

paarhammer

Information  
for Architects  
& Building  
Professionals



The windows of  
the future today



...windows that bring an extra dimension to architectural expression while achieving extraordinary energy efficiency.

## Welcome to Paarhammer Windows & Doors

Our **mission** is to increase energy efficiency in housing, and comfort for occupants, through custom made double and triple glazed windows and doors, made from sustainable resources, in a facility with sustainable features, delivered on-time and to the highest quality.

Founded in 1990 by Tony and Edith Paarhammer, the company now operates with a dedicated workforce from a purpose built manufacturing facility of 4500m<sup>2</sup>, with the latest in CNC machinery and a spray-painting robot.

Our customers can expect a commitment to sustainable building and the highest star rating through customised solutions, experienced technical problem solving, project management, outstanding communication and quality control. A virtual or in-person visit is the ideal opportunity to take a tour and view a large range of products, discuss your project and see how your future windows and doors are created.

## Energy efficiency

40% of a home's energy for cooling or heating is being lost (or gained) through windows. Paarhammer products feature up to 7½ Energy Stars, meaning that you can save up to 85% of energy in addition to enjoying a very comfortable indoor climate. The lower the U-value, the better the window. Paarhammer U-values start from a very low 0.8 WERS (Window Energy Rating Scheme).



## Sustainability

We are deeply committed to a sustainable future.

Paarhammer windows & doors are made from timber - a renewable resource and stores carbon for life. Using only certified timbers, Paarhammer is FSC® Chain-of-Custody certified, and low-VOC paints. The manufacturing facility is powered by the sun with an almost 100kW photovoltaic system, a light management system, water tanks and waste system which makes sawdust into briquettes to provide heat and reduce landfill. Paarhammer is also a signatory to Take-2 and Australian Builders Declare Climate & Biodiversity Emergency.

## Australian made

Paarhammer is proud to manufacture in Australia.

Our philosophy is about sustainability and local jobs, therefore we use local materials where possible. Australian made translates to locally made products providing valuable training and skills sharing, and jobs not simply localised to the Paarhammer factory but extending to suppliers and manufacturers, e.g. Australian glass manufacturers and timber suppliers.

Paarhammer products have received many awards in their own right over the years, and are an integral part of buildings - both residential and commercial - which have received numerous awards for architects, designers and builders.

Paarhammer supplies windows and doors Australia-wide.





## Windows

As the leader in high energy-rated timber windows, we understand that our clients are as individual as their projects. As such, we provide customised solutions and superior service regardless of project size or location.

With our knowledge and experience, architects, developers and home owners can be assured of a product that is superior in many ways - one that gives design flexibility and will achieve top energy ratings. With virtually no limitations to size or shape, our windows and doors are adaptable to any wall and suitable to any style of building.

Paarhammer windows achieve excellent energy ratings with U-values from 0.8 (WERS), that's energy savings of up to 85%, and superior noise reduction of up to 45dB. In addition to superior thermal qualities, our frames also have an ultimate strength test of 2300+3300pa (N4), with the wood-Alu Range N6/C4, and water penetration of 200pa N4 (C2), giving our window systems unparalleled strength and security. Multi point metal-to-metal security hardware is standard, with automation also available.

### Window styles explained:



#### Tilt & turn:

The versatile multi-function system operated with the turn of the handle: tilt inwards at the top for child proof ventilation; turn and fully open for easy cleaning. Extremely energy efficient, draft proof, high sound protection, features multi-point locking.



#### Picture / fixed:

Fixed panes to enjoy a clear view without any obstructions—essentially acting as a picture frame for the scenery outside the window. Often used in combination with openable windows or doors.



#### Sliding:

For special spaces where only a sliding window suits. Parallel-slide-tilt or lift-slide options available. Both very energy efficient and draft proof with high sound protection. Custom made to size and finish.



#### Bi-fold:

If you would like to open up a large space. High energy efficiency, no rattling. Operated with a handle on every second window, no need for shoot bolts. Inside folding, also with tilt function, or outside folding.



#### Clerestory-tilt:

Tilt inwards at the top for ventilation, horizontal or vertical. The handle controls all the mechanics and multi-point locking within the frame. Automation with concealed chain drive available for hard to reach areas.



#### Heritage:

All the advantages of modern technology with the look of yesteryear. Suitable for inner city terraces where street appearances cannot change. High energy savings, high noise reduction. Create a quiet oasis where noise stays outside and drafts no longer exist.

*Continued overleaf*



### **Shaped:**

Custom made to size and shape to suit any building. Angled, round, oval or curved, these windows can be made in a fixed pane, sometimes openable, but always highly energy efficient.

### **Advantages of each of the following ranges:**

**Wood-Alu Range:** internal timber, external aluminium

**Architectural Timber Range:** strength, performance, versatility

**Komfort+ Range:** energy efficiencies in domestic sizes

**Passive House Range:** extreme efficiency, no drafts

**Bushfire Safe Range:** safety for all Bushfire Attack Levels (BALs) including Flame Zone (BAL-FZ)



**Doors**

Today's architecture in Australia aims to maximise natural light without the massive loss of thermal qualities and increased air infiltration that can reduce the energy rating for the overall building. Paarhammer have proven that top energy ratings can be achieved with our special frames, seals and unique metal-to-metal locking system.

It's why the award-winning Paarhammer glass doors achieve unmatched energy ratings and the lowest air infiltration, achieving energy savings up to 85%. Custom made in Australia, these doors have an ultimate strength test of 2300pa (N4), with the Wood-Alu Range N5/C3, and water penetration of 150pa, giving our door systems unparalleled strength and security.

The design flexibility of our glass doors has been proven time after time. We manufacture bi-fold doors of up to 10m (30ft) wide and sliding doors over 3m (12ft) high.

Featuring our secure locking system, our doors achieve U-values of 1.0 and reduce noise up to 80-90%. It's not surprising that our solutions are suitable for the most demanding projects including Passive House.

**Doors styles explained:**



**Lift-slide:**

One of our most popular products are technically advanced sliding doors which offer highest energy efficiency and no drafts, through multi-layer seals and engineered lift slide action. Available in many configurations.



**Giant lift-slide:**

For extra-large spaces and industry leading energy efficiencies. Up to 400kg per leaf, the Giants are easy to operate manually but can be automated with the patented E-lock.



**Stacker sliding:**

To open up extra wide spaces, stacker sliding doors feature lift-slide functionality. Very energy efficient and draft proof with high sound protection. Like all products, custom made to size and finish.



**Corner lift-slide:**

Unique airtight framing design for corners without corner posts. Like all lift-slide doors the lifting function facilitates floor level installations for step-free access.



**Bi-fold:**

Rebated frames, seals and multi-point locking together with double or triple glazing ensure highest energy efficiency, no rattling. Operated with a handle on every second door, no need for shoot bolts. Inside opening with tilt or outside opening. Up to 8 or 10m wide, depending on range.



**French:**

In high demand for easy access to verandas and the outdoors, French doors are available custom made with high energy efficiency, high noise protection and no drafts, due to rebated frames, seals and multi-point locking. Suit many styles of buildings.

*Continued overleaf*



### **Hinged glass doors:**

High security is ensured with multi-point locking, and 3-D-adjustable hinges and seals make for a draft-free fit. Barrier-free threshold available.

### **Advantages of each of the following ranges:**

**Wood-Alu Range:** internal timber, external aluminium

**Architectural Timber Range:** strength, performance, versatility

**Komfort+ Range:** energy efficiencies in domestic sizes

**Passive House Range:** extreme efficiency, no drafts

**Bushfire Safe Range:** safety for all Bushfire Attack Levels (BALs) including Flame Zone (BAL-FZ)



The Window Energy Rating Scheme (WERS) enables windows to be rated and labelled for their energy impact.

To participate in WERS, window makers must obtain energy ratings for their products from a rating organisation that is accredited by the Australian Fenestration Rating Council (AFRC) and undergo annual audits to ensure compliance.

Paarhammer Pty Ltd					Cool %	Heat %	Total Window - AFRC			
Updated 1-May-2019							Uw	SHGC	Tvw	Aif Inf
Window ID	Glazing	Cooling Stars	Heating Stars							
<b>Tilt &amp; Turn Window - Double Glazed</b>										
PAR-001-01	4/16/4	★★★★☆	★★★★★☆☆	61%	72%	2.2	0.39	0.41	0.05	
PAR-001-001-01	4Clr(VRD)/16Ar/4Clr(VRD)					2.2	0.37	0.39	0.05	
PAR-001-02	4/16Ar/4S500	★★★★★	★★★★★☆☆	65%	75%	1.8	0.37	0.39	0.05	
PAR-001-002-01	4Clr(VRD)/16Ar/4LightBridge(#3)					1.6	0.29	0.38	0.05	
PAR-001-03	4EG/16Ar/4S500	★★★★★	★★★★★☆☆	75%	66%	1.8	0.21	0.32	0.05	
PAR-001-003-01	6SB60Clr/16Ar/4Clr(VRD)					1.6	0.20	0.34	0.05	
<b>Tilt &amp; Turn Window - Triple Glazed</b>										
PAR-002-01	4/12/3/12/4	★★★★★	★★★★★☆☆	66%	75%	1.8	0.35	0.38	0.05	
PAR-002-001-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4Clr(VRD)					1.7	0.33	0.35	0.05	
PAR-002-02	4/12Ar/4S500/12Ar/4S500	★★★★★☆☆	★★★★★☆☆	71%	76%	1.4	0.31	0.33	0.05	
PAR-002-002-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4LightBridge(#5)					1.5	0.26	0.34	0.05	
PAR-002-03	4EG/12Ar/3/12Ar/4S500	★★★★★☆☆	★★★★★☆☆	78%	67%	1.5	0.19	0.29	0.05	
PAR-002-003-01	4Clr(VRD)/12Ar/4LightBridge(#3)/12Ar/4LightBridge(#5)					1.3	0.24	0.34	0.05	
PAR-002-04	4SB70XL/12Ar/3/12Ar/4ET	★★★★★	★★★★★☆☆	84%	65%	1.3	0.13	0.28	0.05	
PAR-002-05	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★☆☆	★★★★★☆☆	85%	65%	1.2	0.11	0.19	0.05	
<b>Bi-Fold Doors - Double Glazed</b>										
PAR-003-01	4/16/4	★★★★☆	★★★★★☆☆	52%	56%	2.4	0.51	0.54	0.21	
PAR-003-001-01	4Clr(VRD)/16Ar/4Clr(VRD)					2.4	0.51	0.53	0.21	
PAR-003-02	4Clr/16Ar/4	★★★★☆	★★★★★☆☆	52%	57%	2.4	0.51	0.54	0.21	
PAR-003-002-01	4Clr(VRD)/16Ar/4LightBridge(#3)					1.7	0.39	0.52	0.21	
PAR-003-03	4EA/16Ar/4	★★★★☆	★★★★★☆☆	61%	60%	1.8	0.43	0.50	0.21	
PAR-003-003-01	6SB60Clr/16Ar/4Clr(VRD)					1.7	0.26	0.47	0.21	

Continued overleaf



Paarhammer Pty Ltd - continued					Cool %	Heat %	Total Window - AFRC			
Updated 1-May-2019							Uw	SHGC	Tvw	Aif Inf
Window ID	Glazing	Cooling Stars	Heating Stars							
<b>Bi-Fold Doors - Triple Glazed</b>										
PAR-004-01	4/12/3/12/4	★★★★	★★★★★★	59%	60%	1.8	0.45	0.49	0.21	
PAR-004-001-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4Clr(VRD)					1.8	0.45	0.48	0.21	
PAR-004-02	4EA/12Ar/3Clr/12Ar/4EA	★★★★★	★★★★★★	67%	62%	1.2	0.37	0.42	0.21	
PAR-004-002-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4LightBridge(#5)					1.4	0.35	0.47	0.21	
PAR-004-03	4SB70XL/12Ar/3/12Ar/4ET	★★★★★★	★★★★★	82%	50%	1.1	0.17	0.36	0.21	
PAR-004-003-01	4Clr(VRD)/12Ar/4LightBridge(#3)/12Ar/4LightBridge(#5)					1.2	0.33	0.47	0.21	
PAR-004-04	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★☆	★★★★★	84%	49%	1.1	0.14	0.24	0.21	
<b>Sliding Door - Double Glazed</b>										
PAR-005-01	5/16/5	★★★★☆	★★★★★☆	53%	56%	2.4	0.50	0.54	0.31	
PAR-005-001-01	4Clr(VRD)/16Ar/4Clr(VRD)					2.3	0.52	0.55	0.31	
PAR-005-02	5EA/16Ar/5	★★★★☆	★★★★★★	61%	60%	1.7	0.43	0.50	0.31	
PAR-005-002-01	4Clr(VRD)/16Ar/4LightBridge(#3)					1.6	0.40	0.54	0.31	
PAR-005-003-01	6SB60Clr/16Ar/4Clr(VRD)					1.6	0.27	0.49	0.31	
<b>Sliding Door - Triple Glazed</b>										
PAR-006-01	5/12/3/12/5	★★★★	★★★★★★	60%	60%	1.8	0.45	0.49	0.31	
PAR-006-001-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4Clr(VRD)					1.7	0.46	0.50	0.31	
PAR-006-02	5EA/12Ar/3Clr/12Ar/5EA	★★★★★	★★★★★★	67%	63%	1.2	0.38	0.43	0.31	
PAR-006-002-01	4Clr(VRD)/12Ar/4Clr(VRD)/12Ar/4LightBridge(#5)					1.3	0.36	0.49	0.31	
PAR-006-03	4SB70XL/12Ar/3Clr/12Ar/4ET	★★★★★★	★★★★★	82%	50%	1.1	0.17	0.37	0.31	
PAR-006-003-01	4Clr(VRD)/12Ar/4LightBridge(#3)/12Ar/4LightBridge(#5)					1.1	0.34	0.48	0.31	
PAR-006-04	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★	★★★★★	84%	49%	1.0	0.15	0.25	0.31	
<b>Scandinavian Fir Sliding Door - Triple Glazed</b>										
PAR-007-01	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★☆	★★★★★	84%	50%	1.0	0.14	0.25	0.31	
<b>Scandinavian Fir Bi-Fold Door - Triple Glazed</b>										
PAR-008-01	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★☆	★★★★★	84%	49%	1.0	0.14	0.24	0.21	
<b>Scandinavian Fir Fixed Window - Triple Glazed</b>										
PAR-009-01	4/12Ar/3/12Ar/4	★★★★☆	★★★★★☆	55%	65%	1.7	0.52	0.56	0.05	
PAR-009-02	4PThrm/12Ar/3PThrm/12Ar/4PThrm	★★★★★★☆	★★★★★☆	79%	58%	0.8	0.23	0.40	0.05	
PAR-009-03	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★	★★★★★	83%	52%	0.9	0.16	0.28	0.05	
<b>Wood &amp; Aluminium Tilt &amp; Turn Window - Double Glazed</b>										
PAR-011-001-01	4Clr(VRD)/22Ar/4Clr(VRD)					2.1	0.35	0.36		
PAR-011-002-01	4Clr(VRD)/22Ar/4LightBridge(#3)					1.6	0.27	0.36		
PAR-011-003-01	6SB60Clr/20Ar/4Clr(VRD)					1.6	0.20	0.34		
<b>Wood &amp; Aluminium Tilt &amp; Turn Window - Triple Glazed</b>										
PAR-012-001-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4Clr(VRD)					1.6	0.33	0.35		
PAR-012-002-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4LightBridge(#5)					1.3	0.26	0.34		
PAR-012-003-01	4Clr(VRD)/16Ar/4LightBridge(#3)/16Ar/4LightBridge(#5)					1.2	0.24	0.34		
<b>Wood &amp; Aluminium Fixed Window - Double Glazed</b>										
PAR-013-001-01	4Clr(VRD)/22Ar/4Clr(VRD)					2.3	0.52	0.55		
PAR-013-002-01	4Clr(VRD)/22Ar/4LightBridge(#3)					1.5	0.40	0.54		
PAR-013-003-01	6SB60Clr/20Ar/4Clr(VRD)					1.5	0.27	0.49		
<b>Wood &amp; Aluminium Fixed Window - Triple Glazed</b>										
PAR-014-001-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4Clr(VRD)					1.6	0.47	0.50		
PAR-014-002-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4LightBridge(#5)					1.2	0.36	0.49		
PAR-014-003-01	4Clr(VRD)/16Ar/4LightBridge(#3)/16Ar/4LightBridge(#5)					1.0	0.34	0.48		

For further information on the Window Energy Rating Scheme go to <https://www.wers.net/wers-home>





The best of both worlds: energy efficient hardwood windows and doors with low maintenance exterior aluminium cladding. Made in Australia from plantation grown Victorian Ash timber and Australian glass with patented German hardware.



## Range inclusions

- Internal IV 68mm Victorian Ash frame, external aluminium cladding
- Custom made to almost any size and shape
- Triple glazed with 2x 16mm argon gas filled gap
- Double glazed with 1x 22mm argon gas filled gap
- German hardware fittings
- Pronounced joints
- Timber spray painted with low VOC paints or stains
- Aluminium powder-coated in large range of colours
- Timber and cladding separated by 3mm clip system to stop condensation and subsequent rot
- Noise reduction up to 43dB
- Standard industry warranties apply and 10 years warranty on glass
- Suitable for Passive House
- U-values from a very low 1.0

## Available in the range:

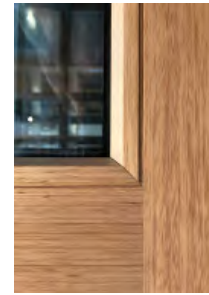
Windows: European style tilt & turn, fixed picture, clerestory/tilt, sliding, shapes

Doors: lift-slide sliding, giant lift-slide, stacker sliders, corner lift-slide, bi-fold, French, single hinged glass doors





High performance windows and doors, made in Australia from plantation grown Victorian Ash timber or FSC® certified timber and Australian glass with patented German hardware.



## Range inclusions

- Victorian Ash timber or FSC® certified Manilkara
- Custom made to almost any size and shape
- Frame thickness IV 78mm for triple glazed
- Frame thickness IV 68mm for double glazed
- Double glazed with 14-20mm argon filled airgap, depending on glass thickness
- Triple glazed with 2x 12-16mm argon-filled airgap, depending on glass thickness
- German hardware fittings, recessed mounted
- Flat joints
- Spray painted with low VOC paints or stains
- Timely delivery and installer training
- Industry warranties apply and 10 years warranty on glass
- Noise reduction standard 35dB, can be increased up to 45dB
- U-values from a very low 0.8
- Suitable for Passive House

## Available in the range:

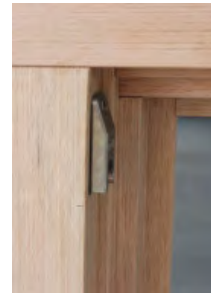
**Windows:** European style tilt & turn, fixed picture, clerestory/tilt, sliding, heritage, shapes

**Doors:** lift-slide sliding, giant lift-slide, stacker sliders, corner lift-slide, bi-fold, French, single hinged glass doors





Superior energy savings in domestic sized windows and doors, made in Australia from plantation grown Victorian Ash timber and Australian glass with patented German hardware.



## Range inclusions

- Victorian Ash timber or FSC® certified Manilkara
- Frame thickness: IV 68mm
- Custom made to 2.4m height
- Double glazed with 14-20mm airgap
- German hardware fittings, partly surface mounted
- Pronounced joints
- Spray painted with low VOC paints or stains
- Timely delivery – Installer training
- Standard industry warranties apply and 10 years warranty on glass
- Noise reduction up to 38dB
- U-values from a very low 1.8

## Available in the range:

**Windows:** European style tilt & turn, fixed picture, clerestory/tilt, sliding

**Doors:** lift-slide sliding, bi-fold, French, single hinged glass doors

## Komfortline

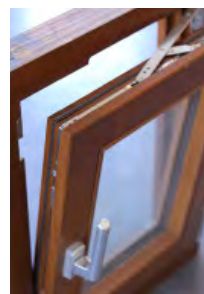
A great way for builders and savvy home owners to add value and achieve superior energy savings with paint-ready windows and doors.

**Range inclusions:** All inclusions as for Komfort+, however Komfortline is primed only and ready for painting.





Extremely high energy efficiency and very low air infiltration, European style, made in Australia. Choose from Wood-Alu and Architectural Timber windows and doors with triple glazing, soft coat low-E glass and extra seals



## Range inclusions

- Custom made to size and shape
- Frame thickness IV 78mm
- Triple glazed Low-E glass with 2x 14mm-16mm argon-filled airgap
- German hardware fittings, extra seals
- Spray painted with low VOC paints or lasur
- Timely delivery – link to installation videos supplied
- Industry warranties apply and 10 years warranty on glass
- Noise reduction up to 43dB
- U-values from a very low 0.8

## Available in the range:

**Windows:** European style tilt & turn, fixed picture, clerestory/tilt, sliding, heritage, shapes

**Doors:** lift-slide sliding, giant lift-slide, stacker sliders, corner lift-slide, bi-fold, French, single hinged glass doors

## Different U-value Certification Calculations

Windows around the world get tested and certified using different criteria. The Australian Fenestration Rating Council (AFRC) uses the North American National Fenestration Rating Council (NFRC) system. Europe uses ISO 10077-2 and ISO 15099, and in addition there is the Passive House Criteria and ift Rosenheim Directive WA15/2.

The important differences between the systems are:

- Boundary conditions
- Calculating solar heat gain (Solar Heat Gain Coefficient (SHGC))
- Methods of accounting for solar glass effects
- Reference sizes
- Installation values

According to the board of the AFRC, the base for a window assessment in Australia is as per ISO-15099. Climate protocol considering local conditions, which are different to the USA, Canada and Europe, must be included. In addition, a much smaller specimen type to that used in Europe is used in Australia as the base of the evaluation.

This gives a different U-value and SHGC to other countries. W/m<sup>2</sup>-K might be kW, but if other parameters are used the outcome will differ. NATHERS asks for 27 parameters (factors) for input to produce a window rating (this is before the window has been installed).

You can be certain that Australian made Paarhammer products will perform exactly like European imported windows and doors and will reach all Passive House requirements. In addition you will enjoy local backup, service and warranties.





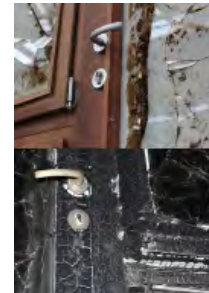
Paarhammer Pty Ltd - continued					Cool %	Heat %	Total Window - AFRC			
Updated 1-May-2019							Uw	SHGC	Tvw	Aif Inf
Window ID	Glazing	Cooling Stars	Heating Stars							
<b>Tilt &amp; Turn Window - Triple Glazed</b>										
PAR-002-01	4/12/3/12/4	★★★★★	★★★★★★★	66%	75%	1.8	0.35	0.38	0.05	
PAR-002-02	4/12Ar/4S500/12Ar/4S500	★★★★★☆	★★★★★★★	71%	76%	1.4	0.31	0.33	0.05	
PAR-002-03	4EG/12Ar/3/12Ar/4S500	★★★★★☆	★★★★★★★	78%	67%	1.5	0.19	0.29	0.05	
PAR-002-04	4SB70XL/12Ar/3/12Ar/4ET	★★★★★★★	★★★★★★★	84%	65%	1.3	0.13	0.28	0.05	
PAR-002-05	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★☆	★★★★★★★	85%	65%	1.2	0.11	0.19	0.05	
<b>Scandinavian Fir Fixed Window - Triple Glazed</b>										
PAR-009-01	4/12Ar/3/12Ar/4	★★★☆☆	★★★★★★★☆	55%	65%	1.7	0.52	0.56	0.05	
PAR-009-02	4PThrm/12Ar/3PThrm/12Ar/4PThrm	★★★★★☆☆	★★★★★★★☆	79%	58%	0.8	0.23	0.40	0.05	
PAR-009-03	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★	★★★★★★★	83%	52%	0.9	0.16	0.28	0.05	
<b>Bi-Fold Doors - Triple Glazed</b>										
PAR-004-01	4/12/3/12/4	★★★★	★★★★★★★	59%	60%	1.8	0.45	0.49	0.21	
PAR-004-02	4EA/12Ar/3Clr/12Ar/4EA	★★★★★	★★★★★★★	67%	62%	1.2	0.37	0.42	0.21	
PAR-004-03	4SB70XL/12Ar/3/12Ar/4ET	★★★★★★★	★★★★★★★	82%	50%	1.1	0.17	0.36	0.21	
PAR-004-04	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★☆	★★★★★★★	84%	49%	1.1	0.14	0.24	0.21	
<b>Scandinavian Fir Bi-Fold Door - Triple Glazed</b>										
PAR-008-01	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★☆☆	★★★★★★★	84%	49%	1.0	0.14	0.24	0.21	
<b>Sliding Door - Triple Glazed</b>										
PAR-006-01	5/12/3/12/5	★★★★	★★★★★★★	60%	60%	1.8	0.45	0.49	0.31	
PAR-006-02	5EA/12Ar/3Clr/12Ar/5EA	★★★★★	★★★★★★★	67%	63%	1.2	0.38	0.43	0.31	
PAR-006-03	4SB70XL/12Ar/3Clr/12Ar/4ET	★★★★★★★	★★★★★★★	82%	50%	1.1	0.17	0.37	0.31	
PAR-006-04	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★	★★★★★★★	84%	49%	1.0	0.15	0.25	0.31	
<b>Scandinavian Fir Sliding Door - Triple Glazed</b>										
PAR-007-01	4SB70XL/12Ar/3SB70XL/12Ar/4SB70XL	★★★★★★★☆☆	★★★★★★★	84%	50%	1.0	0.14	0.25	0.31	
<b>Wood &amp; Aluminium Tilt &amp; Turn Window - Triple Glazed</b>										
PAR-012-001-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4Clr(VRD)					1.6	0.33	0.35		
PAR-012-002-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4LightBridge(#5)					1.3	0.26	0.34		
PAR-012-003-01	4Clr(VRD)/16Ar/4LightBridge(#3)/16Ar/4LightBridge(#5)					1.2	0.24	0.34		
<b>Wood &amp; Aluminium Fixed Window - Triple Glazed</b>										
PAR-014-001-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4Clr(VRD)					1.6	0.47	0.50		
PAR-014-002-01	4Clr(VRD)/16Ar/4Clr(VRD)/16Ar/4LightBridge(#5)					1.2	0.36	0.49		
PAR-014-003-01	4Clr(VRD)/16Ar/4LightBridge(#3)/16Ar/4LightBridge(#5)					1.0	0.34	0.48		

Please note: Star ratings for Wood-Alu products are not yet available from WERS.





Safety for all Bushfire Attack Levels (BAL's), including BAL-FZ, without the need for shutters. Tested, approved, compliant.



## Range inclusions

- Custom made, size limitations apply
- Frame made from self-extinguishing, FSC® certified, Manilkara Bidentata
- Double glazed with special fire protection glazing
- German hardware fittings
- Oiled once with Cutec wood preservative, or low VOC spray-painted or stained in the colour of your choice by request
- U-values from a very low 1.4
- Ember / flyscreens for all windows as per Australian Standard
- Suitable for Passive House
- Tested, approved and compliant to all relevant Australian Standards
- Compliance certification supplied with windows and doors

## Available in the range:

**BAL-40 Windows:** European style tilt & turn, fixed picture, clerestory/tilt, sliding, shapes

**BAL-40 Doors:** French, bi-fold and lift-slide doors, single hinged glass doors

**BAL-FZ Windows:** European style tilt & turn, fixed picture, clerestory/tilt, sliding, shapes

**BAL-FZ Doors:** French doors, lift-slide doors, single hinged glass doors

**-/60/- Party Wall Windows:** Fixed panes only for shared or adjoining walls, please contact us for details

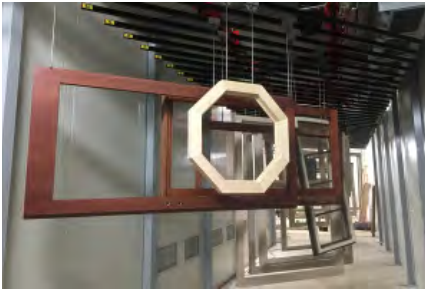




### Timber:

At Paarhammer, we are deeply committed to a sustainable future and we only use timbers from sustainable sources and certified to AFS, PEFC or FSC® in the manufacture of our windows and doors.

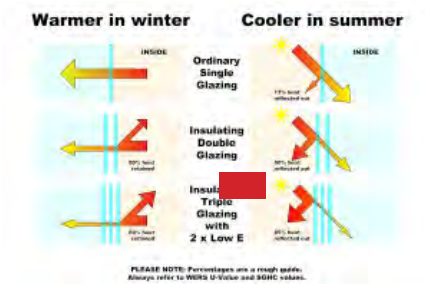
Paarhammer is also FSC® Chain-of-Custody certified and these products comply with the highest social and environmental standards on the market.



### Low VOC Finishes:

In a state-of-the-art spray booth, windows and doors are spray painted or stained in the colour of your choice before all the seals, hardware and glass are installed.

All paint used is water based and does not contain harmful substances. The paint is non-toxic with low Volatile Organic Compounds (low VOC's). Paarhammer also offers the Komfortline Range which is primed only and ready for your own painting.



### Glazing Matters:

Paarhammer double glazed products have 2 panes of glass (various glass combinations can be used) with a sealed space 14-20mm in between - usually filled with argon gas to provide even better insulation properties.

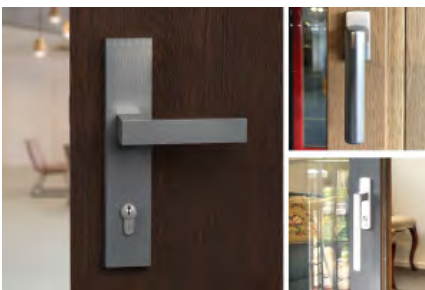
Triple glazed products have 3 panes of glass (various glass combination can be used) with sealed spaces of twice 12-16mm, argon gas filled. Whole window U-values start from a very low 0.8 (WERS - Window Energy Rating Scheme).



### Superior Hardware:

Paarhammer windows and doors use an exclusive range of premium European hardware.

Paarhammer's affiliated company Siegware is the exclusive Australian agent for the world leading German made Siegenia tilt and turn hardware and supplies a range of window and door fittings to the trade. This ensures that Paarhammer has access to the latest technology.



### Handles:

Choose from a variety of premium handles for our range of windows, doors, sliding doors and entrance doors.

In fact, every order of windows and/or doors is accompanied by a specification document with colour photographs of the handles you have chosen for your reference. Special handles to suit your decor can be ordered on request. A comprehensive flyer is available in *Downloads*.



### More Security:

Quality doors and windows by Paarhammer provide a strong impediment and put up resistance. In addition to providing excellent thermal and draft reduction properties, Paarhammer's unique framing and hardware lock tight with the secure multi-point locking system for peace of mind. The patented metal-to-metal locking is spaced around the frame and securely fastens the sash into the frame. Entry doors have extra security features like hooks on multi-point locks. Also, additional hardware components are available for a multitude of security and comfort needs.



### Ready for Automation:

High-quality technology makes houses more intelligent. Automation options give you the opportunity to control your windows and doors from wherever you are.

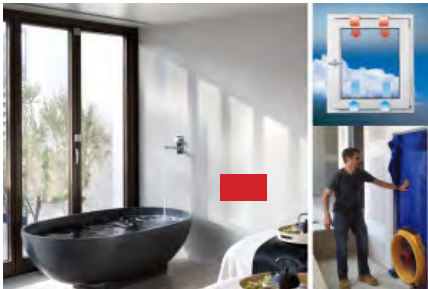
Smart locks, motordrives and many other smart fittings can be incorporated into Paarhammer doors and windows. Some of the operating and monitoring systems are also wireless and can be retrofitted. All are designed to be stand alone or incorporated into a home security system, operated via keypad, fingerprint, remote control or mobile phone.



### Unique Framing and Seals:

Paarhammer windows and doors achieve their outstanding energy efficiency through the unique European style double rebate framing system that can incorporate multi-level seals and multi-point locking hardware for an airtight fit.

Laminated hardwood with mortise and tennon joints provides stability and strength.



### No Drafts:

Draft is the enemy of achieving energy savings. We understand that achieving excellent energy ratings goes beyond double or triple glazing - it's also in the framing and sealing, and installation.

Windows and doors provide views, natural light and fresh air, but they can also allow heat to enter in summer, and the cold in winter. Paarhammer window and door systems have extremely low air infiltration, from 0.05, and can save up to 84% of your energy costs. See WERS in *Downloads*.



### No Noise:

While we are prepared to tolerate a level of noise during our daily activities, we all value a peaceful and relatively quiet home life. Noisy neighbours, loud radios or constant street or aeroplane noise can be very distressing and can even lead to ill health.

Paarhammer windows and doors have been tested by CSIRO with excellent results. Our standard double-glazed products feature a noise protection of 35dB, those made for sound protection are 40-42dB. Can be increased to 45dB if required.



### Flyscreens:

With Paarhammer windows and doors you can order flyscreens which will keep flies outside where they belong.

Fix mounted screens, sliding and hinged screens, retractable screens and screens for heritage timber windows can be custom made for your Paarhammer windows and doors with a variety of mesh options.