture and Metzger Builders Ltd, the Rylock™ Canterbury team had the ideal platform to do what they needed to do.

With six bedrooms and ensuites, open-plan living, a spa pool on the balcony, extensive decks and patios and numerous smart home features that have all been designed to make life easier, it's no wonder that this Christchurch home received a string of accolades.



# A sense of space in the big city

Pacific41™ Louvre Windows

Pacific41™ Corner Stacker

Ranchslider™ LevelStep™ Sill

**PROJECT**  
Traditional Villa to Modern Living

**LOCATION**  
Auckland

**ARCHITECT/DESIGNER**  
Matter Architects

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Nulook™ Kumeu

- ALTUS WINDOW SYSTEMS**
- The Pacific41™\* system.
  - Ranchslider™ cavity and corner joining doors.

When Jon Smith of Matter Architects decided to breath new life into his Ponsonby Villa, the life he envisaged was one of modern day comforts, open plan living and great indoor/outdoor social spaces.

From the street, the home retains the classic lines and style of a centenarian heritage villa - albeit one that has been lovingly restored.

It's at the back of the house where Jon's vision has been most vividly expressed. Here, multiple levels come together in an open plan layout that provides intimate, yet free and easily accessible spaces.

Space is indeed the operative word, as Dean Cade from Nulook™ Kumeu explains.

"When you come downstairs from the dining room to the living area at the back of the house, you're immediately hit with the openness of the space."

Large pillarless Ranchslider™ sliding doors open up and seemingly disappear to showcase the manicured back yard.

This sense of unhindered indoor/outdoor flow is further enhanced by the Ranchslider™ LevelStep™ sill that sits flush with the floor.

To achieve the effect Jon wanted, the team from Nulook™ Kumeu opted to use individually sliding doors from the Pacific41™ system.

"This gave us the structural strength to cope with the size of the frames," Dean Cade says.

Close collaboration between Jon and Nulook™ Kumeu was an integral part of the build.

"We worked closely with Jon right from the start, advising on the products that best suited his intent and design," Dean Cade says.

Creating a sense of light and space, while maintaining privacy in an urban environment, is a common theme throughout the house.

An example of this can be found in the lounge, where a fixed window in the ceiling allows for extra light to accentuate the rustic brick wall feature. More natural light bounces off the water in the outdoor pool and comes through the glass of the living room's windows and doors.

Other rooms in the house feature louvres or remote controlled ceiling windows that can be opened to provide extra ventilation on hot summer days.

The overall effect is nothing short of startling and won Jon the 2018 Indoor Outdoor Flow category at the New Zealand House and Garden – Interior of the Year Awards.



# Comfort and convenience in high-density living

Atlantic48™ Euroslider™ Door

Pacific41™ Awning Window

Baltic™ Shopfront 106

**PROJECT**  
The Rose Garden Apartments

**LOCATION**  
Auckland

**ARCHITECT/DESIGNER**  
Context Architects Ltd

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Vistalite™ North Harbour

- ALTUS WINDOW SYSTEMS**
- Atlantic48™ doors and Pacific41™ system windows.
  - Baltic™ Shopfront 106 and commercial doors.

The Rose Garden Apartments, situated in Auckland's fast-growing Albany area, was the biggest apartment complex in the country when first announced in 2015.

As construction continues, the Rose Garden has become a flagship of Auckland's Unitary Plan.

It is a prime example of comfortable high-density living, where all of life's necessities are within a stone's throw of residents' front doors.

This was - and still is - a big project. The Rose Garden comprises 800 apartments and is being built on a two-hectare site adjacent to Westfield Albany and QBE Stadium. The first stage alone contains 200 units, with an underground carpark beneath - to cut down on land use (that can instead be replaced with greenery).

There are also ground floor retail spaces, constructed as a part of phase one.

While this might seem like a big task for everyone involved, the prospect of glazing this building was particularly formidable. Providing each resident with a stunning view of the local lake, green spaces and bush areas was a key feature of the design, making high-quality windows and doors paramount to the Rose Garden's success. However, due to the nature of local conditions - exposed geographical location and the building's placement - wind load calculations were to be challenging.

Vistalite™ North Harbour was brought in early on in the process, which ensured quality right from the Rose Garden's early days. Context Architects and Vistalite™ worked together closely on the challenges presented by such a large-scale build, and agreed on alternative solutions that balanced vision with practicality.

For starters, three separate Altus Window Systems were utilised throughout the design.

The Atlantic48™ system is suited especially for designer architecture, where neither views nor window strength can be compromised. It features across the apartments' sliding doors.

Pacific41™ was used for the windows. It has a square, flat-faced frame that matches the Atlantic48™ frames with a range of transom and mullion options to cope with higher wind loads.

The Rose Garden's retail frontages utilise the Baltic™ Shopfront 106 System. It exceeds NZ compliance requirements and its doors can be made fully watertight.

As mentioned, the wind requirements of this project were a particular challenge. To counteract these concerns, Vistalite™ recommended that high windows use steel posts for added strength.

This project is a clear example of how early consultation with the right people can turn a potential future risk into a present-day solution. By consulting right from the word go, Vistalite™ and Context Architects could pinpoint challenging areas and plan for them in advance.



# Creativity - it's all part of the DNA

## PROJECT

The DNA House

## LOCATION

Coromandel Peninsula

## ARCHITECT/DESIGNER

Crosson Architects

## MAIN CONTRACTOR

Percival Construction

## ALTUS WINDOW SYSTEMS FABRICATOR

- Fisher™ Windows Waikato (City Glass)
- Altus Industrial Aluminium

## ALTUS WINDOW SYSTEMS

- The Pacific41™ system.
- Large 3mm thick aluminium sheets perforated with the owner's DNA.

Owning a bach has become part of the Kiwi DNA. But why not flip that truism on its head and make the owner's DNA part of the bach?

Case in point – the award-winning DNA House that Crosson Architects designed for their New York-based clients.

The main floor of this multi-level home is wrapped in large bifold metal screens.

At first glance these screens appear to be punched with random perforations. Not so. They're actually the coded DNA sequence of the home's owners, stacked to resemble their native Manhattan skyline.

The 1200x4800mm panels were fabricated and perforated by the Altus Industrial Aluminium team using 3mm thick aluminium sheets.

There's some clever practical thinking at work here too. The panels offer weather protection when the owners are away and privacy when they're there. And when desired, they fold away to reveal the DNA House's extraordinary use of glass, and breathtaking sea views for the occupants.

"The owners wanted to be able to enjoy expansive views from virtually every room in the house," Peter Ross from Fisher™ Windows

explains. Large window spans were essential to making that happen. But as Peter Ross points out, when you want large windows by the sea, you need to be sure they can cope with the weather.

"We worked closely with the architects to achieve the level of detail that the owners wanted. It was decided that the Pacific Architectural system was the perfect solution," Ross says.

Pacific41™ is especially designed for applications like the DNA House. "It looks great and has the extra strength needed for large-span windows and doors in coastal settings," Ross explains.

The main bedroom and open plan kitchen/living room use Bi-parting and standard Eurostacker™ doors to capture the stunning sea views and provide easy flow onto the striking timber decks. Euroslider™ doors have been used in the bathroom and second bedroom, with an additional sliding door of the same frame used as an extra door in the main bedroom.

All of the units are double glazed, but it's their height and width that impresses most.

The kitchen/living room Bi-parting Eurostacker™ is over 6 metres wide. All of the main windows and doors stand at over 2.5 metres tall, so even when the house is closed up snug and tight, there are expansive views everywhere you look.

Architect Ken Crosson, principal of Crosson Architects, has won a string of awards for designs that combine eye-catching quirkiness with common-sense functionality.

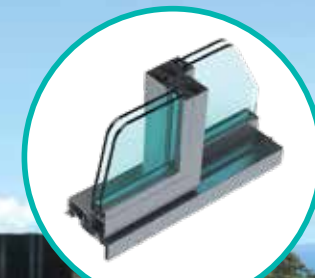
The DNA House is no exception.

It won the 2018 NZIA Waikato/Bay of Plenty Architecture Awards, where judges hailed the house as "amazing, outstanding and superb".

The house is filled with fascinating touches – like a floor hatch with rope ladder access and a steel framed suspended timber stair from the ground floor to the living zone above. A roof hatch at the apex allows for stargazing at night.

The overall impression created by all this meticulous crafting is nothing short of startling. As Crosson explains "It's been described as an otherworldly form, having seemingly landed on the beach, opening and closing in concert with the lives of its travelers."

Hardly surprising then that it also caught the attention of George Clarke for his Amazing Spaces television show.



Pacific41™ Euroslider



# Pushing the boundaries

'Outrigger' Detail using  
Flushglaze 159



Baltic™ Flushglaze  
159mm Curtain Wall

**PROJECT**  
The Euroclass Building

**LOCATION**  
Auckland

**ARCHITECT/DESIGNER**  
Euroclass Design and Build

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Framerite Installations

- ALTUS WINDOW SYSTEMS**
- Baltic™ Flushglaze Curtain Wall with an 'Outrigger' effect.
  - Highbrook Louvres™.



Commercial

There's no doubt that the sweeping curved façade of the Euroclass building is nothing short of impressive.

It's even more so when you consider the team from Framerite Installations Ltd who helped make it happen were initially working from drawings that were little more than concepts.

On a typical build, the floor slab set-out is provided by the architect or designer. The fabricator then comes in with a Curtain Wall to suit.

Not so here.

"The project was in a state of limbo when we came on board," Wayne Eivers from Framerite explains. "No drawings of the slab set-out were available. It was all pretty much still at concept stage."

Framerite took the initiative, and with the client's consent evolved those concepts into detailed plans for the curved Curtain Wall and the slab offset for the construction company to pour to.

A lot of those plans involved throwing conventional thinking out the window.

The first challenge was to figure out how the curtain wall panels could be put in place in a building where curves, rather than straight lines, were the order of the day.

"Curtain Wall panels with stack joints are usually installed horizontally and floor by floor, with the flashing channel in the stack joint slid into place," says Wayne Eivers. "In this case we couldn't slide in the stack jointing panels because of the curved walls."

The team's solution was to work from the bottom up.

"All the floor slabs were put in first. That meant we could easily slip the channel flashings into place and seal it before inserting the next panel."

The 'Outrigger Sail' effect, where the wall angles out past the building, represented the next major challenge for the Framerite team to overcome.

"It may have the appearance of a light weight floating sail, but it's anything but," Wayne Eivers says.

The initial plan relied on aluminium frames for the outrigger's structural integrity. The technical team at Framerite quickly saw that wasn't going to work. They proposed instead the use of steel outrigger beams. These were discretely incorporated to protrude past the floors for the aluminum frames to be attached to.

With the curved Curtain Wall's structural performance and aesthetics sorted, the final step was to ensure the interior remained comfortable all year 'round. No mean feat when you're dealing with floor to ceiling windows.

"We used double glazing and Highbrook Louvres™ to achieve maximum acoustic and thermal efficiency," Wayne Eivers says.

The finished result was recognised with the 2017 WGANZ Eco Award. The building itself is a great testament to Framerite's willingness to go "above and beyond" to make the project a reality.



# Thinking on an epic scale

## PROJECT

Hoyts EntX

## LOCATION

Christchurch

## ARCHITECT/DESIGNER

Ignite Architects

## DEVELOPER/BUILDER

Calder Stewart

## ALTUS WINDOW SYSTEMS FABRICATOR

Nulook™ Raylight Aluminium

## ALTUS WINDOW SYSTEMS

- The Baltic™ Flushglaze systems.
- Highbrook Louvres™.

The Hoyts EntX in Christchurch's inner city was always going to be more than just "another cinema".

As well as being the multinational chain's flagship building, it also represents the city's forward-thinking nature, rebuilding itself bigger and better than before.

There was intense interest from the media and the public right from the get-go.

The massive complex houses seven cinemas and 18 restaurants and bars.

Everything about Hoyts EntX is epic.

There's a 100 metre frontage and the building itself takes up every square centimeter of the site space. The sizes of the windows are equally impressive. At one corner the glass measures 8.5 metres tall, while in other areas windows are 18 metres off the ground.

While the scope of the work may have been on the scale of Lord of the Rings, the project itself had to be completed within a tight timeframe – just 19 months from breaking the ground to opening the doors.



Baltic™ Flushglaze  
159mm Curtain Wall

Baltic™ Flushglaze  
106 Window

Highbrook Louvres™

Nulook™ Raylight Aluminium worked closely with the technical team at Altus Window Systems to provide the joinery that would make Calder Stewart's vision a reality.

The complex cleverly controls light, space and air through a variety of design features that include vertical louvres, trickle vents and large glazing spans.

"The Flushglaze system was the logical choice, because of the sheer size of the glazing," Andrew Rowlands from Nulook™ Raylight explains. "It has both the strength and style that the project demanded."

The undulating raking feature that sits 8.5 metres above the ground on the Columbo Street elevation, for example, uses a heavy-duty webbed mullion with double-glazing.

In the interests of speed and strength, the building's precast concrete and metal facades were designed as clip-ons that could be built off-site and then bolted into place.

"We fabricated a number of the larger extrusions in our factory, then took them apart and delivered them to the site where the builders reassembled and installed them," Andrew says.

Vertical louvres are also a dominant design feature in the complex. Here, the team used Highbrook Louvres™. On the northern elevation their purpose is more than aesthetics. The 250mm louvres, which span virtually the entire height of the glass.

Downstairs in the dining precinct, patrons can choose to eat indoors or outdoors.

The highly durable Baltic™ Commercial sliding windows and bifold doors make it easy for the restaurants and cafes to manage their indoor/outdoor flow.

Commercial bifolds have been installed in Cleaver and Co, giving the bar and grill restaurant the freedom to adapt its space to suit capacity.

Next door at Joe's Garage, where design restrictions prevent bifolds, sliding windows were used instead to achieve that same flexibility.

Hoyts EntX opened its doors on schedule in September 2018 and was greeted with rave reviews.



# Where glass becomes art



Highbrook Louvres™

**PROJECT**  
The Ministry of Primary Industries' Building

**LOCATION**  
Auckland

**ARCHITECT/DESIGNER**  
Williams Architects

**CONSTRUCTION COMPANY**  
Macrennie Commercial Construction

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Bradnam's™ Auckland

**ALTUS WINDOW SYSTEMS**

- The Baltic™ Flushglaze Curtain Wall.
- Highbrook Louvres™.

One of the first things that strikes you about the Ministry of Primary Industries' building is how a myriad of shapes, colours and patterns come together for breathtaking effect.

"It's not often you get the chance to show off just what our industry can do," says Kenneth van der Goes, Commercial Manager for Bradnam's™ Windows and Doors.

Nothing about this building is ordinary.

The façade design envisaged by Williams Architects includes a more than usual number of window shapes and louvres, topped off by an impressive four-sided curtain wall with 250m<sup>2</sup> of digitally printed glass.

"It was an incredibly complex project," Kenneth says. "The building contains over 1800m<sup>2</sup> of high performance glass. We had to perfectly match every piece to create the façade."

Close collaboration between architect, builder and fabricator was critical.

Bradnam's™ Auckland was involved right from the design stage, advising on structural support and what window and door products were best suited to achieve the architect's vision.

The architect was keen to use windows of different shapes and sizes to create a façade that was visually interesting.

It was decided that the Flushglaze system would provide the architect the freedom of design he was after.

"Flushglaze is great for commercial buildings because it can accommodate wider spans," explains Kenneth.

This design flexibility is further enhanced with the inclusion of seismic framing, structural glazing, express transoms and a variety of mullion options.

The MPI building features windows of many shapes and sizes, from squares and rectangles right through to complex parallelograms, trapezoids and dramatic, raking transoms.

Metro Performance Glass played a key role in making this happen. They also provided the stunning digitally printed glass that was used in the four-sided curtain wall.

The challenges didn't stop with the windows. The façade also includes white aluminium composite panels. These were glazed into the exterior face and cleverly fitted flush with the inside face of the curtain wall.

For style and functionality, vertical Highbrook Louvres™ flowing down the front of the building add to the visual interest. They also have the benefit of providing privacy and protection from the elements.

Creating a comfortable, energy efficient working environment for the building's 400 plus occupants was high on the list of priorities.

Once again, Bradnam's™ and Metro teamed up to develop a solution.

The Flushglaze units provide glazing platforms that can accommodate a wide range of double glazed units for maximum thermal performance.

It's hardly surprising that the MPI Building won the 2018 WGANZ Supreme Award. The judges described it as a "synthesis of design, fabrication and installation" and made special mention of the strong collaborative process that went into the project.



# Creating a sense of majesty



Baltic™ Flushglaze 159

The Mackenzie High Country is home to some of the most jaw-dropping scenery on Earth (and Middle Earth too for that matter – it provided the backdrop to Sir Peter Jackson's Lord of The Rings film trilogy).

So when Christopher Kelly from Architecture Workshop was charged with designing The Lindis, a luxury resort nestled in the Ahuriri Valley, it made perfect sense to fuse the building into the landscape's weaving, folded topography.

The result is a building that simultaneously blends in and stands out, depending on your perspective.

Seen from the landside, the large contoured roof looks like it wants to be part of the ground, with the tapered ends virtually level with the surrounding slopes.

Look at the Lodge from the riverside, however, and the impression one gets is totally different.

Here the building seems to lift up from the undulating landscape, with dramatic floor to ceiling glazing that offers guests unimpaired views of the majestic tussock-covered scenery.

The views. It's all about the views. Sweeping vistas of river, valley and mountain peaks are integral to the Lodge's promise of being a place to unwind and enjoy the serenity of nature amid modern, sophisticated luxury.

Doing justice to such a landscape requires a special window system, especially when said landscape happens to be located in a high wind zone.

The Altus team worked closely with Brosnan Construction to provide a window solution that could cope with the challenges posed both by the building design – particularly the undulating roofline – and the volatile weather conditions.

After exploring a number of iterations, it was decided to go with the Baltic™ Flushglaze 159 Commercial 40mm windows for the landside of the building. It soon became apparent that the Altus system was both cost-effective and fit-for-purpose. It had the thermal performance needed and a glazing and frame performance of 1.8W/M2K which was crucial in such a high wind zone.

The structurally glazed mullions and transoms were key to ensuring thermal performance. By structurally bonding the glass to the aluminium sections, the exposed surface area of the aluminium is significantly reduced, which in turn minimises heat transfer.

The remote location offered up a host of challenges when it came to the actual installation too. The Altus team had to do a lot of the fabrication on-site to fit the shape of the roof.

The fact that a good percentage of the job was done in snow and sleet added an extra element of drama to the project. Which is only appropriate, given the awe-inspiring end result.

## PROJECT

The Lindis Luxury Resort

## LOCATION

The Mackenzie High Country

## ARCHITECT/DESIGNER

Architecture Workshop

## MAIN CONTRACTOR

Brosnan Construction

## ALTUS WINDOW SYSTEMS FABRICATOR

Altus Commercial Fabricator

## ALTUS WINDOW SYSTEMS

- Baltic™ 159 Flushglaze and Commercial 40mm windows.

Image courtesy of The Lindis Group.



# Simple needs, lavishly met

## PROJECT

The Hotel Britomart

## LOCATION

Auckland

## ARCHITECT/DESIGNER

Cheshire Architects

## MAIN CONTRACTOR

Cooper and Company

## ALTUS WINDOW SYSTEMS FABRICATOR

Altus Commercial Fabricator

## ALTUS WINDOW SYSTEMS

- The Altus A1 structurally glazed window system.

The father and son team of Nat and Pip Cheshire from Cheshire Architects have been laying the groundwork for The Hotel Britomart's distinctive character since 2006.

That's when they began the patient regeneration of the entire Britomart precinct, a nine-block development that links downtown Auckland with its iconic waterfront.

Nat Cheshire describes the neighbourhood as a "wonderful collision between fashion and commerce and food and the street, and all the adrenalin and surprise that comes with it."

The fact that all of these facilities are right on the hotel's doorstep has allowed Nat and the Cheshire team to focus on creating a sense of intimacy with the hotel itself.

Rather than carving out room inside the building for restaurants or a beauty spa, the team has dedicated every inch of space to creating an exquisite accommodation experience.

"Each room is small, but every millimetre is crafted," Nat explains. "They're intended to be rooms that you can run your fingertips over."

This approach is also evident in the building's exterior. The Hotel Britomart is a pair of thin towers made entirely from brick. The brick is rough, small and irregular and perforated with

what Nat calls "a constellation of windows that are as precise and flat as iPhone screens."

Such a unique vision required a bespoke window design. The hotel required over 200 punch windows in six different size configurations.

The smallest windows measure 500mm square, with the largest being 1600mm x 2000mm. There's also a strip Curtain Wall that soars an impressive ten stories.

Altus' technical team worked closely with Cheshire Architects, facade engineer Mott MacDonald, and construction firm Cooper and Company over a number of months to develop a solution. The windows had to be quick and economical to construct. Ease of installation into the 200-plus preform precast panel openings was also essential.

A bespoke die was created for the A1 four-sided structurally glazed system for feature windows of the external façade. Additional dies were created to accommodate the build movement to complement the current Altus 48mm commercial strip window system.

The glass was structurally glazed to each of the bespoke frames in the factory. These glazed frames were then taken to the hotel and loaded to the relevant floors.

The smaller frames were manually lifted through the window openings to the outside of the building and then pushed back into the opening. The larger panels were taken out through a door

to the scaffold and manually transported to the face of the window opening to be pushed into place.

The windows were then fixed off and sealed.

Being in a neighbourhood with a healthy night life meant that outstanding acoustic performance was high on the list. So too was the ease of cleaning and maintenance.

Energy efficiency was another major consideration behind the choice of window systems. Cheshire Architects designed the hotel to achieve a 5 Green Star Design rating – a ranking that would make The Hotel Britomart one of New Zealand's most eco-friendly hotels.

The thermal performance of the windows played an integral part in achieving this rating.

The glazing utilises a high-performance soft coat with a UV rating of 1.60 W/m<sup>2</sup>k and a visible light transmission of 60% plus. There's also a laminate on the inner pane to increase acoustic performance, which helps to create a quiet haven for guests.

For nearly fifteen years, Cheshire Architects have been making "really big things out of lots of really carefully crafted small things" as part of the Britomart revitalization project. The bespoke windows in The Hotel Britomart are a further demonstration of this clever thinking.

A1 four-sided structurally glazed system



# Rethinking learning spaces

## PROJECT

Western Springs College  
Ngā Puna O Waiōrea

## LOCATION

Auckland

## ARCHITECT/DESIGNER

Jasmax

## MAIN CONTRACTOR

Downer

## ALTUS WINDOW SYSTEMS FABRICATOR

Vistalite™ North Harbour

## ALTUS WINDOW SYSTEMS

- Baltic™ Commercial Curtain Walls.
- Clerestory Walls and Flushglaze 159m.

With a budget of over \$79 million, the Western Springs College rebuild that started in 2016 was, up to that date, the largest investment the Government had made in a single public school.

The Ministry of Education wanted to maximise open space to create a more environmentally friendly campus.

Instead of following the sprawl that typified schools of yore, the rebuild saw a brand new multi-storey teaching block replacing the bulk of the school's aging classrooms.

The Main Block is a vertical campus. Three storeys high, it has 56 learning spaces arranged around a large, full height atrium which creates visible connections across and between all levels.

A new gymnasium has also been built, and the existing hall and administration buildings have undergone extensive renovations.

The end result has space for around 1700 students.

In a 2017 interview, MP for Auckland Central, Nicki Kaye said the school had faced considerable challenges since it opened in 1963 because it had been built on a former quarry and landfill. "That, combined with the ageing buildings and weather-tightness issues, has made this one of the most complex school redevelopments undertaken in New Zealand."



**Baltic™ Flushglaze  
159mm Curtain Wall**

It was very much a team effort from the start, with members of Jasmax, Downers, WSR, Vistalite® North Harbour and Altus getting together to devise the best window solutions for a project that came with more than its fair share of challenges.

These challenges included glazing that spans over two levels and runs the entire length of one of the buildings – an impressive 70 metres.

It soon became apparent to everyone that the Baltic™ 159 Flushglaze system was the suite that could handle both the scale and intricate demands of the project.

One of those demands required the glazing to be hung off the building.

"The design needed to allow for horizontal seismic movement of up to 50mm, and a bespoke 600mm deep vertical shade fin affixed to the window mullions," Mike Koot of Vistalite™ North Harbour explains.

No easy task, with only two dead loading points over a span of 8.7 metres, and the extreme loadings that had to be designed into those fixing points, while still allowing for the 50mm seismic movement.

The external vertical shading fins on the Ken Havill Learning Centre came with its own set of challenges. "We designed these with a brief from Jasmax as they needed to incorporate a Poutama pattern," says Mike.

But aesthetics was just part of the brief. The fins need to reduce the solar heat in summer, while still maintaining extensive glazing to maximise natural light.

"We had some critical hole requirements in the louvres – 30% of the surface – which was important for a number of reasons," Mike explains. The main one was to reduce the wind loadings on the window systems while still incorporating the Poutama pattern.

With a window design capturing the majority of the exterior, it was important to ensure the system had excellent thermal and acoustic performance. These requirements were achieved using Metro Low E glass, and Vistalite's™ specially designed acoustically-rated backpans that were combined in the Baltic™ Commercial system.

The top atrium of the building includes an expansive four-sided clerestory window. Sitting just below the roofline, these windows bring an abundance of natural light and fresh air into the building, using some of the over 100 electrically operated sashes.

All of which creates a more comfortable and productive learning environment.



# Patient comfort and seismic performance

**PROJECT**  
Burwood Hospital

**LOCATION**  
Christchurch

**ARCHITECT/DESIGNER**  
Jasmax, Klein, and Sheppard & Rout

**ALTUS WINDOW SYSTEMS  
FABRICATOR**  
Altus Commercial Fabricator

- ALTUS WINDOW SYSTEMS**
- Baltic™ Flushglaze 159mm windows.
  - Atlantic48™ sliding doors.
  - Pacific41™ windows.

Christchurch's new Burwood Hospital won a cluster of awards just after its official opening in 2016.

Yet one of the most innovative features of the building isn't immediately obvious to the eye – its outstanding seismic performance.

Burwood Hospital is an Importance Level (IL) 4 building with regards to seismic activity. This means the facility needs to be fully operational and be able to provide medical treatment in the wake of an earthquake.

The joinery needed to be able to move 160mm.

A daunting challenge in itself, considering the size of the windows in the multi-storey atrium. But just to make things even more interesting, the building has been constructed using concrete panels. These panels won't tilt with the rest of the building when there's an earthquake, but instead form a 'stepped effect' up the vertical jambs of the windows. The risk here is that the aluminium frames could tear.

After careful analysis by the technical team at Altus, it was agreed that a combination of Flushglaze 159mm windows, Atlantic48™ sliding doors and Pacific41™ would be the best solution. This decision was reinforced by rigorous in-house testing for wind loading, water penetration and seismic performance.



**Baltic™ Flushglaze  
159mm Curtain Wall**

Flushglaze 159mm was chosen because the deeper glazing pockets help to create a more comfortable environment for patients and staff. The system also ticks all the boxes for seismic performance, with full perimeter seismic subframes.

Atlantic48™ sliding doors are often specified for extreme locations, so the team was confident that the system could meet the requirements of Burwood Hospital. Seismic frame options bolster the joinery's seismic capacity.

Pacific41™ windows were perfectly suited for the spacious Atrium that houses an information centre, retail space and cafeteria. The brief called for soaring floor to ceiling windows that could create a light, airy environment without compromising seismic capacity.

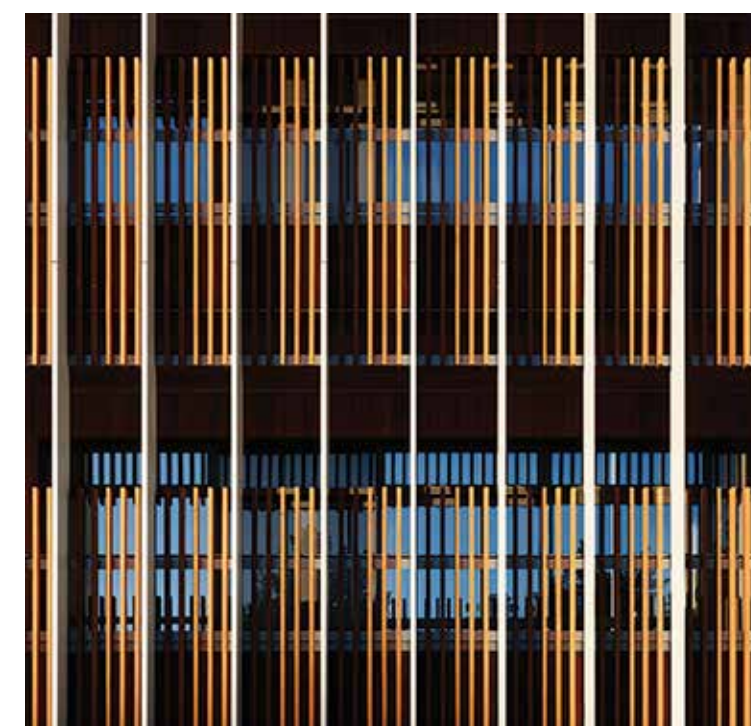
Pacific41™ windows can exceed 2.8 metres in height while still retaining their strength, so they were ideal for the three-storey atrium.

The right joinery was just part of the equation. Clever thinking was still required to deal with that issue around the movement of concrete panels during an earthquake.

The structure has a 30mm gap between the aluminium and the building with a special sealer that has +/- 100% elasticity. If the concrete panels step because of an earthquake, the aluminium joinery remains straight as the seal either stretches above a joint or compresses below it.

The theory was put to the test under the watchful eye of façade engineers from Mott MacDonald before being incorporated into the final build.

The ultimate test came when an earthquake hit Christchurch soon after the Burwood Hospital redevelopment was completed. The joinery easily withstood the shake with no seals lost or rubbers degraded.





# Keeping supply stream open for Extreme Boats

**LOCATION**  
Whakatane

**CUSTOMER**  
Extreme Boats

**COMPONENTRY**  
Altus Metal sheet and extrusions

Extreme Boats are all about aluminium. The company uses only high quality Marine grade aluminium for all their plate work in their boats. Where possible, they also stick to aluminium for their componentry, such as rod holders, cleats and handrails. The range from the 545 and up uses a minimum hull plate thickness of 5mm, with the option to upgrade to 6 or 8mm. 4mm plate is used everywhere else on their boats.



Since starting business in the late nineties, Whakatane-based aluminium boat building company Extreme Boats has established an enviable reputation for quality on the world stage.

Every year, Extreme produces over three hundred boats across twenty different models and sells them through a dealer network that encompasses New Zealand, Australia, New Caledonia, Europe and the United States.

Every aspect of the build process is handled locally, from the initial design through to cutting, folding, fabrication, painting and fit-out. The aluminium boats are then sent to the dealers who install the outboards and do the final fit-out.

Hardly surprising then that with such a workload, Extreme's factory runs at full capacity all year round.

What may come as a surprise, however, is that the company continued to operate at this full capacity when the impact of Covid had strangled the supply chains for many New Zealand manufacturers.

All the aluminium that goes into the construction of Extreme Boats is sourced through Altus Aluminium from Europe and China. Without that specialised aluminium, there aren't any boats. As simple as that.

The company plans 12 months ahead to ensure they're always operating at peak efficiency. Having uninterrupted access to aluminium is therefore essential.

As Covid shut down global supply lines, it was up to the Logistics and Procurement Team at Altus Industrial to keep Extreme's supply chain open.

Altus has been Extreme Boats' logistics and procurement partner since 2002. Over that time, they've cemented stable, long-term relationships with producers of Certified Marine Grade Aluminium in both Europe and Asia.

"Some of our supplier relationships have been going on for twenty years or more," says James Reid, National Sales Manager for Altus Industrial Aluminium.

This pedigree held Altus in good stead with European manufacturers when it came to securing aluminium product for Extreme Boats during the volatility caused by the pandemic.

"Even as global demand for aluminium increased and materials prices skyrocketed, we maintained our standing in supply chains, ensuring we could continue to get product for Extreme Boats and our other clients," Reid says.

Of course, during lockdown, getting product into shipping containers was only part of the equation. Getting those containers onto New Zealand wharves was another challenge. Once again, the hands-on experience of the Altus

Industrial Logistics team, headed by Jonathon Aston, came into play.

"They really pulled off miracles at times to make it happen," says Reid.

Miracles indeed. Since the pandemic hit, shipping prices from Europe have quadrupled. Minimum order quantities have soared to unprecedented levels.

"The leadership team at Altus have been extremely supportive in making the financial investment required to keep the supply chain open in the face of soaring prices," Aston says.

Reid adds that Altus's core philosophy of "Success is Better Shared" plays a core role in the day-to-day approach to our business. "We view our success as our customers' and suppliers' success as well," he says.

A measure of the confidence that overseas suppliers have in Altus was evidenced when a number of them visited in person within weeks of New Zealand's borders reopening in July 2022.

"Everyone at Extreme is always thinking ahead and working hard to find new ways to offer the market exceptional quality boats," says Reid. "It's our job to ensure they continue to have the product they need to make that happen."



# Helping Kliptank bring their IP to life

## LOCATION

Whakatane

## CUSTOMER

Kliptank

## COMPONENTRY

Altus Metal extrusion

In 2009, Kliptank produced New Zealand's first ever patented modular HDPE bulk above ground storage tank for water and dairy effluent. Today, their tanks are also used for wastewater treatment plants, trickle filters, bark filters, fire safety storage, community reservoirs and water storage, whey, mining, oil and gas and even the movie industry. They tanks are designed, engineered and built right here in New Zealand, using quality New Zealand materials.



In 2009, Tauranga-based manufacturer Kliptank, revolutionised water and wastewater management with the launch of their modular, high density polythene above-ground storage tanks.

As the name suggests, Kliptank tanks can be flatpacked and easily transported to site. Once there, the polythene panels are literally clipped together and strengthened by galvanized wire ropes. There's no need for a concrete pad foundation; just a sand base.

"We were the first patented tanks of our type," says Fiona Birchall, Kliptank Business Development Manager.

With tank sizes starting at 74,000 litres and going all the way up to 5,600,000 litres, there's a solution for virtually any application.

"Our tanks are used for dairy effluent storage, wastewater treatment plants, trickle filters, bark filters, safety storage, community reservoirs, whey, mining, oil and gas, community water storage and even the movie industry," says Birchall.

In the years after their launch, the business enjoyed steady growth both here and overseas. Now, with the impact of climate change making effective water management essential, demand for Kliptanks has soared.

"Climate change isn't the only driver for this surge in demand," Birchall says. "Population growth is also putting pressure on water supplies."

Altus Industrial Aluminium has been working with Kliptank since the idea of creating a modular above the ground water tank was just that: an idea.

"Our relationship with Kliptank began right at the inception of their concept," says James Reid, National Sales Manager for Altus Industrial.

He goes on to point out that the Kliptank team knew what they wanted, both in terms of design and materials. "Our value offering was in how we could help them materialise their concept."

The Altus Industrial development team, led by Coralie Savill, engaged and developed a thorough understanding of the requirements and came up with the extrusion die and tooling solutions to make it all happen.

As the Kliptank products have evolved over the years, so has the manufacturing processes at Altus Industrial. "We're continuously improving our own processes and capabilities. Right now we're investing more in our manufacturing assets than anyone in the industry in New Zealand," says Reid.

It's an approach that's worked well for a lot of Altus Industrial's clients. Reid attributes this to the fact that Altus shares a lot of common ground with their clients.

"As a manufacturing company, we live and breathe in the same world as our customers," he says. "We have a lot in common in terms of manufacturing and operations."

And people. Let's not forget the people in all this. After all, as Reid points out; "People deal with people."

"We pride ourselves on our people, both at the client interface and the teams that are working behind the scenes, many of whom have been with Altus for decades. That continuity is highly valuable for our customers."

Case in point. Coralie Savill has moved on to be the Industrial Business Unit Manager at Altus, but she continues to have a hands-on role with Kliptank.





# Ongoing innovation key to Monkeytoe's success

## LOCATION

Taranaki

## CUSTOMER

Monkeytoe

## COMPONENTRY

Altus Metal extrusion, marine grade plate, treadplate

Monkeytoe provides a full gamut of solutions for the HVAC market. These include the design and manufacture of elevated HVAC platforms, air conditioner mounts, plant screens, roof access systems, walkway systems, roof ladders, access stairs, handrails and guardrails.



It all started back in 2006, when Tim Prestidge, who ran a mobile engineering firm, was asked by a client to fix a walkway to their hidden-fix roof profile, without penetrating the roof sheeting.

Tim's solution was the innovative Monkeytoe clip that simply snapped onto the roof sheeting. The walkway itself was built from the same base clip.

Revolutionary thinking indeed.

Almost twenty years on, and that thinking remains alive and well in a business that has grown to be New Zealand's only full-service specialist provider of smart, safe and compliant engineered access solutions and plant systems that won't damage the integrity of a client's asset.

Today, Monkeytoe provides a full gamut of solutions for the HVAC market. These include the design and manufacture of elevated HVAC platforms, air conditioner mounts, plant screens, roof access systems, walkway systems, roof ladders, access stairs, handrails and guardrails.

"We're happy to tackle and solve any Access or HVAC plant mounting challenge," says Reuben Prestidge, Monkeytoe's National Sales and Marketing Manager.

These solutions can either be tailor-made for a client or the result of some bright ideas the

company has already developed (such as that non-penetrating Monkeytoe clip).

"We design and manufacture all of our products in our Taranaki plant," says Prestidge. From there, they're shipped throughout New Zealand, Australia and many parts of the Pacific, where Monkeytoe's team of trusted installers take over.

Altus Industrial has been part of the Monkeytoe story pretty much since Day One.

The Monkeytoe product range is made from aluminium composite material. Over the years, Altus Industrial has become the company's predominant supplier of their marine-grade aluminium.

James Reid, National Sales Manager for Altus Industrial Aluminium sees the relationship between the two businesses as a flagship example of Altus's core philosophy "Success is better shared".

"We view our success as our customer's success," Reid says.

The Monkeytoe story is successful indeed, with the company having grown to be New Zealand's leader in the commercial accessway sector in terms of market share, innovation and Best Practice.

While Monkeytoe's product development is all done by their in-house team, there's still ample scope for Altus to add value when it comes to materialising those concepts.

"Innovation is at the heart of everything we do," Prestidge explains. "It opens doors to spaces where no one else is playing which is a huge motivator for our team and continues to set us apart."

Altus Industrial is proud to be part of that journey.





# Let's talk about great ideas for your next project

Your Altus Window Systems Architectural team is ready to help, with the right window and door solutions for your plans.

We can discuss your project requirements and provide you with recommendations on what System to use where. We can also steer you to the right CAD details and calculations that you can then download from our online Construction Drawing.

## General enquiries:

0800 4 ALTUS (0800 425 887)  
architectural@altus.co.nz

## Technical enquiries:

0800 925 500  
technical@altus.co.nz

## Industrial Aluminium:

0800 77 77 44  
sales@altus.co.nz

## Your Project Checklist

We've included the following checklist to work through to ensure we provide you with all the information you need.

- ☐ Project Name and Address
- ☐ Project Stage
- ☐ Main Contractor
- ☐ Structural Engineer
- ☐ Facade Engineer
- ☐ Preferred Fabricator

## Structural details

- ☐ Wind Zone (if within NZS3604)
- ☐ Factored Wind Loading to NZS1170 (if outside NZS3604)
- ☐ Seismic Requirements

## Drawings

- ☐ Elevations/Plans
- ☐ Window/Door Schedule
- ☐ Glazing Specifications
- ☐ Cladding System

## Project specific requirements

- ☐ Glazing Specification
- ☐ Thermal Performance
- ☐ Acoustic Specification

**We can help!**

# Download your CAD files directly from altus.co.nz



Save time with the Altus Window System online Design Resource. It's full of useful design tools and information, including practical Revit®, pdf and DWG files.

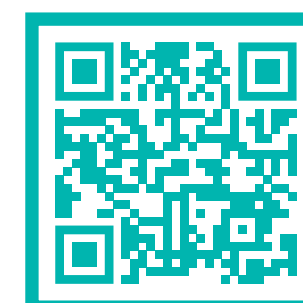
With the Altus Design Resource, you can download CAD details for all of our window and door systems and add them directly into your plans.

It's fast and easy. There's no need to log in – you get instant access every time.

If you need help finding a specific product, you can contact our technical team and they'll provide the information you're after.

## The Altus Technical team:

0800 925 500  
technical@altus.co.nz



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