



BAL-40
WINDOWS & DOORS

CAPRAL
ALUMINIUM



Protecting buildings against bushfires
is a part of Australian living.

Capral Aluminium understands this.

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Many Australians choose to live amongst the beauty and tranquility of our unique bushland. However, protecting buildings in bushfire prone areas presents challenges in building and renovating.

Homes today must meet the requirements of building regulations and standards, with Australian Standard AS3959 having been updated and republished in response to devastating bushfires.

The key factors for building in bushfire prone areas are improving the ability of buildings to better withstand the initial fire attack, and hence providing the building occupants with a high level of protection.

Capral Aluminium is proud to be an expert in creating glazing solutions for the building industry.

Capral's comprehensive range of door, window, framing systems and security screens have been developed and tested, to meet and exceed NCC requirements for compliance under Australian Standard AS3959-2018 for windows and doors in areas rated up to BAL-40.

Capral products are engineered, tested, and certified to withstand the conditions likely to occur in BAL-40 zones. They are designed to help you, protect your home without compromising on style, choice, efficiency and functionality.

Our products blend seamlessly into the aesthetic of any building, focusing not only on cost but the value that Capral products add.



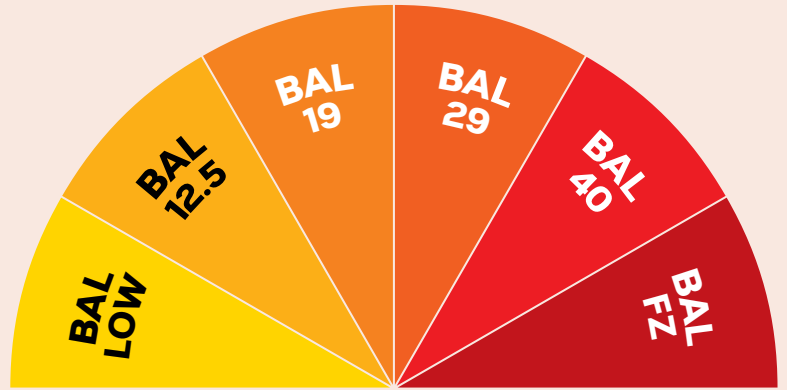
WATCH OUR BUSHFIRE TESTING IN ACTION



Bushfire Attack Level Classifications

Australian Standard AS3959 classifies the different bushfire intensity levels that a building could experience during a bushfire.

These are referred to as Bushfire Attack Levels or BALs for short. There are six levels a building can be classified as.



BAL-40 is currently the maximum bushfire attack level that Capral window and door systems are tested for use.

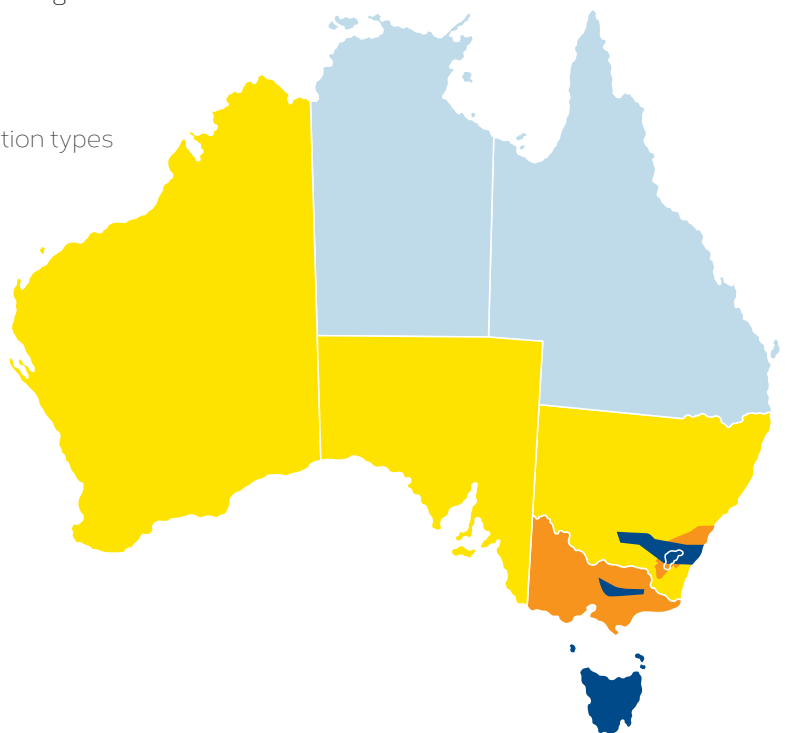
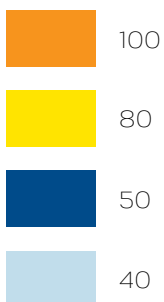
Factors affecting Bushfire Attack Level

The Bushfire Attack Level (BAL) of your home is determined by a suitably qualified building designer based on the following factors:

- ▶ The region where you live
- ▶ The vegetation type around your property
- ▶ The distance from your home to individual vegetation types
- ▶ Slope on the property.

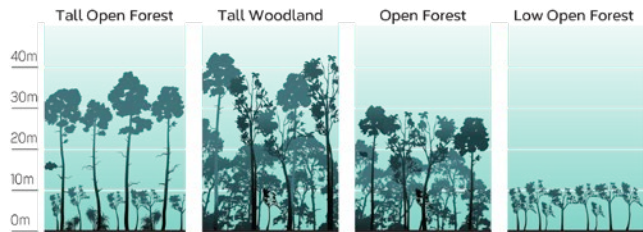
THE REGION THAT YOU LIVE

FIRE DANGER INDEX

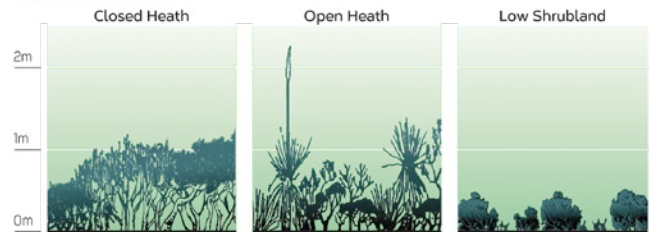


TYPE OF VEGETATION AROUND YOUR PROPERTY

A. FOREST



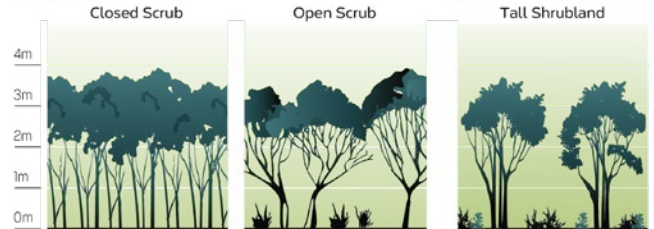
C. SHRUBLAND



B. WOODLAND



D. SCRUB

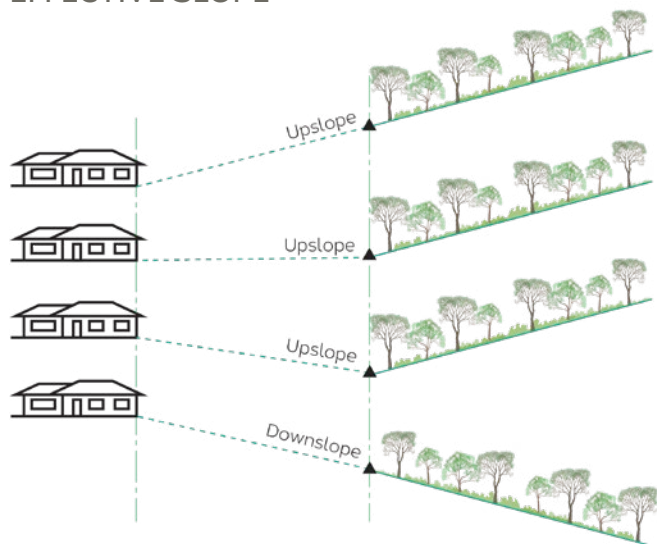


E. MALLEE/MULGA

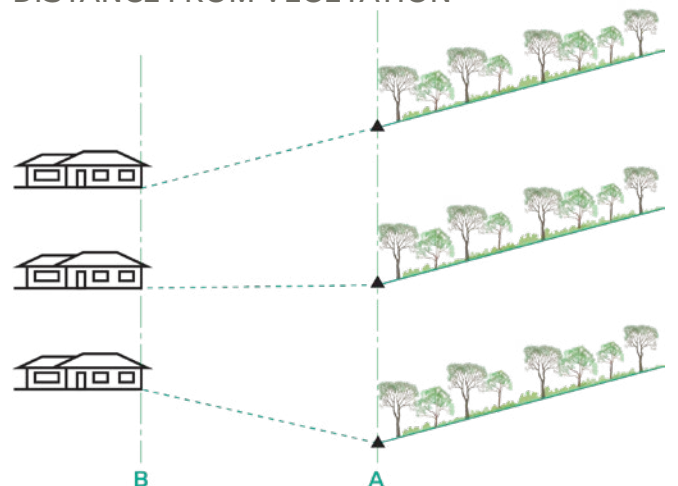


SLOPE ON THE PROPERTY & DISTANCE FROM VEGETATION

EFFECTIVE SLOPE



DISTANCE FROM VEGETATION



Bushfire Attack Levels

A guide for windows and doors in bushfire prone areas

Australian Standards AS3959-2018 is primarily concerned with improving the ability of buildings in designated bushfire prone areas to better withstand attack from bushfire thus giving a measure of protection to the building occupants (until the fire front passes) as well as to the building itself.

Research is continuing with regards to the effects of bushfires on buildings, determination of bushfire prone areas within various states, and particular construction techniques designed to maximise the performance of buildings when subjected to bushfire attack. The outcomes of this research will be reflected in subsequent editions of AS3959.



BAL	Predicted bushfire attack and level of exposure
BAL-LOW	There is insufficient risk to warrant specific construction requirements.
BAL-12.5	Ember attack.
BAL-19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5 and 19kWm ² .
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19 and 29kWm ² .
BAL-40	Increasing levels of ember attack and burning debris ignited by windborne embers together with an increased likelihood of exposure to flames and heat flux up to 40kWm ² .
BAL-FZ	Direct exposure to flames from fire front in addition to heat flux and ember attack greater than 40kWm ² .

Capral's BAL-40 Range

Capral's window and door systems are rigorously and comprehensively tested to meet and exceed relevant Australian standards up to BAL-40 and fully backed by our technical and engineering support.

The below systems are compliant in both Single and Double glazed configurations.



- 280 Sliding Window
- 281 Double Hung
- 282 Awning/Casement
- 284 Sliding Door
- Fixed Light



- 390 Sliding Window
- 391 Double Hung
- 392 Awning/Casement
- 393 Louvre Window
- 394 Sliding Door
- 397 Hinged Door
- Fixed Light



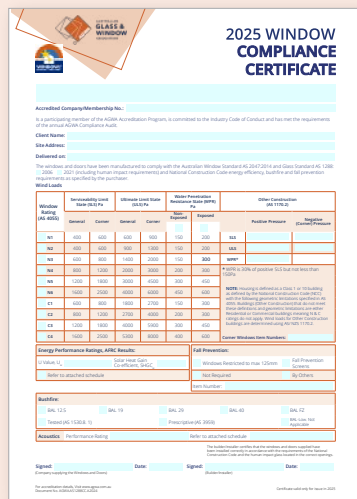
- AGS 400 Centre glazed Framing
- AGS 419 Flush glazed Framing
- AGS 950 Sliding Window
- AGS 35 Awning Window
- AGS 225 Hinged Door
- AGS 900 Sliding Door



- 425TB Centre glazed Framing
- 429TB Flush glazed Framing
- Vertical Sashless
- Awning Window
- 225TB Hinged Door
- 994TB Sliding Door



Artisan 996 Folding Door

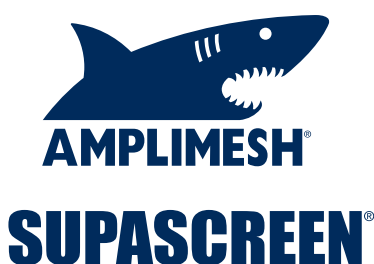


PRODUCT IDENTIFICATION

All Capral BAL40 windows and doors should be issued with an official AGWA Compliance Certificate as shown to the left.

PRODUCT SPECIFICATION

When specifying Capral window and door systems for please ensure your Builder/ Building Designer is aware of your home and land Bushfire Attack Level requirements during design/specification and tender. These are used to ensure the Capral products are fabricated correctly using specific mohair, seals, hardware and components.



SECURITY SCREENS

Capral Aluminium BAL-40 rated systems have been successfully tested to comply with relevant Australian Standards without the use of screens. However all openable portions of the windows are required to be screened regardless of the tested outcome. Capral's Amplimesh® Supascreen® products are fully compliant with this screening requirement up to and including BAL40, whilst Capral's IntrudaGuard products are fully compliant up to and including BAL 29.

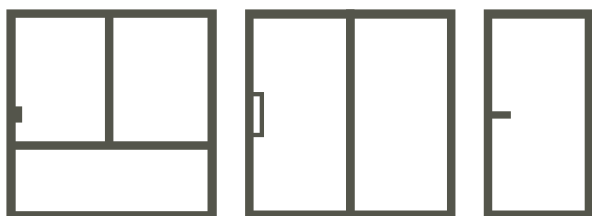


Window and door requirements for bushfire prone areas

Construction in bushfire prone areas add a number of additional considerations when designing buildings. There are various options available to designers and builders to meet the requirements of the building regulations and standards.

The following sets out the various guidelines relating to windows and doors:

BAL-LOW



BAL-LOW Windows & Doors

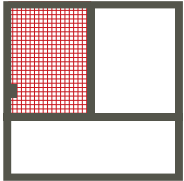
Standard window and door products may be used at this level. There are no special requirements.

BAL-12.5 Windows



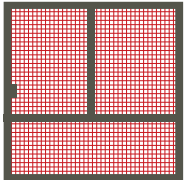
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard windows can be used if fully covered by bushfire shutters that comply with AS 3959 clauses 3.7 and 5.5.1.



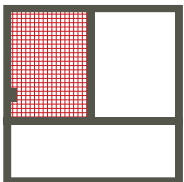
METHOD 2: TESTED SYSTEM

A window system tested to BAL-12.5 or higher may be used if all openable parts are fitted with compliant metal mesh screens and supported by an appropriate frame material. We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 3: FULLY SCREENED

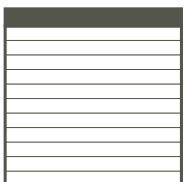
Standard windows are acceptable when completely protected by external screens made of compliant fine metal mesh and a suitable supporting frame, like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEM-TO-SATISFY REQUIREMENTS

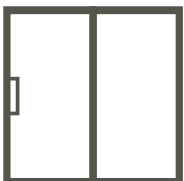
Windows must meet detailed DTS requirements, including specific frame materials, Grade A safety glass within 400 mm of the ground, and compliant screens on all openable sections.

BAL-12.5 Doors — Side-hung or Sliding



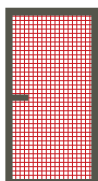
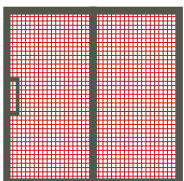
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard hinged or sliding doors can be used if fully protected by bushfire shutters that comply with AS 3959 clauses 3.7 and 5.5.1.



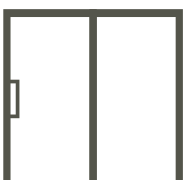
METHOD 2: TESTED SYSTEM

A hinged or sliding door system tested to BAL-12.5 or higher can be used without screens, although any external screens must be made from compliant metal mesh and appropriate framing materials. We recommend the use of Amplimesh® SupaScreen® of IntrudaGuard®.



METHOD 3: FULLY SCREENED

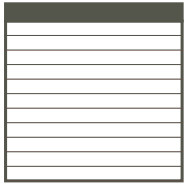
Standard hinged or sliding doors are acceptable when completely protected by external metal mesh screens that meet requirements for mesh aperture, material, and frame composition, like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEM-TO-SATISFY REQUIREMENTS

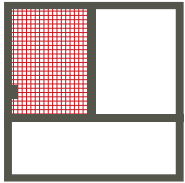
Hinged and sliding doors must meet DTS requirements for frame and panel materials, safety glazing, tight-fitting seals, and optional compliant screening if fitted externally.

BAL-19 Windows



METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

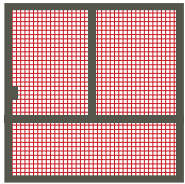
Standard windows can be used if fully protected by bushfire shutters that comply with AS 3959 clauses 3.7 and 6.5.1.



METHOD 2: TESTED SYSTEM

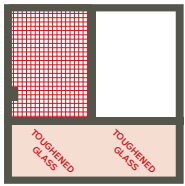
A window system tested to BAL-19 or higher may be used, with all openable sections screened using compliant metal mesh and suitable framing.

We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 3: FULLY SCREENED

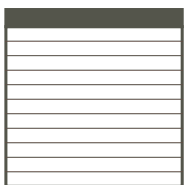
Standard windows are acceptable when completely shielded by external metal mesh screens that meet requirements for aperture size, materials, and framing, like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

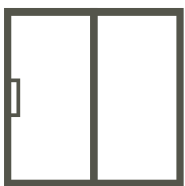
Windows must meet DTS requirements for frame materials, glazing specifications (including toughened safety glass within 400 mm of ground or nearby structures), and compliant screening on all openable sections.

BAL-19 Doors — Side-hung or Sliding



METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

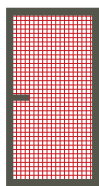
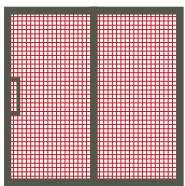
Standard hinged or sliding doors can be used if fully protected by bushfire shutters that comply with AS 3959 clauses 3.7 and 5.5.1.



METHOD 2: TESTED SYSTEM

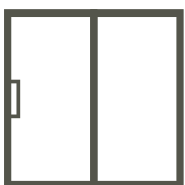
A hinged or sliding door system tested to BAL-12.5 or higher may be used without screening, though any externally fitted screens must use compliant fine metal mesh and appropriate framing materials.

We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 3: PROTECTED BY A SCREEN

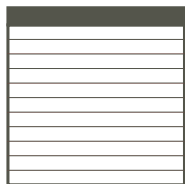
Standard hinged or sliding doors are acceptable when completely protected by external metal mesh screens that meet requirements for aperture size, corrosion-resistant materials, and compliant supporting frames like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

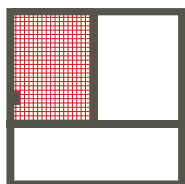
Hinged and sliding doors must meet deemed-to-satisfy requirements for frame and panel materials, tight-fitting construction, safety glazing, weather seals, and compliant external screening where fitted. Internal insect screens that are fully protected by a closed sliding door do not need to meet these screening requirements.

BAL-29 Windows



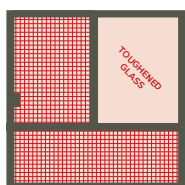
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard windows can be used if fully protected by bushfire shutters that comply with AS 3959 clauses 3.7 and 7.5.1.



METHOD 2: TESTED SYSTEM

A window system tested to BAL-29 or higher may be used, provided all openable sections are screened internally or externally using compliant metal mesh and frames, with screens securely fixed using metal attachments. We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

Windows must meet deemed-to-satisfy requirements for compliant frame materials, metal hardware or shielding, toughened safety glass of at least 5mm, and compliant screening like Amplimesh® SupaScreen® or IntrudaGuard® on all openable sections and lower-level glazing within 400 mm of the ground or nearby structures.

BAL-29 Doors - Side-hung



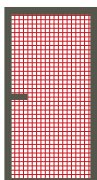
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard hinged doors can be used if fully protected by bushfire shutters compliant with AS 3959 clauses 3.7 and 7.5.1 or tested to BAL-29 or higher per AS 1530.8.1.



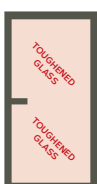
METHOD 2: TESTED SYSTEM

Hinged door systems tested to BAL-29 or higher may be used without screening, but any externally fitted screens must use compliant metal mesh and frames securely fixed with metal attachments. We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 3: PROTECTED BY A SCREEN

Standard hinged doors are acceptable when fully shielded by external metal mesh screens meeting required mesh aperture, corrosion-resistant materials, compliant framing, and fixed with metal fasteners, like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

Hinged doors must meet deemed-to-satisfy standards for frames and fully framed glazed panels made from specified materials, panel construction, metal hardware, tight-fitting seals, toughened safety glass of minimum 6 mm, and compliant external screening securely fixed with metal fixings if fitted.

BAL-29 Doors - Sliding



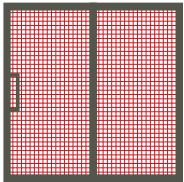
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard sliding doors can be used if fully protected by bushfire shutters compliant with AS 3959 clauses 3.7 and 7.5.1 or tested to BAL-29 or higher per AS 1530.8.1.



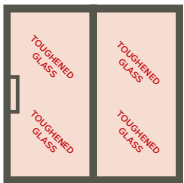
METHOD 2: TESTED SYSTEM

Sliding door systems tested to BAL-29 or higher may be used without screening, but any externally fitted screens must use compliant metal mesh and framing securely fixed with metal attachments. We recommend the use of Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 3: PROTECTED BY A SCREEN

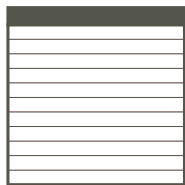
Standard sliding doors are acceptable when fully shielded by external metal mesh screens that meet requirements for mesh aperture, corrosion-resistant materials, compliant supporting frames, and are attached using metal fixings, like Amplimesh® SupaScreen® or IntrudaGuard®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

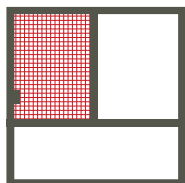
Sliding doors must meet deemed-to-satisfy standards for frames and fully glazed panels made from specified materials, tight-fitting construction, metal hardware for sash support, toughened safety glass of minimum 6 mm thickness, and compliant external screening fixed with metal fasteners if fitted.

BAL-40 Windows



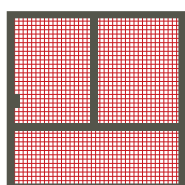
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard windows can be used if fully protected by bushfire shutters compliant with AS 3959 clauses 3.7 and 8.5.1 or tested to BAL-40 or higher per AS 1530.8.1.



METHOD 2: TESTED SYSTEM

Window systems tested to BAL-40 or higher must have all openable sections screened internally or externally with metal mesh and frames made from corrosion-resistant steel or bronze, securely fixed with metal attachments. We recommend the use of Amplimesh® SupaScreen®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

Windows must have metal frames and hardware, toughened safety glass of at least 6mm, fire-resistant seals, and both fixed and openable portions protected by external screens made of corrosion-resistant steel or bronze with metal framing and metal fixings like Amplimesh® SupaScreen®.

BAL-40 Doors - Side-hung



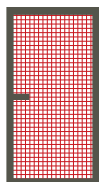
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard hinged doors can be used if fully protected by bushfire shutters compliant with AS 3959 clauses 3.7 and 8.5.1 or tested to BAL-40 or higher per AS 1530.8.1.



METHOD 2: TESTED SYSTEM

Hinged door systems tested to BAL-40 or higher may be used without screening, but any externally fitted screens must use compliant metal mesh and metal framing securely fixed with metal attachments. We recommend the use of Amplimesh® SupaScreen®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

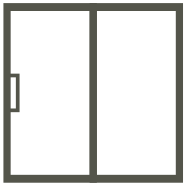
Hinged doors must have metal frames, panels made from non-combustible materials or timber with external compliant metal mesh screening like Amplimesh® SupaScreen®, tight-fitting construction, metal hardware, toughened safety glass of at least 6mm, fire-resistant seals, and external screens protecting glazing and openable portions when fitted, all securely fixed with metal fasteners.

BAL-40 Doors - Sliding



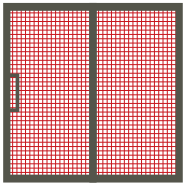
METHOD 1: PROTECTED BY BUSHFIRE SHUTTER

Standard sliding doors can be used if fully protected by bushfire shutters compliant with AS 3959 clauses 3.7 and 8.5.1 or tested to BAL-40 or higher per AS 1530.8.1.



METHOD 2: TESTED SYSTEM

Sliding door systems tested to BAL-40 may be used without screening, but any externally fitted screens must use compliant metal mesh and metal framing securely fixed with metal attachments. We recommend the use of Amplimesh® SupaScreen®.



METHOD 4: DEEMED-TO-SATISFY REQUIREMENTS

Sliding doors must have metal frames and fully glazed panels, tight-fitting construction, metal hardware, toughened safety glass of at least 6 mm, fire-resistant seals, and both fixed and openable glazing protected by external screens made from corrosion-resistant steel or bronze with metal framing and secure fixings, like Amplimesh® SupaScreen®.

BAL-FZ Windows & Doors



Standard windows and doors can be used provided they are completely protected by bushfire shutters complying with AS3959:2018 and be made from non-combustible material.



Want to know more?

Connect with one of our Specification Specialists who can review your requirements.

FOR FURTHER
INFORMATION:

Visit [capral.com.au](https://www.capral.com.au)

Call **1800 ALUMINIUM**

to speak to one of our Specification specialists.

CAPRAL ALUMINIUM

ABN 78 004 213 692

1800 ALUMINIUM (258 646)

capral.com.au

August 2025

Proudly Supporting Local, Sustainable Manufacturing

All framing, window and door systems featured in this brochure are designed, tested and extruded locally by Capral as part of our **LocAl**[®], **ASI Certified**, and **Australian Made** aluminium extrusion offers—championing responsible sourcing, sustainability, and Australian manufacturing.

