

# Viridian PyroGuard 40™



Fire Protection

**Viridian**<sup>™</sup>  
New World Glass

Bushfire Resistant Glass

[viridianglass.com](http://viridianglass.com)

**CSR**

# Protecting people and property against bushfire attack



Viridian **PyroGuard 40™** bushfire resistant glass has been designed specifically for use in Australia's bushfire prone areas to help protect both human life and property.

Recent changes incorporated in to 'AS3959; Building in Bushfire Prone Areas' have provided, for the first time, specific glazing solutions for both window and door applications across the full range of Bushfire Attack Levels (BAL).

One way of satisfying the building requirements as set out in AS3959 is by following a series of specific, yet very prescriptive, glass and glazing options for a broad range of applications across each BAL.

However, as the glazing requirements change as the BAL moves through BAL 12.5 through BAL 40, one thing remains consistent in the stated glazed assembly provisions; the need for the glazed assembly to be protected by bushfire resistant

shutters and/or specific metal screens. For many consumers the presence of either or both of these elements provides an unsightly, and for many an undesirable, additional feature to the buildings external appearance.

What AS3959 does provide for however is a provision for specifically tested and certified window systems to be used in lieu of the applicable glazed assembly requirements.

By successfully completing the bushfire resistant test procedures as outlined in AS1530.8.1, window systems can be installed without the need for either bushfire resistant shutters and/or specific metal screens.



# Introduction

## A new standard in bushfire safety

Viridian **PyroGuard 40™** bushfire resistant glass is designed to help home owners balance the need for bushfire safety with aesthetic freedom and the increasing requirements for energy efficiency demanded by the Building Code.

When glazed as part of a glazing system which has been successfully tested to the requirements of AS1530.8.1, Viridian PyroGuard 40 is suitable to be used for all Bushfire Attack Levels (BAL) up to and including BAL 40.

## Barrier to radiant heat

The special ultra-thin transparent coating within Viridian PyroGuard 40 minimises the transfer of radiant heat from the bushfire front through the glass unit to the inside of your building. In fact, even when subjected to radiation levels of 40 kW/m<sup>2</sup>, less than 3% of the radiant heat is transferred through a window glazed with Viridian PyroGuard 40. This not only protects combustible materials such as curtains and furnishings within the home, but helps to provide further protection for the occupants of the home itself. The high radiation levels of a bushfire flame front normally only last for a short period. They rise to a peak as the front nears the building, reducing at a similar rate as the front moves away.



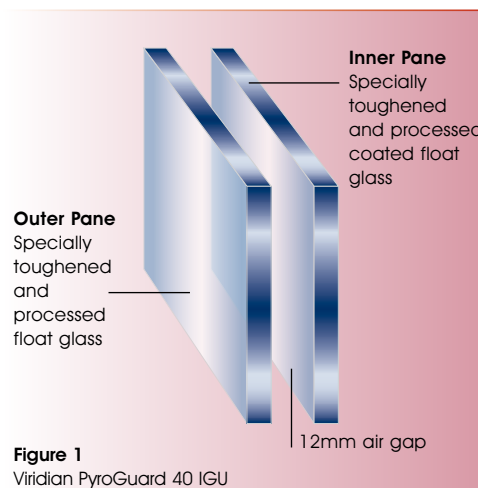
Viridian PyroGuard 40 is not designed to be used in BAL FZ, but specifically to help defend people and property from the effects of ember attack and the radiant heat created by the bushfire up to and including BAL 40. This will depend on the intensity of the fire and other naturally occurring factors.

## Maintains Integrity

Traditionally, glass in windows has been perceived to be a relatively weak structural element of a house when faced with a bushfire flame front; standard clear window glass failing to provide an adequate barrier to either the radiant heat of the fire or from flying embers.

When glazed as part of a specially tested bushfire resistant window system or glazed assembly, Viridian PyroGuard 40 is much more likely to maintain its integrity, and therefore provide protection from radiant heat and ember attack as the bushfire flame front passes.

This is because Viridian PyroGuard 40 incorporates specially processed, high quality Viridian float glass products encapsulated within a Viridian Insulated Glass Unit (IGU). Viridian PyroGuard 40 works in conjunction with framing profile within which it is glazed to provide the highest levels of overall bushfire protection for up to and including BAL 40.



**Figure 1**  
Viridian PyroGuard 40 IGU

## Peace of mind with bushfire protection

Bushfires are natural phenomena and as such are highly unpredictable in their intensity, duration and progress. The ability of a house to survive a passing bushfire is not solely dependent on the ability of glass used in windows and doors to withstand radiant heat. A number of other factors are critical, including wall cladding, roofing material and absence of combustible material near the house.

Until now there has been no readily acceptable glazing solution available which combines not just proven additional bushfire resistance, but also a broad range of energy efficient and sustainable performance solutions.

Window systems glazed with Viridian PyroGuard 40™ have passed the rigorous testing procedures documented in AS1530.8.1. Such window systems can be installed without the need for either bushfire resistant shutters or specific metal screens. This provides additional performance and benefits for the buildings inhabitants plus the design and aesthetic freedom, not to say the superior views, often associated with buildings in bushfire prone areas.

The AS1530.8.1 test procedure performed on window systems incorporating Viridian PyroGuard 40 has been specifically designed to simulate both the radiant heat effects of the passing bushfire flame front and the impact of debris adjacent to a building which has been ignited by ember attack or radiant heat.

It is imperative that home owners contact fire authorities to obtain all relevant information on how to best manage bushfire risks. Viridian PyroGuard 40 bushfire resistant glass is only one part of a combination of strategies needed to achieve an acceptable level of protection from bushfire.

## Bushfire Attack Level

12.5	19	29	40	FZ
♦	♦	♦	♦	

Glass Product	Nominal Thickness	Visible		Solar		UV Trans.	U Value		Shading Co.	SHGC	Max Size*	Weight m <sup>2</sup>
		Trans.	Refl.	Trans.	Refl.		Air	Argon				
Viridian PyroGuard 40™	6+12+6†	73	16	52	14	36	1.9	1.6	0.76	0.66	2600×2400*	30

\*Maximum tested size equates to AS1530.8.1



# Fire Protection

## PyroGuard 40™

### Energy management

Viridian PyroGuard 40 can also make your home more comfortable and energy efficient by improving the thermal insulation of your home. As a result more heat can be retained inside, significantly reducing winter heating bills. By incorporating one of the broad range of Viridian solar control glass products as the outside pane of the IGU, you can benefit from savings on air conditioning in summer, heating in winter and on energy bills all year round (see figure 1).

### Benefits of Viridian PyroGuard 40 bushfire resistant glass

- ◆ Maintains integrity at 40 kW/m<sup>2</sup> radiant heat exposure when glazed as part of a suitable tested and certified bushfire resistant glazing system
- ◆ Significantly reduces the radiant heat transfer through the glazing to the inside of the building by up to 97%
- ◆ Resists ember and material penetration
- ◆ Highly energy efficient
- ◆ Reduces noise

### Product testing

Viridian PyroGuard 40 has been rigorously tested to AS1530.8.1 in conjunction with specially designed framing profiles and glazing components, chosen for their performance characteristics, cost effectiveness, ease of installation and availability. The results, summarised in Figure 2, show the ability of Viridian PyroGuard 40 to resist radiant heat exposure of over 40 kW/m<sup>2</sup> when tested to AS1530.8.1

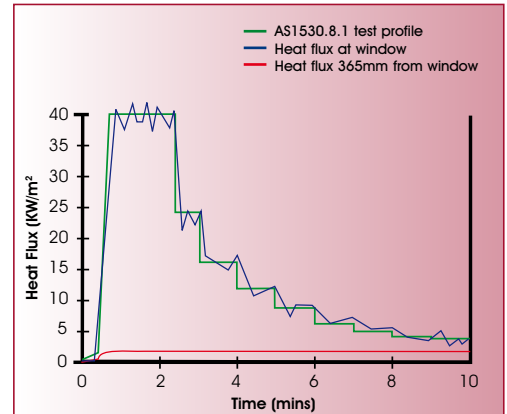


Figure 2  
Radiant heat exposure\*

### Viridian PyroGuard 40™

Viridian PyroGuard 40 is designed to play a key role in providing a number of vital safety functions specifically aimed at reducing the risks inherent in bushfire exposure. Viridian PyroGuard 40 is a key component in helping to provide your window to a bushfire resistant future. More information on bushfire safety is available from a number of sources, including fire authorities as well as the Viridian website.

To learn more about how Viridian glass can enhance your living space talk to your building professional, designer, window supplier or visit [viridianglass.com](http://viridianglass.com)

### Range of windows and door options

- ◆ Casement sash
- ◆ Fixed sash
- ◆ Awning sash
- ◆ Fixed windows
- ◆ Sliding doors
- ◆ Glazed doors

### Maximum size

- ◆ 2600×2400mm\*

### How to specify

- ◆ **Select glass name**  
Viridian PyroGuard 40™
- ◆ **Select thickness**  
6/12/6 IGU makeup  
24mm overall thickness

This product must be glazed with an approved bushfire resistant system, tested to AS1530.8.1. Reference to approved system manufacturers' literature is essential.

### Further information

Each panel of glass is supplied with both a discreet logo positioned in the corner of the IGU and a certificate confirming that the glass is genuine Viridian PyroGuard 40.

\*Note Table data provided by Exova Warringtonfire Aus Pty Ltd



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