



LOW-E

Double Glazing

2022 Update

Residential

H1 Glazing Guidance

Welcome to a new world of comfort and energy efficiency!



From September 2022, we will be offering a new range of Low-E glass solutions that will align perfectly with the increased windows and glazing standards outlined within the New Zealand Building Code H1 energy efficiency.

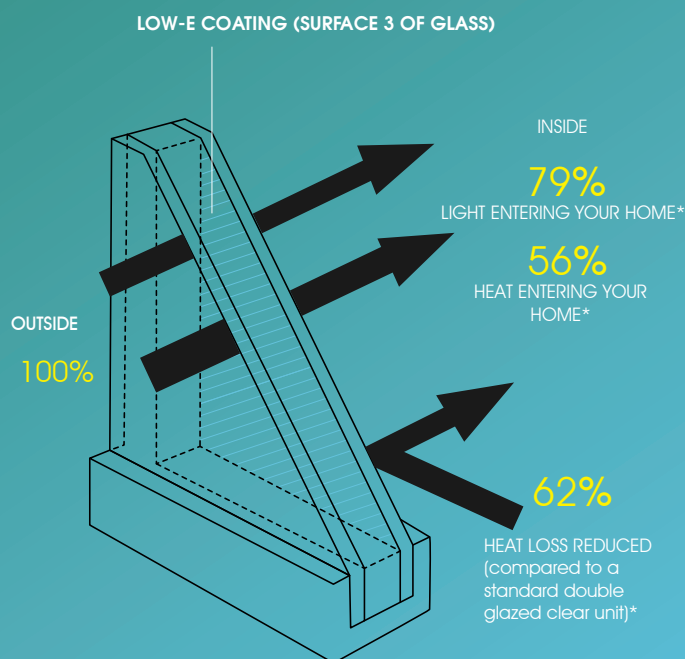
New Window and Glass Requirements for 2022 and beyond

The Ministry of Business, Innovation and Employment (MBIE) recently announced that the new H1 Building Code changes to ensure all homes in New Zealand will be warmer, drier, healthier and more comfortable. To ensure you have the right combination of glass and windows, our team has created three tables that will assist you and your loved ones make the right choice for your home.

The three stages of implementation

Instead of changes happening immediately, MBIE has outlined there will be three stages:

- November 2022:**
Throughout New Zealand an R Value of 0.37 is required.
- May 2023:**
Excluding the upper North Island, the R Value will increase. Zones 3-4 will be R0.46, and zones 5-6 will require R0.50.
- November 2023:**
Climate zones 1, 2, 3, and 4 will need an R Value of 0.46. Climate zones 5 and 6 will need an R Value of 0.50



*Based on 4mm LightBridge1.1 / 14mm Argon / 4mm clear) U Value to EN673 and the rest of data to NFRC 2010

Glass Guides for Climate Zones

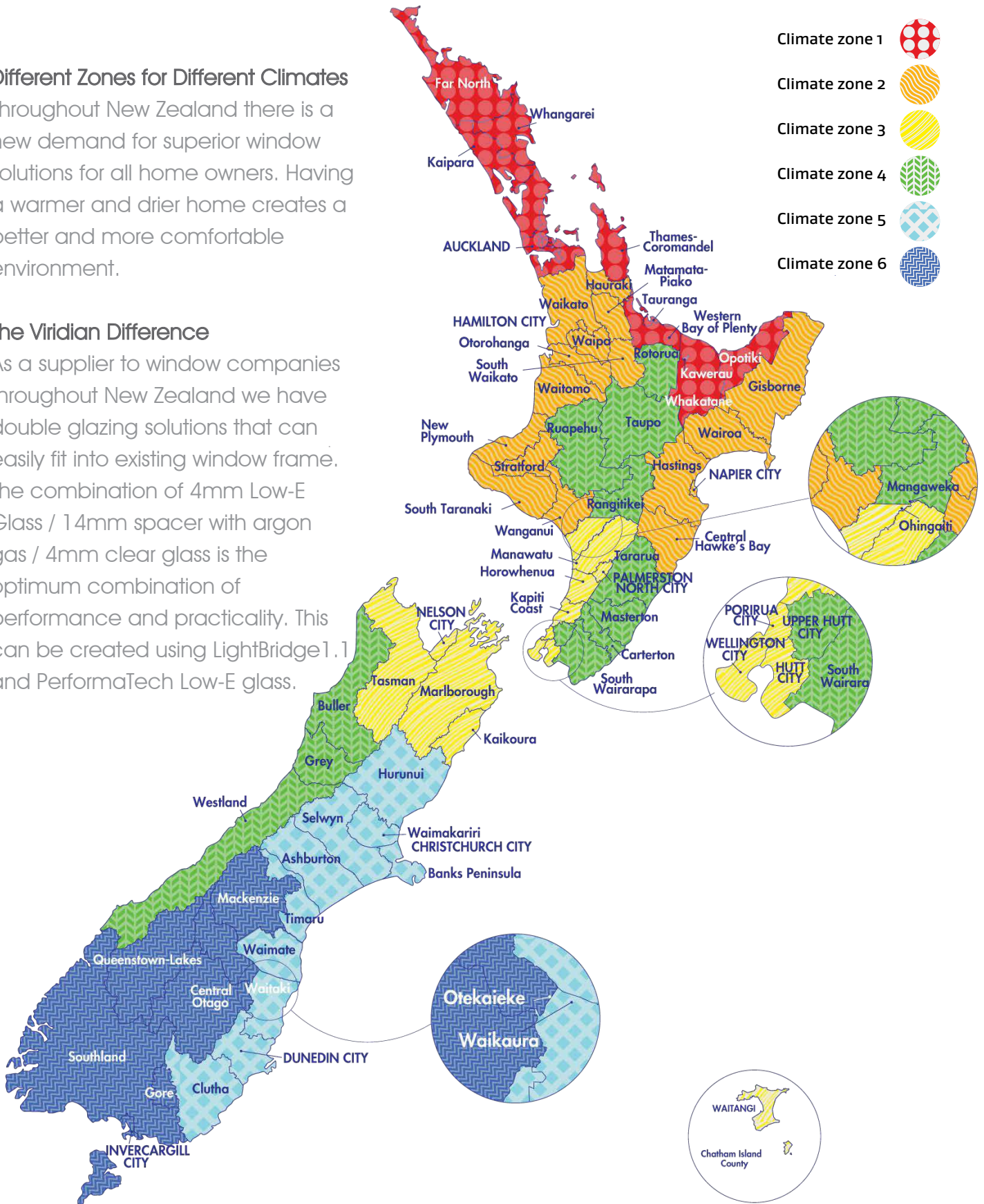


Different Zones for Different Climates

Throughout New Zealand there is a new demand for superior window solutions for all home owners. Having a warmer and drier home creates a better and more comfortable environment.

The Viridian Difference

As a supplier to window companies throughout New Zealand we have double glazing solutions that can easily fit into existing window frame. The combination of 4mm Low-E Glass / 14mm spacer with argon gas / 4mm clear glass is the optimum combination of performance and practicality. This can be created using LightBridge 1.1 and PermaTech Low-E glass.



For Residential Windows and Doors



Glazing Solution (4mm glass / 14mm thermal spacer with argon gas / 4 mm glass)

Throughout New Zealand the Viridian Glass Technical Team have compiled a list of compliant glazing solutions based on the joinery selected as well as the type of glass you would require. You will notice that as the changes by MBIE are implemented, the choices for your glass and glazing are focused towards more energy efficient solutions.

H1/AS1 All housing & building ≤ 300m² - 3rd November 2022

Zone	PerformaTech™				LightBridge 1.1™				EnergySaver™				Clear/Clear			
	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber
1	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
3	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
4	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
5	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
6	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓

H1/AS1 All housing & building ≤ 300m² - 1st May 2023

Zone	PerformaTech™				LightBridge 1.1™				EnergySaver™				Clear/Clear			
	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber
1	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓
3	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
4	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
5	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
6	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-

H1/AS1 All housing & building ≤ 300m² - 2nd November 2023

Zone	PerformaTech™				LightBridge 1.1™				EnergySaver™				Clear/Clear			
	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber	Aluminium	Thermally Broken Aluminium	uPVC	Timber
1	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
2	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
3	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
4	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
5	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-
6	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-	-	-	-



LightBridge 1.1™ New Product for 2022



LightBridge 1.1™ with clear glass

WEERS Energy Rating**

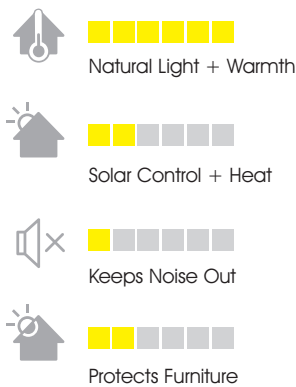


Key features:

- Premium Low-E glass
- Thermal spacer
- Looks similar to clear IGU
- Reduce heat loss by **62%** compared to ordinary double glazing

*Based on an IGU combination of 4mm LightBridge 1.1 / 14mm spacer with argon gas / 4mm Clear. U Value to EN673 and the rest of data to NFRC 100-2010

Benefits Indicator



LightBridge 1.1™ with tinted glass

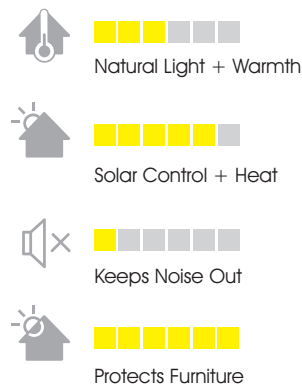
WEERS Energy Rating**



Key features:

- Premium Low-E glass
- Darker than ordinary double glazing
- Reduce heat loss by **62%** compared to ordinary double glazing
- Keeps your house cooler in summer and warmer in winter

Benefits Indicator



LightBridge 1.1™ with VLam Clear

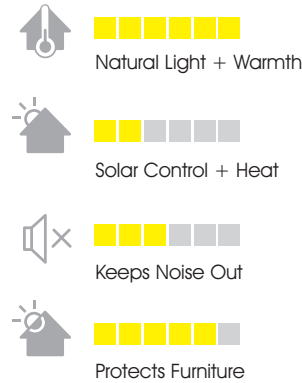
WEERS Energy Rating**



Key features:

- Looks similar to LightBridge™ with clear glass with the additional benefit:
- Blocks **99%** of UV light rays, which can slow down furniture fading

Benefits Indicator



LightBridge 1.1™ with VLam Silence

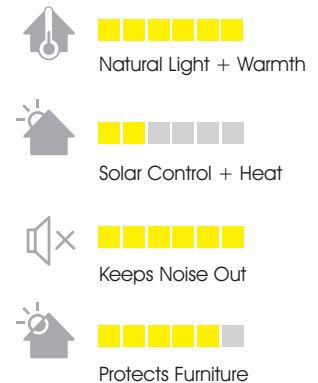
WEERS Energy Rating**



Key features:

- Looks similar to LightBridge™ with clear glass with the additional benefit:
- Blocks **99%** of UV light rays, which can slow down furniture fading
- Significantly reduce unwanted noise

Benefits Indicator



LightBridge 1.1™

Maximise light and heat in your home

62%

Heat Loss Reduced*

79%

Light Transparency*



PermaTech™



PermaTech™ with clear glass

WEERS Energy Rating**: ★★★★★★

Key features:

- Premium Low-E glass + argon gas + thermal spacer
- Neutral colour compared to ordinary glass
- Reduce heat loss by **62%** compared to ordinary double glazing
- Keeps your house cooler in summer and warmer in winter

*Based on an IGU combination of 4mm PermaTech / 14mm spacer with argon gas / 4mm Clear. U Value to EN673 and the rest of data to NFRC 100-2010

Benefits Indicator



PermaTech™ with clear laminated glass

WEERS Energy Rating**: ★★★★★★

Key features:

- Premium Low-E glass + argon gas + thermal spacer
- Neutral colour compared to ordinary glass
- Reduce heat loss by **62%** compared to ordinary double glazing
- Keeps your house cooler in summer and warmer in winter
- Blocks **99%** of UV light rays, which can slow down furniture fading

Benefits Indicator



PermaTech™ with Vlam Silence

WEERS Energy Rating**: ★★★★★★

Key features:

- Premium Low-E glass + argon gas + thermal spacer
- Neutral colour compared to ordinary glass
- Reduce heat loss by **62%** compared to ordinary double glazing
- Keeps your house cooler in summer and warmer in winter
- Blocks **99%** of UV light rays, which can slow down furniture fading
- Cut down unwanted noise

Benefits Indicator



PermaTech™

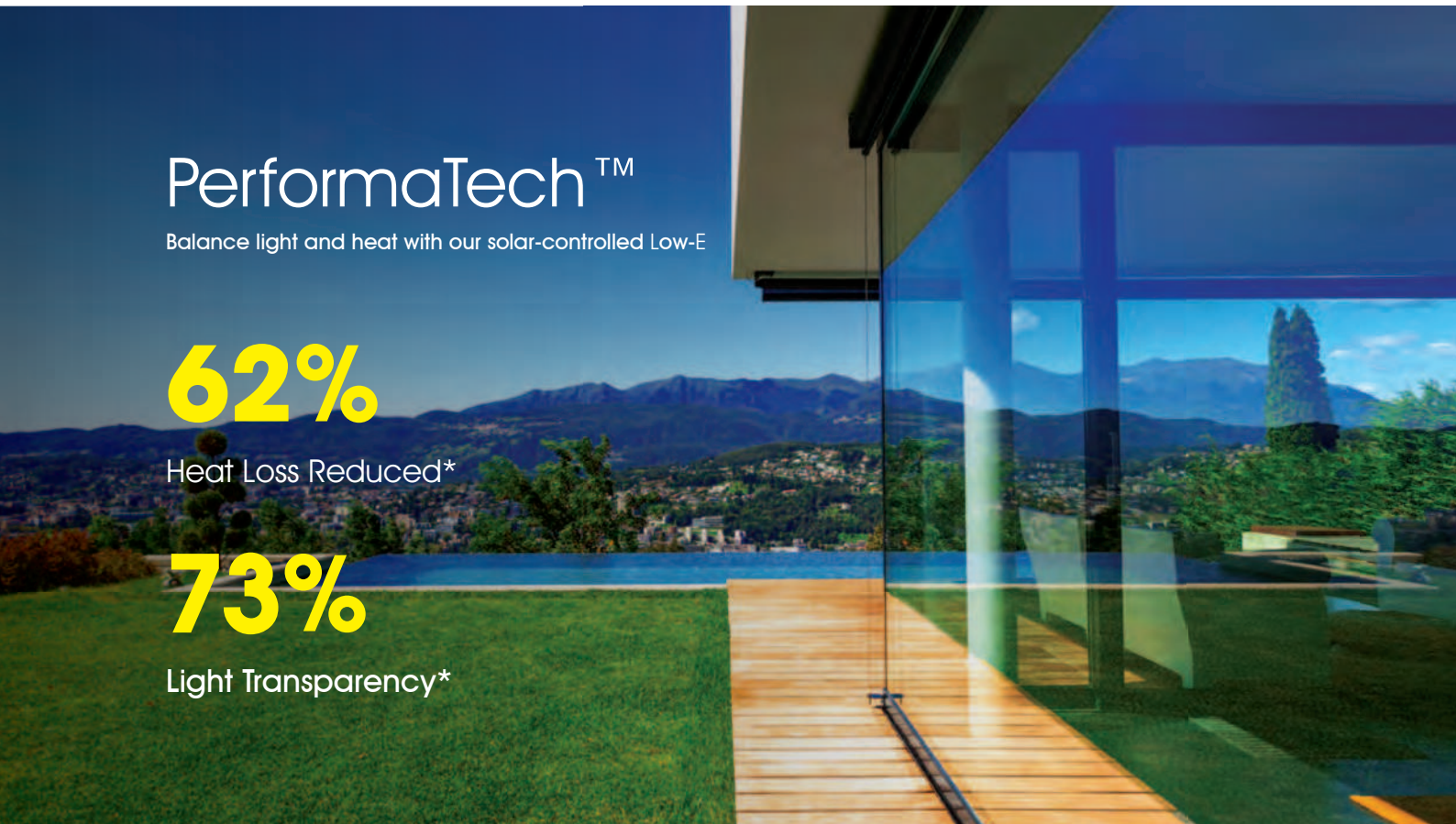
Balance light and heat with our solar-controlled Low-E

62%

Heat Loss Reduced*

73%

Light Transparency*



Find the Right Glass for Your Home Now!



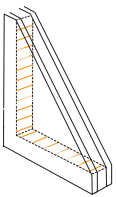
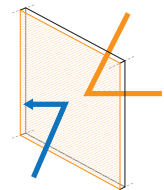
The Glazing Selector has been designed with you in mind. If you want to choose the right glass for your home based on the environment you want to create, simply use the camera on your phone and scan the QR code below. Or, visit us at: glazingselector.co.nz



Important Definitions

Low E Coating

A Low-E coating is a clear metallic coating that is applied to the glass. This coating traps the heat by reflecting off the glass and back into your room allowing for a warmer and more comfortable living space.

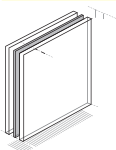
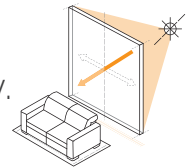


Argon Gas + Thermal Spacer

Argon gas has been included in all LightBridge 1.1™ and PerformaTech™ glass units. Argon gas is an inert, non-toxic gas that is more dense than oxygen, making it harder for heat to escape. A thermal spacer creates an excellent thermal barrier between the two panes of glass instead of a metal spacer.

Reduced Rate of UV Fading

The interlayer of VLam Clear™ slows the affects of fading in your home by blocking 99.9% of UV.



Reduce External Noise

VLam Hush™ has a specially developed interlayer to dampen noise, providing enhanced sound insulation performance.

**WEERS Energy Rating System

A 6-star rating system for assessing the complete window system. WEERS combines the thermal performance of the glass, joinery and the size of the window. WEERS rating for LightBridge 1.1™ and Performatech™ are based on thermally broken window frames.



Technical Specification



EnergySaver™

Save energy with an entry-level Low-E glass

	Heat loss & condensation	Visibility & Glare			Heat Gain		Fading
Make-up (Includes metal spacer and argon gas)	U Value (This is a measure of thermal performance. The lower the number, the better the glass performs).	Visible Light Transmission	VLR-E	VLR-I	SF	SC	Tdw-ISO
			External Reflectance	Internal Reflectance	Solar heat gain co-efficient	Shading co-efficient	
4mm/ 14 /4mm	1.7	77%	20%	21%	74%	0.85	0.69
4mm/ 16 /4mm	1.7	77%	20%	21%	74%	0.85	0.69

LightBridge 1.1™

Maximise light and heat in your home

	Heat loss & condensation	Visibility & Glare			Heat Gain		Fading
Make-up (Includes thermal spacer and argon gas)	U Value (This is a measure of thermal performance. The lower the number, the better the glass performs).	Visible Light Transmission	VLR-E	VLR-I	SF	SC	Tdw-ISO
			External Reflectance	Internal Reflectance	Solar heat gain co-efficient	Shading co-efficient	
4mm/ 14 /4mm	1.1	79%	15%	14%	56%	0.65	0.65
4mm/ 16 /4mm	1.1	79%	15%	14%	56%	0.65	0.65

PerformaTech™

Control light and heat in your home

	Heat loss & condensation	Visibility & Glare			Heat Gain		Fading
Make-up (Includes thermal spacer and argon gas)	U Value (This is a measure of thermal performance. The lower the number, the better the glass performs).	Visible Light Transmission	VLR-E	VLR-I	SF	SC	Tdw-ISO
			External Reflectance	Internal Reflectance	Solar heat gain co-efficient	Shading co-efficient	
4mm/ 14 /4mm	1.1	73%	13%	14%	35%	0.40	0.53
4mm/ 16 /4mm	1.1	73%	13%	14%	35%	0.40	0.53