A PASSION FOR TIMBER AND TECHNOLOGY

Whether residential or commercial, timber transforms a building into something special. Timber has been the companion of humankind since the beginning - maybe this is why we feel so comfortable with timber around us. This brochure provides architects, designers and customers with ideas for the many applications of beautiful & efficient timber joinery. Our joinery is so energy efficient that it achieves the equivalent to the German Passive House Standard.

Christian and Sandra Rampe moved to New Zealand from Germany in 2005. One day Sandra needed to clean their windows and was astounded to discover she had to go outside! In that moment the idea for Thermadura was born. Christian has many years of study and experience working in European Joinery and Cabinet making in Germany. After finishing his joinery apprenticeship he studied industrial timber engineering at the FFB in Detmold. Sandra has a masters degree in economics from the University Essen. Together they make the perfect team.

Our experience in CAD CAM technology enables ThermaDura to manufacture exceptional joinery efficiently from design to finish. Our conservatories, curtain walls and windows are designed with state-of-the-art 3D software which is integrated into the CAD CAM system which is connected to the CNC machines.

We also produce a range of beautiful blinds. Sandra looks after production of our TwinGo honeycomb and Cosiflor pleated blinds. These blinds offer the perfect sun protection for all joinery products. We manufacture the blinds in our factory in Mosgiel with materials exclusively sourced from Europe. They are on display in many interior design shops around New Zealand.

Our mission is to manufacture products of exceptional quality. Exterior joinery has to constantly face harsh elements and must stand the test of time; only the best materials are good enough for our windows, doors and conservatories. We use only top quality materials, to that we add our knowledge and skill; workmanship is essential in crafting quality products. At ThermaDura we stick to a tried and true method; our internal quality assurance process ensures that only quality products leave our factory.

We aim to grow our business by always supplying top quality products. We know that our business depends on your satisfaction. We offer you our full support and advice from the design stage onwards.

At ThermaDura we understand the necessity of having a knowledgeable and helpful point of contact for you. Our knowledge is based on years of hands-on experience in the German and New Zealand window industry. We can help by providing realistic and efficient solutions for your project. We invite you into the world of ThermaDura and hope you enjoy scrolling through the brochure.

Sandra and Christian Rampe
Directors of GQP Ltd trading as ThermaDura
06 WHY TIMBER?
Find out about the advantages of timber joinery.

08 WINTERGARTEN
TIMBER CONSERVATORY SYSTEM
Add extra living space to your home. Find out about the many possibilities a timber or timber-aluminium Wintergarten has to offer.

18 LIGNOLINE+
TIMBER CURTAIN WALL SYSTEM
Discover the possibilities of the ThermaDura LignoLine+ curtain wall system in commercial and residential buildings.

26 NATURELINE
TIMBER WINDOWS AND DOORS
Experience the advantages of energy efficient timber windows and doors up to the Passive House standard. Double or triple glazed, 78mm, 90mm or 102mm frame thickness. Find out about the multiple options.
34 DESIGNLINE
TIMBER-ALU WINDOWS AND DOORS
Timber-Aluminium windows and doors combine the best of two worlds. The Aluminium shell provides weather protection. The timber frame provides stability, outstanding thermal insulation and gives the building a warm, pleasant feeling.

44 TECHNICAL INFO
Here you can find information about the technical details that make ThermaDura joinery special.

56 ARCHITECTS
Learn about the wide range of services ThermaDura can offer to architects, builders and designers. To achieve the best outcome for every project, we ensure an efficient flow of information.

58 TWINGO BLINDS
We produce our own honeycomb- and pleated blinds in our factory in Mosgiel. The German designed system has an 80% market share in Europe and we proudly distribute the system nationwide.
TIMBER IS QUALITY

Timber is natural, timber is vital and timber is distinctive. With its endless design possibilities and physical properties timber is the ideal material to produce beautiful and energy efficient windows, doors and conservatories. Timber joinery just feels good and radiates comfy warmth.

Timber joinery is environmentally friendly and in tune with nature. Often such environmental considerations are achieved at the expense of quality; with ThermaDura you get top-of-the-range joinery as well as a clear conscience.

Step into the world of quality timber joinery with ThermaDura.

There is hardly anything in the world that someone cannot make a little worse and sell a little cheaper, and the people who consider price alone are that person’s lawful prey. It’s unwise to pay too much, but it’s worse to pay too little. When you pay too much, you lose a little money – that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do.

The common law of business balance prohibits paying a little and getting a lot – it can’t be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better.

John Ruskin (8 February 1819 – 20 January 1900)
ADVANTAGES OF TIMBER JOINERY

• Timber is the most ecological friendly material used for quality conservatories, windows and doors and has a low energy footprint

• Very high thermal performance

• When well-maintained timber windows have the longest life expectancy when compared with other building materials. In Europe windows that are over 300 years old are still in active service in historic buildings

• Timber also allows construction of truly large windows; much larger that with other materials

• Timber windows are easy to repair & recyclable

• Naturally insulating - reduced thermal bridging

• Timber windows do not need condensation channels

• ThermaDura timber joinery is extremely stable

• Timber is hygroscopic and helps regulate humidity levels in your building which ensures a healthy living environment

• Timber joinery is solid and offers a high level of security

• ThermaDura can design and construct complex joinery items

• Timber can be finished in an unlimited range of colours

• Timber joinery increases the value of your property

• In case of a fire, timber joinery withstands the flames longer than Aluminium and PVC. Timber does not release poisonous dioxins when it burns

• Re-coating timber joinery is unproblematic and colours can be adjusted to change the design of the house

• Low carbon footprint - frames can be carbon negative, storing more carbon than is produced to make them
THE WINTERGARTEN™

Our Wintergarten conservatories achieve a comfortable living space that is close to nature. Only glass separates you from the elements. There is a Wintergarten design for every home and taste; a Wintergarten adds to the character of your home, increases the quality of your life and adds value.

There are many advantages to having a space in your home where you can sit and enjoy natural light while still enjoying the comfort of being indoors. Natural light makes a Wintergarten perfect for an office; sunlight inspires a productive mindset.

At ThermaDura we use a German designed system to craft our quality Wintergarten conservatories. The Wintergarten is designed in a “post and beam” construction which is made of naturally durable timber. We see our Wintergarten conservatories as creating healthy living spaces; to insure this all our products are double- or triple glazed.

At ThermaDura we manufacture European tilt and turn joinery with exceptional thermal performance equivalent to the German Passive House Standard. This joinery is integrated into our designs to complete the energy efficient design of ThermaDura Wintergarten conservatories.

The outside of a ThermaDura Wintergarten can be designed with a maintenance-free Aluminium shell or a solid timber facing.

On the following pages you will see some architectural conservatory designs. We also offer some standard conservatory designs which are a more economical option. These can be found on our website.

For more design ideas, pricelists and technical information about ThermaDura Wintergarten conservatories view the “Gallery” on our website www.thermadura.co.nz.
A Wintergarten creates an additional living space. The heating and ventilation system ensures a comfortable temperature all year round.
Large tilt and slide doors provide the indoor-outdoor flow in your Wintergarten. Doors can be securely tilted to provide additional ventilation.
Many New Zealanders dream of having a Victorian style timber conservatory. ThermaDura offers historic designs using modern technologies and materials.
A Wintergarten is a place where people feel comfortable. This makes a Wintergarten the perfect solution for restaurants, bars and other commercial projects.
With the ThermaDura system architects can achieve a modern look on the outside while providing a warm and healthy environment inside.
The solid timber post and beam construction enables us to manufacture large conservatories which are a good alternative to a more conventional extension.
3D DESIGN

At ThermaDura we work with state-of-the-art 3D software to design and manufacture our Wintergarten conservatories. The software allows us to display every tiny detail of our products down to the last screw on the screen; we can then export those details to the CAD drawings. Our software allows us to show you the Wintergarten how it will look once installed even before you place an order. This can help you with the design of your Wintergarten. When an order is confirmed we export the production data to the CNC & NC machines which ensures an efficient and precise production process.

WHO DESIGNS MY CONSERVATORY?

To get an idea about the cost of a Wintergarten conservatory, please check our website for a complete price list of our standard designs.

If our Wintergarten conservatory meets your budget expectations the next step is to have your architect/designer draw it up for you. Your architect or draftsman can contact us for more technical details and information. This way we ensure that we are on the same page right from the start. This allows an efficient work process and savings for the customer. We can provide a firm and detailed quotation based on the drawings we receive.

Another option is to contact us and we can recommend a ThermaDura Wintergarten designer. The Wintergarten designer will complete the drawings for the building consent application.

DESIGN POSSIBILITIES

You can achieve almost anything with timber. The whole range of classic, contemporary and modern style conservatories can be designed with timber. Our conservatories can be designed with a timber or Aluminium exterior shell to suit your specific project.

More design ideas can be found in the extensive gallery on our website. We also provide details and prices of our ThermaDura standard designs which are economically priced and utilise set modular sizes.

SOLID TIMBER CONSTRUCTION

Timber is the best material for constructing a Wintergarten. It is solid and provides maximum strength to cope with heavy snow falls and high winds. Windows and doors in our conservatories are not load bearing, all the load is carried by the posts and beams. This construction allows the designer to specify narrow profiles.
THINGS TO CONSIDER IN THE DESIGN STAGE

Ventilation
Ventilation is important in a conservatory. A Wintergarten creates warm air; this can be transported out of the Wintergarten to heat other areas which then allows cold fresh air to come in. Humidity also needs to be controlled in a conservatory; our ventilation systems control both heat and humidity.

Heating
The best temperature for a home or workplace is about 20 degrees Celsius. Optimal humidity is a relative humidity of 40-60%. Even if the winter sun shines these conditions cannot be achieved without a technical heating source. A heating system also needs to prevent condensation. The Wintergarten heating system needs to be efficient and effective to react to changing weather conditions.

Sun protection
Naturally a conservatory heats up when the sun is shining. Protection from the sun must be a major consideration when designing a Wintergarten. ThermaDura offers both interior and exterior sun protection solutions.

Windows & doors
We offer the complete range of window and door designs for use in our Wintergarten conservatories. These are chosen to suit your needs and preferences.

Glass
The type of glass you choose also has a major impact on how your Wintergarten looks and feels. This beautiful, brilliant and transparent material gives your Wintergarten its character.

INSTALLATION

Our Wintergarten conservatories are designed as a pre-finished product that only needs to be assembled on site. This allows us to transport the conservatories all around New Zealand. We offer different options for the installation of the Wintergarten on site.

1. Construction manager
A ThermaDura construction manager organises the assembly of the Wintergarten on site. In this case our construction manager works hand in hand with your builder on site to assemble the Wintergarten. This is possible because all Wintergarten parts are pre-fitted in our factory. The flashing between the house and Wintergarten needs to be done by the builder on site. The construction manager ensures an efficient work process and is the point of contact for any questions.

2. ThermaDura installation
Once the foundation has been prepared by your builder our team can install your Wintergarten. ThermaDura or your builder can carry out the connection between the house and the Wintergarten. There are different requirements depending if it is a new building or a renovation project. We always recommend the most economical solution.
The modern technology in our LignoLine+ timber curtain walls minimise energy loss. The unique LignoLine+ curtain wall system allows us to achieve beautiful modern designs. By combining the ThermaDura LignoLine+ system and the strength of timber we can build multi storey glass walls which benefits from the low maintenance of an aluminium exterior.

LignoLine+ timber curtain walls can be designed with double or triple glazing. Passive House equivalent performance can be achieved where you choose triple glazing.
All LignoLine+ timber curtain walls are thermally broken to avoid condensation and to ensure maximum thermal performance.
In order to design large glass curtain walls with narrow profiles we use natural, multilayered laminated timber that has high density for strength.
The LignoLine+ curtain wall is thermally broken and very energy efficient. The 4 layer seal system provides weather tightness up to the extra high wind zone.
The ThermaDura LignoLine+ curtain wall system allows the construction of large glass walls. The standard visible width of the Aluminium shell is 60mm.
Our curtain wall system accommodates all styles of ThermaDura windows and doors, including tilt and turn, lift and slide and bifold joinery.
We can make a timber finished exterior rather than Aluminium facing. For large glass areas we increase the width of the timber to 80mm.
ADVANTAGES OF THE THERMADURA LIGNOLINE+

- Our structural timber is multilayered and laminated to provide maximum strength. Even large curtain walls are easily assembled on site.
- The outside shell of the curtain wall can be designed in solid timber or aluminium.
- We use a thermally broken system for maximum thermal efficiency.
- All parts are pre-finished with a 3 or 4 coat system, no finishing is required on site.
- Heavy-duty connectors are designed for large glass areas.
- All European style windows and doors made by ThermaDura (NatureLine/DesignLine) fit into the curtain wall system.
- Narrow profiles are possible, even for large curtain walls.
- Double or triple glazing is possible.
- We have a 4 layer seal system for maximum weather tightness.
- Certification documents available up to the extra high wind zone.
- Complex shapes are possible with the ThermaDura system.
- The walls can be manufactured from different timbers; our standard timber option is Siberian Larch.
- We offer curtain walls made of New Zealand native timber.
- Specific CAD drawings available for architects. (2d, 3d)
- Thermal specifications can achieve Passive House standards.
- ThermaDura curtain walls have excellent soundproofing characteristics.
- Ventilated system.
- Different exterior Aluminium profiles available. Please inquire.
- Heavy-duty connectors are also available in stainless steel.
- The ThermaDura system is a German designed system which is used world-wide for the manufacture of curtain walls in residential and commercial buildings.
- Aluminium exterior shell can be finished in bronze or copper look.
- In most cases no additional steel support structure is necessary.
Timber or Aluminium external cladding. The cladding is clipped onto the base profile.

Fastening of the base profile with stainless steel metal screws in accordance with system specifications:
- Max spacing between screws: 250mm
- Max end distance for screws: 60mm
- Min screws in each individual profile: 3

Base profile equipped the rubber end seal pieces at both ends. Rubber seals fixed with 1% over length into extrusions and glued with EPDM glue to rubber end seal pieces.

Insulator bridges for additional weather protection and enhanced thermal insulation.

Double or triple glazing according to New Zealand human impact glass regulations.

Rubber gasket system in up to 4 layers working like a flashing system. Vertical mullion gaskets are behind transom gaskets for maximum weather tightness. Gaskets cut and joined (overlapping) with special tooling in factory, glued on site with EPDM glue.

(Details below)

Screw connection every 150mm with stainless steel screws 4.0x45

Timber frame connected with Knapp Ricin connectors. Please refer to fastener information for more details.

Glass seats for up to 400kg double- or triple glazing:
- Fixed 90mm from mullion ends
- Fixed with 5.0x38mm stainless steel screws
TIMBER OR ALUMINIUM EXTERIOR
The exterior shell is non-structural, different timber species and Aluminium extrusions can be used. The same applies for the Wintergarten conservatory range.

CAD DETAILS LIGNOLINE+
Please inquire for our extensive range of LignoLine+ CAD details.

- 3d curtain wall elevations of each quoted item available
- 2d curtain wall drawings of each item in dwg and dxf formats available
- LignoLine curtain wall compatible with NatureLine and DesignLine joinery
- Standard set of drawings (dwg, dxf) available for architects/designers
**NatureLine**
**Timber Windows and Doors**

Even by European standards our ThermaDura NatureLine tilt-turn window and door range is top-of-the-line and future proof. We are ahead of European standards: we have increased the minimum thickness of our timber from 68mm to 78mm to accommodate triple glazing with wider spacers in-between the glass panes. We also offer NatureLine 102 windows and doors which are common in the challenging high alpine regions of Austria.

<table>
<thead>
<tr>
<th>NatureLine 78</th>
<th>NatureLine 90</th>
<th>NatureLine 102</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For the energy efficient Kiwi home</strong></td>
<td><strong>Extremely energy efficient. Performance equivalent to German “Passive House Standard” requirements.</strong></td>
<td><strong>For architectural homes with maximum glass sizes and thermal requirements. For high alpine conditions.</strong></td>
</tr>
<tr>
<td>• 78 mm timber frame/sash depth</td>
<td>• 90 mm timber frame/sash depth</td>
<td>• 102 mm timber frame/sash depth</td>
</tr>
<tr>
<td>• max. 40 mm Triple glazing</td>
<td>• max. 52 mm Triple glazing</td>
<td>• max. 64 mm Triple glazing</td>
</tr>
<tr>
<td>• Double sash seals</td>
<td>• Double sash seals</td>
<td>• Double sash seals</td>
</tr>
<tr>
<td>• U-Value window: 0.878 (W/m²K)</td>
<td>• U-Value window: 0.772 (W/m²K)</td>
<td>• U-Value window: 0.747 (W/m²K)</td>
</tr>
<tr>
<td>• R-Value window: 1.138</td>
<td></td>
<td>• R-Value window: 1.339</td>
</tr>
</tbody>
</table>
ADVANTAGES OF NATURELINE WINDOWS AND DOORS

ThermaDura NatureLine windows and doors are a class above the rest. Here is why NatureLine windows and doors will stand the test of time. More info on [www.woodenwindow.co.nz](http://www.woodenwindow.co.nz)
THERMADURA INTERNAL MULTIGROOVE SYSTEM

At ThermaDura we have developed a smart and efficient system which enables the builder to install our wooden windows and doors economically and to a high quality standard. On the inside of the timber window/door frame we machine a 10.5mm wide groove (4 sided). This multigroove can accommodate reveals, interior sills and even gibboard.

Key advantages of the ThermaDura multigroove system

- Allows for differences in wall thickness
- Conceals window/door fasteners (no visible fasteners)
- Allows the builder to measure the reveal width after installation (reveals are supplied separately like e.g. architraves)
- Allows an economic and safe way of transporting the timber windows and doors all around New Zealand
- Flexibility - reveals, internal sills and gibboard can be fitted into the groove

THERMADURA EXTERNAL REVEAL SYSTEM

In New Zealand it is still common practice to install windows flush with the external cladding of the building. In this case your window is fully exposed to the elements, but more importantly it creates a cold bridge between the outside and the inside of the building.

In most cases only a thin 20mm piece of timber (reveal) is all the insulation around the windows which creates considerable heat loss.

At ThermaDura we offer external reveals to move the window back into the insulation layer of your home to ensure maximum energy efficiency.

Key advantages of the ThermaDura external reveal system

- Windows will sit in the insulation line of the wall framing and increase thermal efficiency
- Timber windows are better protected against environmental conditions
- Tongue and groove connection (structural joint) between reveal and window frame ensure a high quality finish and weathertightness
- Possibility to machine a rebate into the external reveal to accommodate weatherboards without the need for facing boards
- Recessed windows give every home a quality look
Options top/side exterior:
1. No external groove
2. Exterior reveal

Options bottom exterior:
1. Timber sill (for use w/ext reveals)
2. Timber sill (no external reveals)
3. Aluminium flashing to suit cladding
   see flashing details
WEATHERBAR OPTIONS

We offer two options for the rain protection rail at the bottom of our NatureLine windows. The standard option is an Aluminium profile with an additional seal between the Aluminium and the timber. The standard colour of the rail is dark bronze. On request this rain protection rail can be powder coated in any Dulux colour.

For most applications it is also possible to choose a solid timber weatherbar which blends in with the other joinery.

Larch window with aluminium weatherbar

Larch window with timber weatherbar

THERMAL PERFORMANCE

At ThermaDura we are committed in providing our customers with an energy efficient product which keeps their living environment healthy and their electricity bill low. Most energy loss is through windows and doors.

The efficient ThermaDura timber windows and doors provide maximum insulation values for windows, doors and conservatories. Timber helps to regulate the climate in your home and ensures that your environment is healthy. Timber windows do not need condensation channels as timber is hygroscopic and acts as a thermal break.

**R-Value comparison**

*Values based on WEBS (Windows Efficiency rating system Australia), average of 20 random windows, of a standard size (1.5mx1.2m)
** Tested by Unico2D, T54, Germany, test window size 1.2mx1.4m; soft cov: Low E glass
Please note: "The Australian and German test methods are not exactly identical. This table is an indication only"*
NatureLine French doors and tilt-turn windows make every kitchen a very special place.
**DESIGNLINE**

**TIMBER-ALUMINIUM WINDOWS AND DOORS**

Timber-Aluminium windows and doors combine the best of two worlds. The Aluminium shell provides extreme weather protection. The timber frame provides stability, outstanding thermal insulation and gives the building a warm, pleasant feeling.

The Aluminium frames feature ample rear-ventilation and are mounted on the timber tension-free with special fasteners: this allows the timber to breathe and the Aluminium frame to expand and contract without any restraint during temperature fluctuations. The corner joints of the Aluminium shell are manufactured with tension connectors to ensure a perfectly closed corner joint.

The hardware accessories used for the ThermaDura DesignLine timber-Aluminium joinery is almost identical to the hardware we use for our NatureLine timber joinery.

The timber accessories, like external reveals, internal reveals and sills are identical to the NatureLine joinery. This makes the ThermaDura window system easy to understand for architects, designers and customers.

<table>
<thead>
<tr>
<th>DesignLine 78 (full Aluminium shell)</th>
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</thead>
<tbody>
<tr>
<td>Highly energy efficient TI-ALU windows</td>
</tr>
<tr>
<td>• 78 mm timber frame/sash depth</td>
</tr>
<tr>
<td>• Total thickness incl. Aluminium: 96mm</td>
</tr>
<tr>
<td>• max. 52 mm Triple glazing</td>
</tr>
<tr>
<td>• Double sash seals</td>
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<td>• U-Value window: 0.878 (W/m²K)</td>
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<table>
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<th>DesignLine 78 (with external reveal)</th>
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</table>
Available from 26mm double glazing up to 52mm triple glazing

- Durable exterior seals made of quality material (no PVC)
- Tight Aluminium mitres achieved by revolutionary tension connectors
- Option: External reveals to move window into the insulation layer of the house
- Option: Hardwood sills in 2 widths available
- Different Aluminium shells available to suit all NZ cladding types
- Kiln dried, durable timber for strength, durability & dimensional stability
- Tension-free fasteners between Aluminium shell and timber
- Multigroove system to accommodate internal reveals, sills or gibboard
- Option: TwinGo thermal honeycomb blinds
- Warm-edge thermal spacers are standard. Softcoat Low-E glass up to 52mm triple glazing
- 3d adjustable multipoint locking system for maximum security
- Two uninterrupted sash seals for best airtightness performance

ADVANTAGES OF DESIGNLINE WINDOWS AND DOORS

ThermaDura DesignLine windows and doors are a class above the rest. Here is why DesignLine windows and doors will stand the test of time. More info on [www.woodenwindow.co.nz](http://www.woodenwindow.co.nz)
THERMADURA MULTIGROOVE SYSTEM

At ThermaDura we have developed a smart and efficient system which enables the builder to install our wooden windows and doors economically and to a high quality standard. On the inside of the timber window/door frame we machine a 10.5mm wide groove (4 sided). This multigroove can accommodate reveals, interior sills and even gibbboard.

Key advantages of the ThermaDura multigroove system

- Allows for differences in wall thickness
- Conceals window/door fasteners (no visible fasteners)
- Allows the builder to measure the reveal width after installation (reveals are supplied separately like e.g. architraves)
- Allows an economic and safe way of transporting the timber windows and doors all around New Zealand
- Flexibility - reveals, internal sills and gibboard can be fitted into the groove

THERMADURA EXTERNAL REVEAL SYSTEM

In New Zealand it is still common practice to install windows flush with the external cladding of the building. In this case your window is fully exposed to the elements, but more importantly it creates a cold bridge between the outside and the inside of the building.

In most cases only a thin 20mm piece of timber (reveal) is all the insulation around the windows which creates considerable heat loss.

At ThermaDura we offer external reveals to move the window back into the insulation layer of your home to ensure maximum energy efficiency.

Key advantages of the ThermaDura external reveal system

- Windows will sit in the insulation line of the wall framing and increase thermal efficiency
- Timber windows are better protected against environmental conditions
- Tongue and groove connection (structural joint) between reveal and window frame ensure a high quality finish and weathertightness
- Possibility to machine a rebate into the external reveal to accommodate weatherboards without the need for facing boards
- Recessed windows give every home a quality look
Options top/side exterior:
1. No external groove
2. Exterior reveal 42/30 (fit in 10mm groove)
3. Fibre cement board (fit in 10mm groove)

Options bottom exterior:
1. Timber sill wide
   (for use with ext reveals)
2. Timber sill narrow
   (no external reveals)

2. Aluminium flashing to suit cladding
   see flashing details

Options top/side inside:
1. No internal groove
2. Interior reveal
3. Gibboard

Options bottom interior:
1. No internal groove
2. Interior reveal
3. Interior sill
3. Gibboard
Tilt and turn windows and doors are available in many shapes and sizes for use in your home. They can be tilted for ventilation and can also be completely opened for maximum ventilation or ease of cleaning.
BIFOLD DOORS
AND WINDOWS

Large openings give a sense of spaciousness and openness. Bi-fold doors are the perfect way to achieve large openings; sash weights can be up to 100kg. Our bi-fold doors can open inwards or outwards and are manufactured with a timber threshold.

- max. unit width 7500mm
- units with 8 bifold sashes possible
- max. sash height 2950mm
- inwards or outwards opening option (timber)
- inwards opening option (timber-Aluminium)
French doors can open outwards or inwards. They are as a standard equipped with a multipoint locking system and are 3d adjustable. Available in NatureLine and DesignLine.
TILT-SLIDE DOORS AND WINDOWS

Architects want variety and freedom in their designs. Building owners on the other hand want light and convenience. We have the solution for both: the tilt and slide door allows us to design large sliding sashes which can then be tilted for ventilation. This has great advantages for smaller rooms as the door becomes the ventilation point and windows are not needed. Available in NatureLine and DesignLine.

- up to 200kg sash weight
- sashes are adjustable with an Allen key
- max. sash height 2730mm
- max. sash width 2030mm
- mushroom cams for maximum security
- integrated multipoint locking system
- door sashes tilt for ventilation
LIFT-SLIDE DOORS AND WINDOWS

Those who like bright spaces will appreciate and value the many advantages that the lift-slide doors systems offer; living spaces open out towards the garden and terraces become part of the home. The lift-slide door system is the ultimate solution to moving large areas of glass in an ergonomically efficient way. Even people with very low strength can confidently use the windows and doors in our conservatories.

TheraDura offers sliding doors and stacker doors in the lift-slide system. Four designs are available as standard, but more options are available on request. Available in NatureLine and DesignLine.
KEY ADVANTAGES

- Easy and quiet operation.
- 3000mm door height possible.
- Timber or Aluminium threshold.
- Wheelchair friendly solution.
- Maximum unit width 19.8m.
- Maximum door sash weight 400kg.
- Running gear has attached brushes to keep tracks clear.
- Stacker and single sliding doors possible.
- Multipoint locking system.
- Low maintenance free system.

The heavy duty running gear carries up to 400 kg of weight per sash and is equipped with brushes to keep the running track clear of dirt.
TIMBER OPTIONS

THE ADVANTAGES OF LAMINATED TIMBER

At ThermaDura we only use laminated timber for our joinery. There are many advantages for the use of laminated timber for the manufacture of windows, doors and conservatories.

- Laminated timber is dimensionally more stable
- Laminated timber is structurally stronger than solid timber.
- It is a sustainable way to achieve the highest timber quality
- The drying process is faster and ensures a tension free result
- Smaller dimensioned timber is usable
- Natural faults in the timber can be minimized

For our windows and doors we use quarter or semi-quarter sawn timber. The timber is free of knots and defects and the moisture content is 10-12%. This reduces movement in the timber and is another quality aspect of our joinery. The glue used in between the laminates is D4 exterior glue (marine grade).

FUTURE PROOF AND DURABLE

All timber species we offer for our windows and doors are durable by nature and are characterized with a high density. In other words we only use hard timbers. The advantage of using high density timber is that it is resistant to mechanical wear and tear and that applied coatings last longer. The hardness of the timber also makes it more difficult for organisms to penetrate the timber.

After squaring the timber we machine the faces in a state of the art hydro-planer which replaces the traditional sanding. This way we achieve a maximum durability of the applied water based finishes.

INSULATED FILLINGS

Usually door-fillings are a weak point for insulation and stability. We use insulated, quarter sawn timber fillings which reduce movement and provide an energy efficient solution.

QUALITY JOINERY - THE DEVIL IS IN THE DETAIL

Exterior joinery is exposed to harsh elements most of the time. Heavy rain, hail, and extreme heat conditions are common in New Zealand. When exteriors are exposed over time the difference between any old window and a quality window becomes apparent. Fairy tales are told: people say that “Timber windows are not suitable for the harsh climate in Central Otago” - we disagree.

Here are some key characteristics of our quality windows and doors:

- Solid triple tenon mortise and tenon corner joints
- D4 marine glue used for laminations
- 4 layer laminated timber for dimensional stability
- The use of kiln dried timber (slow drying process), MC10-12%
- Defect free timber
- The use of semi quarter sawn or quarter sawn timber

Timber is a renewable natural material unlike some other window materials. Timber windows and doors stay dimensionally stable in order to fulfil their task. We have benefitted from centuries of European design and skill in engineering joinery; we use that knowledge wisely. Unfortunately in our fast modern times the need to take the special characteristics of timber into account is often replaced by time saving work processes. At ThermaDura we are joiners with a passion for timber and we stick to the traditional standards without cutting corners.
SIBERIAN LARCH (LARIX SIBIRICA)

Siberian Larch grows in Siberia, Europe and North America (Canadian Larch). Larch is very rot resistance, and so it is especially valuable for weatherboards, decking, posts, poles, railroad sleepers, and mine props. The harsh climate of Siberia and north Canada results in a very hard and durable timber. The high density of the Siberian Larch of 0.64 g/cm³ is proof of this. The high density and tannin content make it difficult for the organisms that cause decay to penetrate our wood. Siberian Larch is durable without additional chemical treatment.

AMERICAN OAK (QUERCUS ALBA)

At ThermaDura we offer to manufacture our conservatory windows and doors in American Oak. This historically important timber is classified as class two durable (BS EN 350-2). Oak wood has a density of about 0.75 g/cm³. It is known for its great strength and hardness, and is very resistant to insect and fungal attack because of its high tannin content. It also has very pleasing grain markings, particularly when quarter sawn. American Oak is durable without chemical treatment.

OTHER TIMBER VARIETIES

We also offer species like Walnut, Alder, Macrocarpa, Jarrah and Cherry. Western Red Cedar is an option for the exterior cladding of our timber conservatories. Please inquire for more information.

ACCOYA

Accoya wood is a sustainable high performance timber. It is Class 1 durable (comparable or better than the durability of hardwoods such as Jarrah, Rosewood and Teak) so no further treatments are needed. Accoya wood is non-toxic and doesn’t leech harmful chemicals. Accoya is FSC certified and is a home grown alternative for exterior joinery.
CHILD SAFETY LOCKS

Child safety locks are compulsory in multi storey buildings. If locked, the window can only be tilted for ventilation. If unlocked the window can be opened fully to make cleaning of the outside possible.

MACO CONCEALED TILT-TURN HARDWARE

At ThermaDura we use as standard concealed hardware and hinges wherever possible. The hinges of the standard windows are fully integrated in the sash and the frame and are 3D adjustable. The only visible hardware is the handle of the window or door. The heavy duty mechanisms carry up to 180 kg window and door sashes. The tilt-turn system is a the perfect solution for improved ventilation control.

MULTIPOINT LOCKING SYSTEM

All our windows and doors are equipped with a sophisticated Maco multi-point locking system. This means your joinery is both draft free and secure. Simply by turning the handle you operate the whole locking system around the sash and the locking cams engage. To prevent windows from jamming sash lifters are installed as standard hardware.

HARDWARE

QUALITY FROM THE MARKET LEADER

Maco is an Austria based hardware manufacturer which leads the industry with its focus on quality and innovation. In Europe tilt and turn hardware has become standard in the window industry. In New Zealand this sophisticated system is becoming more and more popular with architects and homebuilders who appreciate the thermal efficiency, the security features and the excellent weather tightness characteristics of the system.
SECURITY

Maco hardware provides a high level of security even in the standard version. They are fitted with mushroom cams in the multipoint locking system which engage with strikers fitted on the inside of the frame. The multiple lockingcams are handle operated. A standard ThermaDura window has 5 locking points; conventional sash windows lock only at the handle.

For high security buildings like banks ThermaDura offers additional security features. ThermaDura joinery conforms to all European burglary-resistance standards.

WRAP AROUND SEALS

At ThermaDura we know that a door or window can only be thermally efficient when the seals are properly designed and fitted. For this reason we only use quality non-rotting rubber seals which are mechanically fitted into a groove.

The seals are uninterrupted and wrap around with a firm back to avoid contraction. Our quality seals distinguish themselves from other seals available as they expand after being compressed to ensure a draft free seal for the years to come. For our tilt and turn windows we use 2 seals as a standard.

3D ADJUSTABILITY

Our door and window hardware is 3D adjustable. This feature is a standard in our window and most of our door hardware. By simply using an Allen key you can move your window or door sash up/down, left/right and even in and out to adjust the pressure on the seals. You no longer need to worry about windows getting stuck. Choose ThermaDura products for a future proof investment.
Handles

Handles are an important part of ThermaDura joinery. They need to endure the test of time. The foundation of their durability is laid in the design process. All our handles are fitted with machine screws into the multipoint locking system which eliminates the problem of loose handles. All window handles are connected with a 7mm spindle and door handles with an 8mm steel spindle to the hardware.

We offer handles from different manufacturers, they all have two things in common; the quality of the material and the durability of the design.

MACO

Maco offers quality handles which are the most economic option for all windows and doors. At ThermaDura we offer Maco handles as a standard option in silver and bronze. All Maco handles have been tested for durability.

Silver                          Titan                          Middle Bronze

HOPPE

Hoppe handles are made in Germany. The company distributes its products worldwide and is a well known brand in Europe for quality handles in many different designs.

www.hoppe.com

CHANT DESIGN HANDLES

Chant™ is a New Zealand manufacturer operating since 1996. “We design and create highest quality architectural door hardware for residential and commercial buildings, and marine applications. We are uniquely placed to collaborate on door hardware design, manufacture, and installation detail, while working closely with architects, interior designers and specifiers.

Our designers and professional craftsmen insist on uncompromising quality of workmanship and the best materials we can source. We are also one of the very few manufacturers in the world that can customise and personalise our functional products. Many of our loyal clients are designers, architects, joiners, fabricators and of course those clients who seek products of the highest calibre, look and feel. We have the engineering expertise, experience and capability to custom design bespoke matching hardware for any project, regardless of how large or small. That is our significant point of difference. Our range is comprehensive enough to cover inside and outside of the building with matching hardware.

We are proud of our innovation, and have designed and introduced many new and exciting product ranges. Feedback from our clients has been fantastic. It is because of them, that we have leaped ahead in so many diverse directions and been able to fill gaps in the market. Every product is evidence of our persistence and passion to create “the very best” in design and quality.”

Graham, Nathon and Byron Chant

www.chantproductions.co.nz
All the products we use are water based and have been specially developed for use on windows and doors. Coatings for exterior joinery must be able to “breath” to create a healthy living climate on the inside and to release moisture outside if necessary. A Polyurethane finish cannot do this. For a natural look all our wood stains and clear coats are matt.

Sikkens and Adler offer maintenance products which extend the re-painting intervals of the joinery.

Adler is an Austrian based, family owned company that leads the industry with innovative products. Adler products have been used for more than 5 years in our harsh New Zealand conditions and have proven to be an excellent choice. [www.adler-lacke.com](http://www.adler-lacke.com)

A unique Adler product is the exterior clear coat Adler Ligno+. A natural finish is achieved by applying 4 different products which stabilise the lignin in the timber and use high quality raw materials. Adler Ligno+ is our premium finishing product. Select finishes here: [http://www.woodenwindow.co.nz/#!adler-finishes/tks0v](http://www.woodenwindow.co.nz/#!adler-finishes/tks0v)

Sikkens products are well known in New Zealand and around the world for their durability. At ThermaDura we use Sikkens woodstains and opaque finishes to finish our joinery. Sikkens offers a wide range of different water based wood stains and opaque paints. [www.sikkens.com](http://www.sikkens.com)

We also use Resene as a supplier of quality water based paint product. [www.resene.co.nz](http://www.resene.co.nz)

All joinery is sealed and primed in an automated stain channel. This ensures a spotless application of the waterbased products.
V-JOINT, ENDGRAIN SEALING

All our timber windows and doors undergo two separate processes to ensure the durability of the finish. The end grain of the timber is treated with a sealer especially designed for this purpose. The V-joints are also sealed to ensure that the timber can expand and contract without affecting the finish of the joinery.

MAINTENANCE PRODUCTS

At ThermaDura we offer maintenance kits specific to the product applied on your windows and doors. The set consists of a window cleaner and a maintenance product which is applied with a cloth. There is no sanding necessary!

FURNITURE LIKE FINISH

We apply the finish with an air assisted spray system. This ensures a furniture-like finish. At ThermaDura all joinery is sprayed in the controlled environment of our factory. The sealing and priming is done in an automated stain channel with a three or four coat system. Before the topcoat is applied all items undergo a quality check. This ensures a spotless application of the water-based products.

A furniture like finish is achieved. All joinery that leaves our factory is pre-finished with a quality 3- or 4 coat system.
IMPORTANT FACTS ABOUT GLASS

30% to 40% of a home’s warmth is lost through the windows. This explains the demand for quality thermally insulated windows. Glass plays a major part in the thermal efficiency. Double and triple glazing significantly reduces heat loss and provides your home with a more constant temperature which is important for a healthy living environment. The main benefits of double- and triple glazing are:

- Warmer in winter
- Cooler in summer
- Reduces condensation
- Reduces energy usage
- Reduces noise transmission
- Reflects internal heat

LOW E COATINGS

Low-emissivity (low-E) coatings are microscopically thin metal layers that are deposited on a glass surface to help keep heat on the same side of the glass from which it originated. We use soft-coat Low E coating rather than hard-coating. The soft coat Low E is far more efficient (U-value 1.1 W/m² K for double glazing) and it results in a clearer appearance to the glass.

DOUBLE GLAZING

Double glazing is a huge improvement to single glazing. Double glazing works by trapping air between the two panes of glass. This creates an insulating barrier that reduces the heat being lost and it also improves the soundproofing of your windows and doors.

TRIPLE GLAZING

You can choose triple glazing to further increase the thermal efficiency and reduce heat loss to the absolute minimum (Ug=0.5W/m²K - 0.6W/m²K). Triple glazing also has superior soundproofing characteristics. We can accommodate glass units of up to 64mm thick. For detailed information on triple glazing check our website or contact us.
THE “WARM EDGE”
The spacer plays a particularly vital role in helping to drive down your heating bills. Conventional spacers made of aluminium act like a thermal bridge, causing the edge of the glazing panel to cool down rapidly when outside temperatures drop, despite a good level of warmth in the room. This results in the loss of valuable heating energy and often condensation.
Using thermal spacers in the double- or triple glazing helps to significantly reduce heat loss at the glass edge, while the periphery of the window on the room side remains warmer, lending the glass a “warm edge”.

COLONIAL BARS
Colonial bars are a feature especially suitable for historic homes and villas; they can give you a look consistent with the era of your home and help achieve your dream.

The first option is the “Vienna” colonial bar which is not glass dividing. In between the glass panes a spacer is fitted and the 26mm wide timber colonial bars are glued onto the glass.

The second option is structural colonial bars. These bars divide the glass which means multiple smaller glass panes are fitted.

ARGON & KRYPTON GAS
Using noble gasses in the cavity between the glass panes can save heating costs. Argon or Krypton have a lower thermal conductivity than air and further reduces the heat loss of a double or triple glazed unit.

OTHER GLASS OPTIONS
At ThermaDura we will use any glass that is available from New Zealand and German glass suppliers. We can use self-cleaning glass, lead glass, structured glass, trans-opaque glass, laminated glass and bullet proof glass. Please contact us to discuss your ideas.
INSTALLATION

INTERNAL REVEALS
In the ThermaDura system the internal reveals are a non structural part of the window. The window is fixed in into the frame opening without the reveals attached (using concealed fasteners). After the windows and doors are installed, the separately supplied reveals can be slid into the multigroove on the inside of the window/door frame. The advantage is that the tongue and groove connection allows for variations in wall thickness. Another advantage is that the builder on site can install the windows/doors and then supply the reveal widths to ThermaDura.

INTERNAL SILLS
The same multigroove system applies to internal timber sills. The sill is fitted after the installation of the window/door into the multigroove (with the internal reveals attached). The bottom rebate of the sill is designed for easy installation and to cover up the gibboard edge without the need of fixing additional scribes.

EXTERNAL SILL DETAIL
Depending on the cladding the windows and doors can be supplied with solid hardwood sills or a flashing groove.
In the case that timber sills are used (eg. for weatherboard cladding) we offer 2 different sill widths. The narrow sill is used when no external reveals are used, the wide timber sill is used in combination with external reveals (The same applied for DesignLine Ti-Aluminium joinery).

FLASHING SYSTEM
Installing ThermaDura products is simple. A 4/12mm groove is machined into the outside of the frame to accommodate a side flashing. The head flashing is similar to flashings used in conventional joinery. We have two differing sill details which we choose depending on your cladding. We also provide 2D and 3D flashing details for customers, architects and builders.
The sashes can be removed during installation to reduce the weight. The flashing details are available on request. Please contact us if you cannot find a design you are looking for.

FASTENERS
There are two options for the concealed fixing of ThermaDura joinery. Our joinery is fixed with a fastener then a reveal or Gib Board is attached to conceal the fasteners. We can also fix the joinery with screws but we prefer not to as this requires pre-drilling of the frames.
We recommend the concealed fixing method. The fasteners can be supplied with the joinery from ThermaDura. Please inquire.
NatureLine window installed in horizontal weatherboard cladding \textbf{without} external reveals

NatureLine window installed in horizontal weatherboard cladding \textbf{with} external reveals
At ThermaDura we like to ensure that the client know exactly what he is getting to avoid any misunderstandings. Quotes are itemized in...

- Windows
- Doors
- Conservatories
- Curtain walls
- Internal reveals
- Internal sills
- External reveals
- Blinds
- Installation material
- Delivery
- ...

We provide detailed CAD drawings for all items (dwg, dxf) to architects and builders for an efficient flow of information. Unique is that the drawings are the EXACT drawings of what ThermaDura manufactures.

- Clear communication between ThermaDura, architect, client & builder
- Same drawings used for the CAD/CAM connection to our CNC manufacturing machinery
- Information for the builder to provide rebates in concrete for different door designs
- Clear understanding of profile width, opening sizes in the design process

ThermaDura supplies flashing details for most NZ cladding systems. Unique to the ThermaDura system is the option to use external reveals to move the windows/doors back into the insulation layer of the house.

- The 10mm internal multigroove in the frame can be utilized to fit internal reveals, interior sills or gibboard.
- The ThermaDura joinery is fixed with concealed fasteners to the framing
- Optional exterior multigroove to accommodate external reveal or fibre cement board.
- Flashing groove or timber sill at the bottom depending on the cladding system.
ThermaDura window can supply all detailed thermal specification on request.

- Uf-value (W/m²K) of frame sections according to EN ISO 10077-2
- Ug-value of double and triple glazing (1.1 W/m²K - 0.5 W/m²K) DIN EN673
- g-value of double or triple glazing
- psi value of glass edge spacer for double or triple glazing in NatureLine or DesignLine joinery

ThermaDura seeks to minimize the environmental impact of its operation by using materials from sustainable sources such as FSC or PEFC wherever possible. Paints and woodstains are waterbased. PVC seals are avoided. Wood waste is recycled and planings are compressed into firewood pellets in our factory.

- ThermaDura uses FSC and PEFC certified timber for frames and sashes.
- All paints and woodstains are waterbased
- ThermaDura actively seeks to improve its practises to reduce our carbon footprint, and limit our contribution to climate change.
- We have been selected to supply a Living Building Challenge project and endeavour to adapt to the rigours of LBC scrutiny.

ThermaDura windows and doors have been physically tested by accredited German test institutes. The results have been translated by a NZ window engineer.

- Timber windows ultimate strength limit is the extra high wind zone
- Conservatory/curtain ultimate strength limit is the extra high wind zone
- Test results for acoustic performance on request
- Test results for other joinery products on request
PLEATED & HONEYCOMB BLINDS -
Atmosphere in your home
Handle operated blinds (VS-system)

The VS system is handle operated and can be fitted into the glass rebate or onto the sash of a window. This system is also a great solution for doors, so the blind does not need to be pulled up before walking out of the door. Another advantage is that there is no cord in the way which makes the VS system an easy to operate and child safe solution for your home. Day and night blinds available. All Cosiflor and Twingo fabrics can be fitted to this system.

Cord operated blinds (F-system)

The F system is cord operated or chain operated. The sophisticated design of this system allows us to build large blinds for e.g. picture windows. The patented cordlock and internal mechanism ensures a long life span of the blind. Day and night blinds available. All Cosiflor and Twingo fabrics can be fitted to this system.
Our Cosiflor pleated blinds range offers the perfect solution for privacy and light control for both contemporary and traditional homes. Our extensive range of fabrics, colours, patterns and grades of transparency ensures that there is a quality solution for everyone. Today most Cosiflor blind designs are proudly manufactured in our factory in Mosgiel, New Zealand according to the highest industry standards.

The German designed Cosiflor system offers solutions for a wide range of window and doors designs. We can make blinds for skylights, conservatories, facades, sloped and triangular windows. We can automate all our blinds (Cosiflor & TwinGo) using quality Somfy components.

Cutting energy costs is becoming ever more important. Intelligent deployment of interior solar protection can help to reduce costs. TwinGo honeycomb blinds insulate windows ensuring comfort regardless of the season. TwinGo has a honeycomb structure that contains an air cushion which acts as an excellent buffer against cold and heat.

The cords in the TwinGo honeycomb blind run through a hidden punch. When combined with one of the black out fabrics there is very little light penetration.

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**VS2 blind - possible blind positions**

- VS2 blind blind down
- VS2 blind top closed
- VS2 blind bottom closed
- VS2 blind centre closed
- VS2 blind fully closed

**TwinGo Thermal blinds**

Handle operated options

Cord operated options

VS4 Slope  VS5  FE  F4  F5  F Slope 2

VS1  VS2  VS3  F1  F2  F3
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Page 22, 23: Wohnhaus Leverkuse, Architects: Katharina und Carsten Hellmann
Also thanks to Knapp, Maco, Gutmann AG and Adler for their support
We trust by now you feel you know the most important aspects of ThermaDura joinery. This brochure is designed to provide a visual understanding of the products and to inform about the key advantages of ThermaDura joinery.

more info:  www.thermadura.co.nz
www.woodenwindow.co.nz

We aim for technical efficiency and uncluttered beauty. We hope that we have helped you understand the key advantages of ThermaDura products. ThermaDura is an innovative company; we manufacture our products to future European standards.

While all our joinery is proudly manufactured in our factory in Mosgiel, New Zealand (it is a lovely part of the country) ThermaDura also manufactures and distributes joinery for customers all around New Zealand.

At ThermaDura we focus entirely on supplying quality products to our customers. You can rest assured that all our components are quality, tested products. We are proud of our staff who are committed to crafting your joinery to a standard that will give your years of warmth and pleasure.

More detailed technical information is available on our websites, and we are always happy to help with your technical questions.

ThermaDura
9 Gladstone Road South
Mosgiel 9024
Ph: 03 489 7538
info@thermadura.co.nz