

2023 Update

# LOW-E

Double Glazing



# Welcome to a new world of comfort and energy efficiency!



Our new range of Low-E glass solutions align perfectly with the increased window and glazing standards outlined within the New Zealand Building Code, H1 Energy Efficiency.

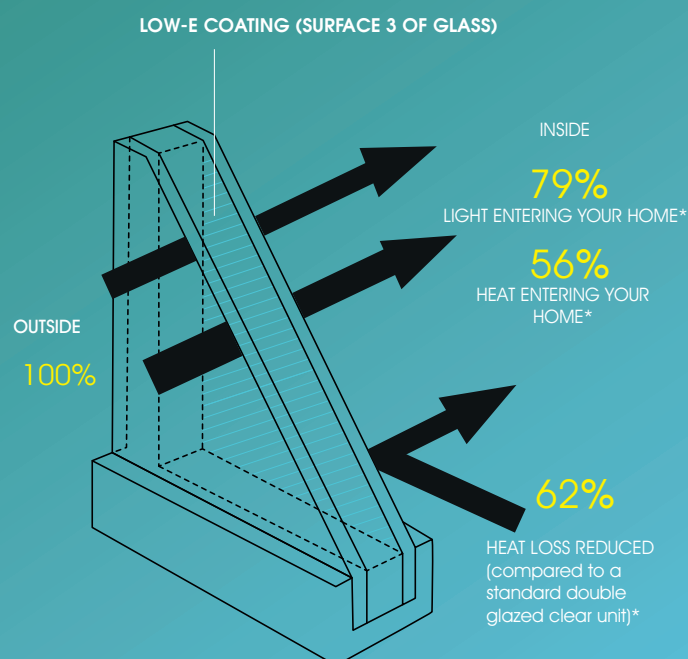
## New Window and Glass Requirements for 2022 and beyond

The Ministry of Business, Innovation and Employment (MBIE) recently announced new changes to ensure that homes built 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 summarised the information for you below in, "The three stages of implementation".

### 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 clear glass / 14mm spacer with argon gas / 4mm LightBridge1.1). U Value to ENC673 and the rest data to NFRC 2010

# Glass Guides for Climate Zones

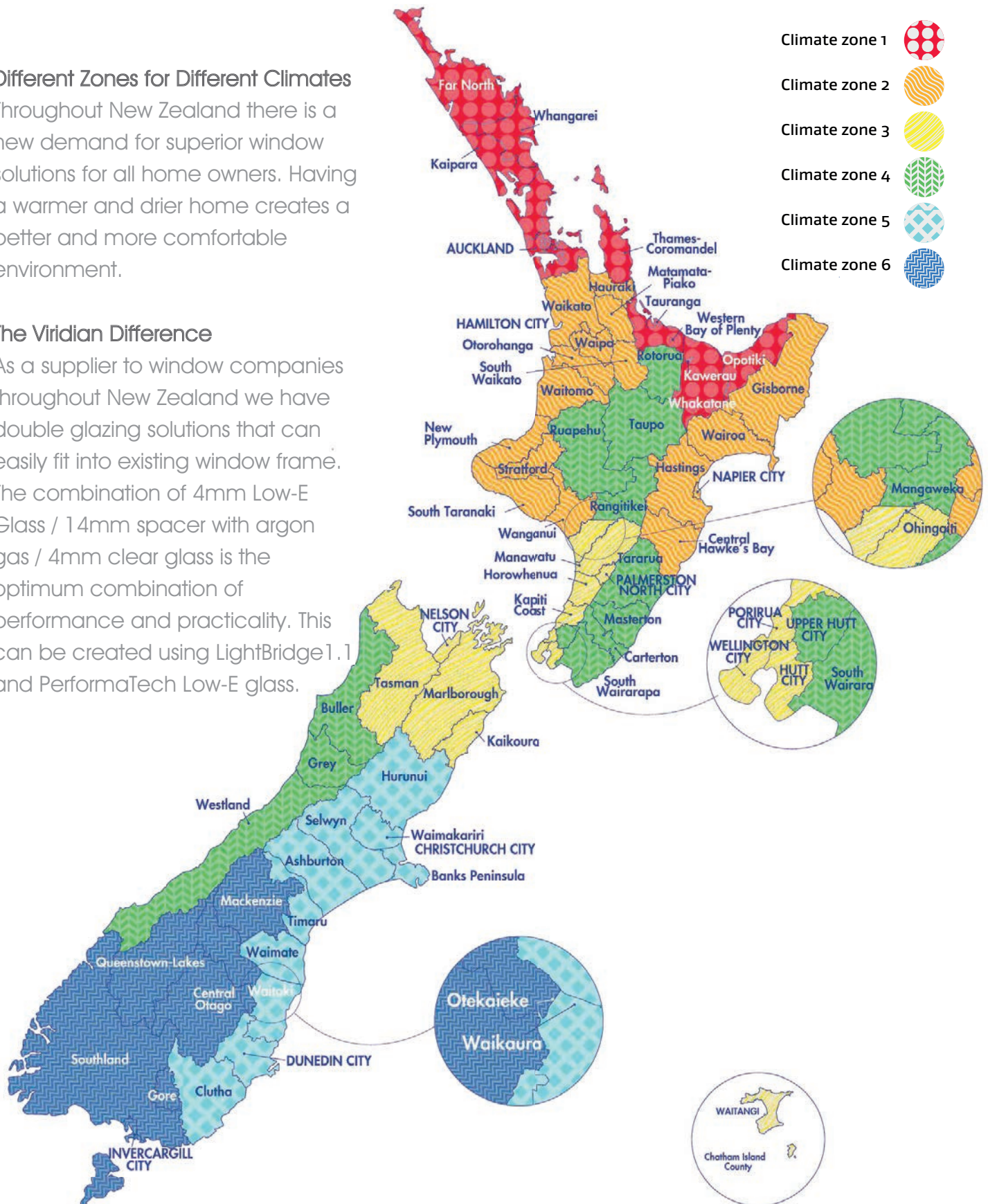


## Different Zones for Different Climates

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.



# H1 Energy Efficiency Acceptable Solutions



The H1 Energy Efficiency standards in New Zealand are continuously updated and refined to align with international best practices and evolving technologies. This ensures that the nation remains at the forefront of energy-efficient practices, enabling a greener and more sustainable future for generations to come. Below are the current acceptable solutions for windows and doors in New Zealand.

H1 ENERGY EFFICIENCY Acceptable Solution H1/AS1						
Energy efficiency for all housing, and buildings up to 300m <sup>2</sup>						
<b>TABLE 2.1.2.2B:</b> Minimum construction R-values for building elements that do not contain embedded heating settings Paragraph 2.1.2.2b						
Building Element	Construction R-values (m <sup>2</sup> K/w) <sup>(1)</sup>					
	Climate Zone 1	Climate Zone 2	Climate Zone 3	Climate Zone 4	Climate Zone 5	Climate Zone 6
Windows and doors <sup>(3)</sup>	R0.46 <sup>(3)</sup>	R0.46 <sup>(3)</sup>	R0.46	R0.46	R0.50	R0.50
Skylights	R0.46	R0.46	R0.54	R0.54	R0.62	R0.62
Options	Climate Zone					
	1	2	3	4	5	6
Windows and doors						
Previous minimum requirement:	R0.26					
3 November 2022		R0.37		R0.37		R0.37
1 May 2023		R0.37		R0.46		R0.50
2 November 2023		R0.46		R0.46		R0.50
H1 ENERGY EFFICIENCY Acceptable Solution H1/AS2						
Energy efficiency for buildings greater than 300m <sup>2</sup>						
<b>TABLE 2.1.2.2B:</b> Minimum construction R-values for building elements that do not contain embedded heating settings Paragraph 2.1.2.2b, 2.1.3.11						
Building Element	Construction R-values (m <sup>2</sup> K/w) <sup>(1)</sup>					
	Climate Zone 1	Climate Zone 2	Climate Zone 3	Climate Zone 4	Climate Zone 5	Climate Zone 6
Windows and doors <sup>(3)</sup>	R0.33	R0.33	R0.37	R0.37	R0.40	R0.42
Skylights	R0.42	R0.42	R0.46	R0.46	R0.49	R0.51



# 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 ≤ 300m<sup>2</sup> - 3rd November 2022

Zone	PerfomaTech™				LightBridge1.1™				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 ≤ 300m<sup>2</sup> - 1st May 2023

Zone	PerfomaTech™				LightBridge1.1™				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 ≤ 300m<sup>2</sup> - 2nd November 2023

Zone	PerfomaTech™				LightBridge1.1™				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



## LightBridge 1.1™ with clear glass

WEERS Energy Rating\*\*

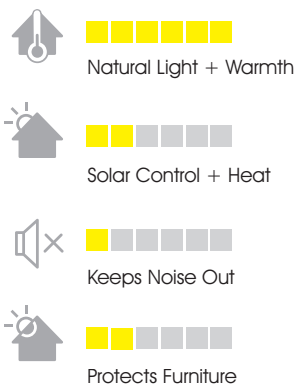


Key features:

- 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

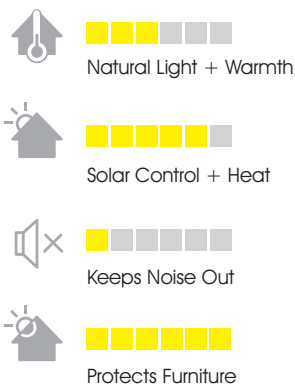
WEERS Energy Rating\*\*



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

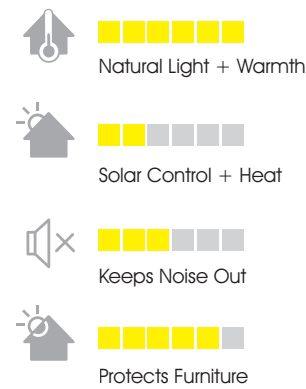
WEERS Energy Rating\*\*



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

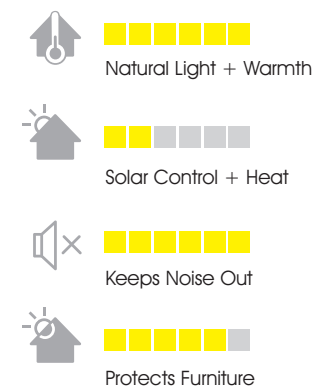
WEERS Energy Rating\*\*



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\*



# PerformaTech™



## PerformaTech™ with clear glass

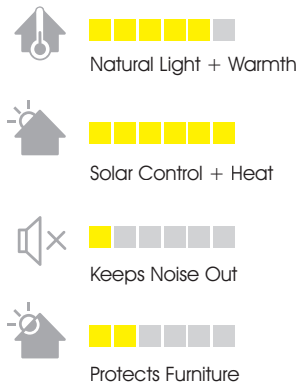
WEERS Energy Rating\*\* : ★★★★★★

### 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 PerformaTech / 14mm spacer with argon gas / 4mm Clear. U Value to EN673 and the rest of data to NFRC 100-2010

### Benefits Indicator



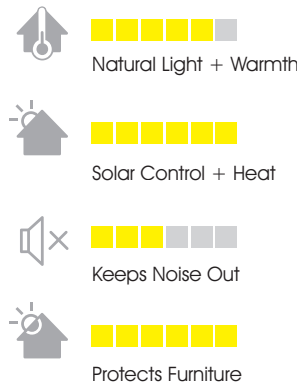
## PerformaTech™ with clear laminated glass

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



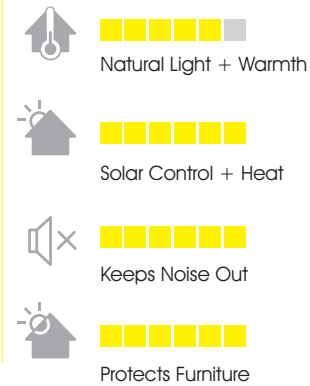
## PerformaTech™ with Vlam Silence

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



# PerformaTech™

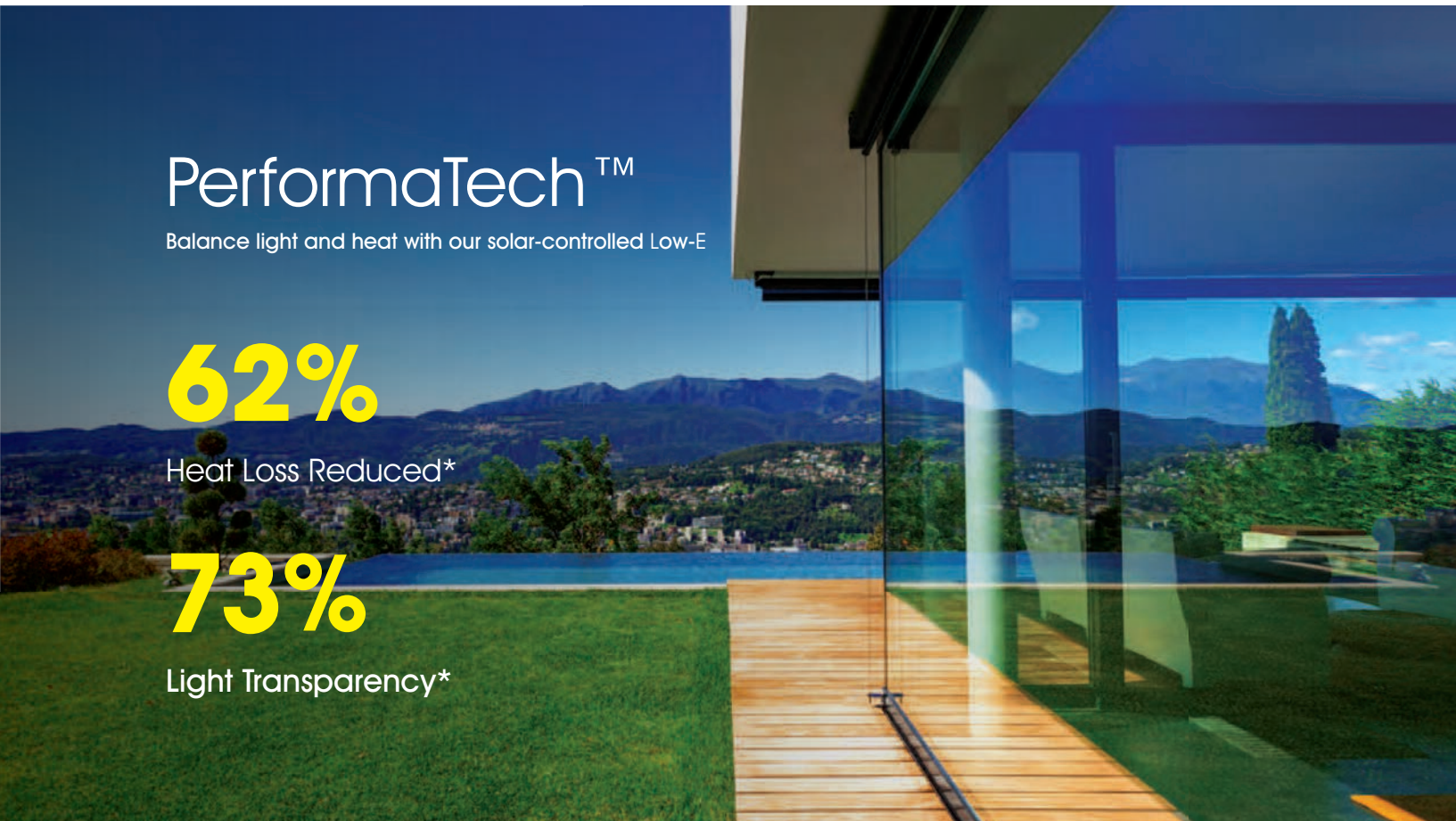
Balance light and heat with our solar-controlled Low-E

**62%**

Heat Loss Reduced\*

**73%**

Light Transparency\*





# Technical Specification



## EnergySaver™

Save energy with an entry-level Low-E glass

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

## LightBridge 1.1™

Maximise light and heat in your home

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

## PerformaTech™

Control light and heat in your home

Make-up (Includes thermal spacer and argon gas)	Heat loss & condensation  U Value (This is a measure of thermal performance. The lower the number, the better the glass performs).	Visibility & Glare			Heat Gain		Fading  Tdw-ISO
		Visible Light Transmission	VLR-E  External Reflectance	VLR-I  Internal Reflectance	SF  Solar heat gain co-efficient	SC  Shading co-efficient	
4mm/ 14 /4mm	1.0		73%	13%	14%	35%	0.40
4mm/ 16 /4mm	1.0	73%	13%	14%	35%	0.40	0.53

## Find the Right Glass for Your Home!

Simply use the camera on your phone and scan the QR code. Or, visit us at: [glazingselector.co.nz](http://glazingselector.co.nz)

