

BAL40 Windows and Doors



CAPRAL
ALUMINIUM

BAL40
TESTED AND CERTIFIED

Protecting buildings against bushfires
is a part of Australian living
Capral Aluminium understands this

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

Capral is proud to be an expert in creating glazing solutions for the building industry. Our 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 AS3959-2009 for windows and doors in areas rated up to BAL-40.

Capral Aluminium 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.

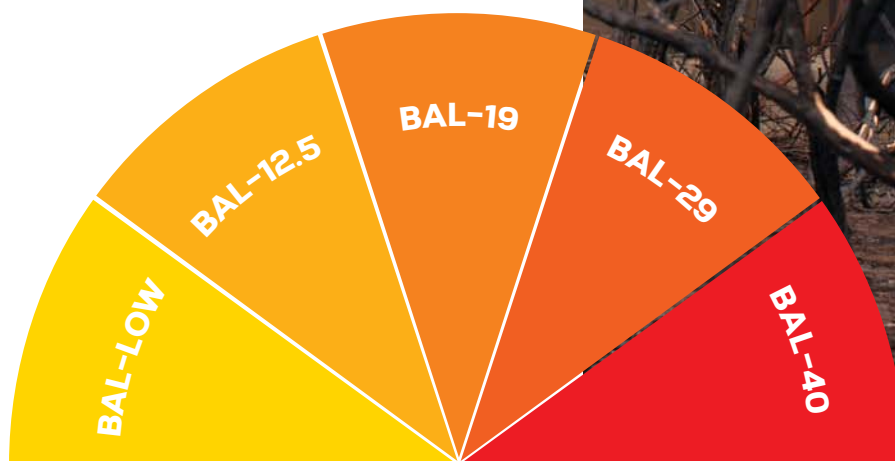
Our products blend seamlessly into the aesthetic of any building, focusing not only on cost but the value that Capral products add.

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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.



BAL-40 is currently the maximum bushfire attack level that Capral window and door systems can be used.



In the Australian Standard AS3959, they have classified different bushfire intensity levels that a home may experience during a bushfire. These are referred to as Bushfire Attack Levels, or BALs for short.

There are six bushfire attack levels in total:

- BAL- FZ Flame Zone
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-Low.

These individual levels* are based on:

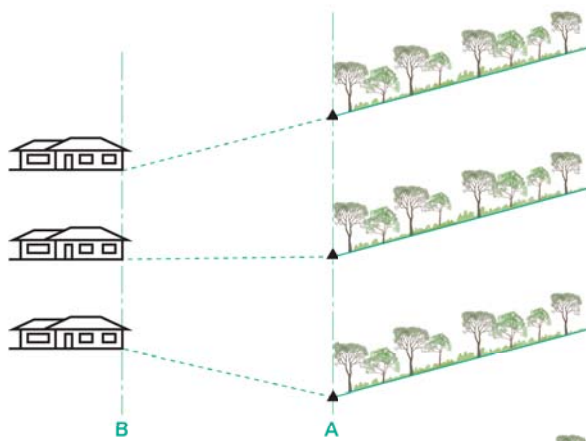
- The region where you live
- The vegetation type around your property
- The distance from your home to individual vegetation types
- Slope on the property.

**The Bushfire Attack Levels of your home is ultimately determined by a suitably qualified building designer.*

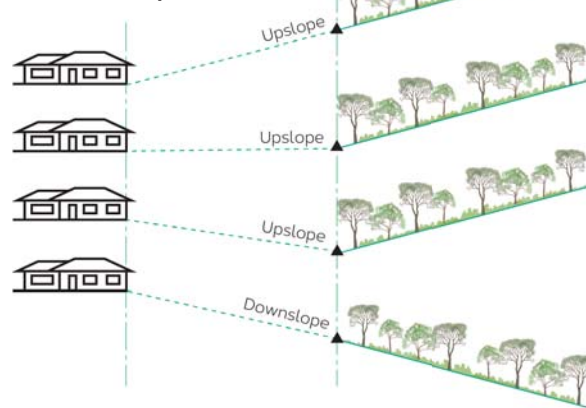
FACTORS AFFECTING BUSHFIRE ATTACK LEVEL

Bushfire Attack Level – BAL is determined by the following factors:

Distance from vegetation

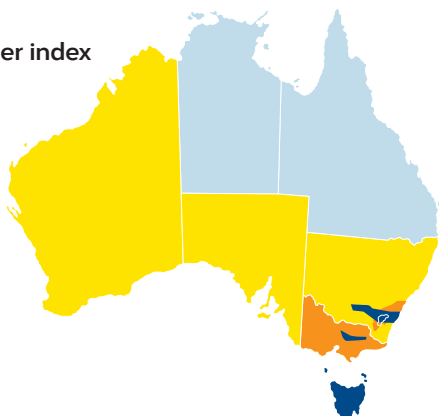


Effective Slope



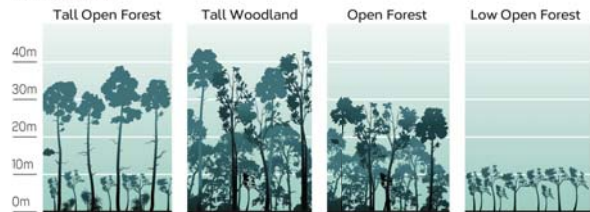
Fire Danger index

- 100
- 80
- 50
- 40



Type of Vegetation

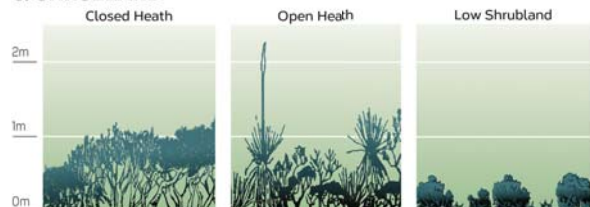
A. FOREST



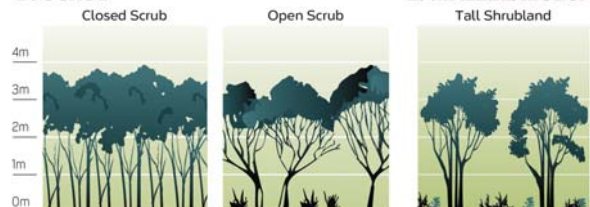
B. WOODLAND



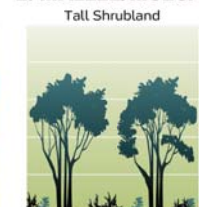
C. SHRUBLAND



D. SCRUB



E. MALLEE/MULGA





Bushfire Attack Levels

A guide for windows and doors in bushfire prone areas

Australian Standards AS3959-2009 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.

BUSHFIRE ATTACK LEVELS (BAL)

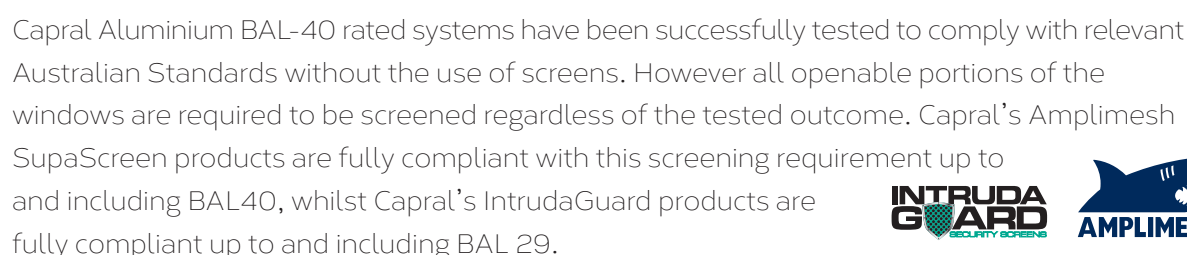
BAL	Predicted bushfire attack and level of exposure
BAL-LOW	There is insufficient risk to warrant specific construction requirements.
BAL-12.5	Ember attack.
BAL-19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5 and 19 kW m ² .
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19 and 29 kW m ² .
BAL-40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames. 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 .

The Capral range of **B**ushfire **A**ttack **L**evel compliant windows and doors include the following:

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

All Capral BAL40 windows and doors should be issued with an official AWA Compliance Certificate as shown on right.

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.



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 WINDOWS AND DOORS

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



BAL-12.5 WINDOWS

Method 1 - Tested System

A tested Capral window system as noted on page 5 can be used where the openable portion of the window is screened internally or externally with Amplimesh SupaScreen or IntrudaGuard.

OR

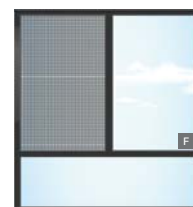
Method 2 – Deemed to satisfy

Standard windows must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

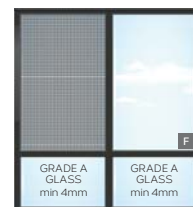
OR

Method 3 – Deemed to satisfy

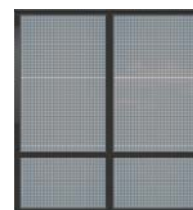
- All openable parts must be screened internally or externally with metal screens like Amplimesh SupaScreen or Intrudguard.
- Where glazing is less than 400mm from the ground or other structures at an angle less than 18 degrees to horizontal, Grade A safety glass minimum 4mm must be used.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY



BAL 12.5 DOORS – SIDE HUNG OR SLIDING

Method 1 - Tested System

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

OR

Method 2 – Deemed to satisfy

Standard doors must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

OR

Method 3 – Deemed to satisfy

- Glazing shall be Grade A safety glass minimum 4mm
- Weather strips, draught excluders or draft seals to be installed
- Doors shall be tight fitting into frames.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL-19 WINDOWS**Method 1 - Tested System**

A tested Capral window system as noted on page 5 can be used where the openable portion of the window is screened internally or externally with Amplimesh SupaScreen or IntrudaGuard.

OR

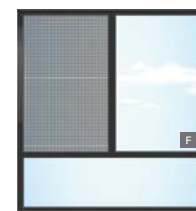
Method 2 – Deemed to satisfy

Standard windows must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

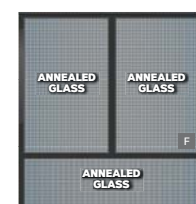
OR

Method 3 – Deemed to satisfy

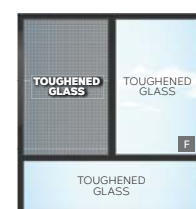
- All openable parts must be screened internally or externally with metal screens like Amplimesh SupaScreen or Intrudguard.
- Where glazing is less than 400mm from the ground or other structures at an angle less than 18 degrees to horizontal, Grade A safety glass minimum 5mm must be used.
- Where annealed glass is used, both the fixed and openable portions of the window must be screened externally with Amplimesh SupaScreen or IntrudaGuard screening system.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL 19 DOORS – SIDE HUNG OR SLIDING**Method 1 - Tested System**

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

OR

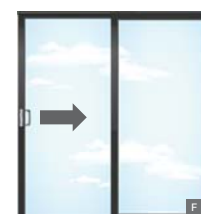
Method 2 – Deemed to satisfy

Standard doors must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

OR

Method 3 – Deemed to satisfy

- Glazing shall be toughened safety glass minimum 5mm.
- Weather strips, draught excluders or draft seals to be installed.
- Doors shall be tight fitting into frames.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL 29 WINDOWS

Method 1 - Tested System

A tested Capral window system as noted on page 5 can be used where the openable portion of the window is screened internally or externally with Amplimesh SupaScreen or IntrudaGuard.

OR

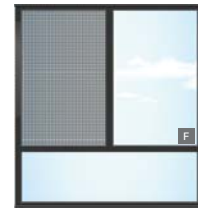
Method 2 – Deemed to satisfy

Standard windows must be completely protected by bushfire shutters complying with AS3959:2018.

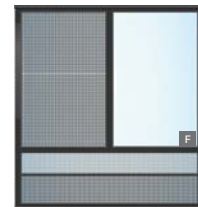
OR

Method 3 – Deemed to satisfy

- All openable parts must be screened internally or externally with metal screens like Amplimesh SupaScreen or Intrudguard.
- Externally fitted hardware that supports the sash in its functions of opening and closing shall be metal.
- Where glazing is less than 400mm from the ground or other structures at an angle less than 18 degrees to horizontal, the glazing shall be screened externally with metal screens like Amplimesh SupaScreen or Intrudguard.
- Glazing shall be toughened glass a minimum of 5mm thickness.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL-29 DOORS - SIDE-HUNG

Method 1 - Tested System

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

OR

Method 2 – Deemed to satisfy

Standard doors must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

OR

Method 3 – Deemed to satisfy

- Glazing shall be toughened safety glass minimum 6mm.
- External fitted hardware that supports the panel in its functions of opening and closing shall be metal.
- Weather strips, draught excluders or draft seals to be installed.
- Doors shall be tight fitting into frames.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL 29

BAL 29 DOORS – SLIDING

Method 1 - Tested System

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

OR

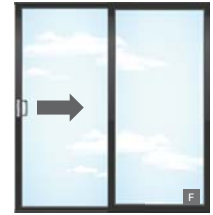
Method 2 – Deemed to satisfy

Standard doors must be completely protected by bushfire shutters complying with AS3959:2018, or completely covered by an external Amplimesh SupaScreen or IntrudaGuard screening system.

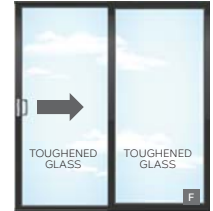
OR

Method 3 – Deemed to satisfy

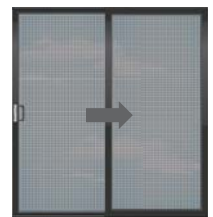
- Glazing shall be toughened safety glass minimum 6mm.
- External fitted hardware that supports the panel in its functions of opening and closing shall be metal.
- Weather strips, draught excluders or draft seals to be installed.
- Doors shall be tight fitting into frames.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

BAL 40

BAL 40 WINDOWS

Method 1 - Tested System

A tested Capral window system as noted on page 5 can be used where the openable portion of the window is screened internally or externally with Amplimesh SupaScreen.

OR

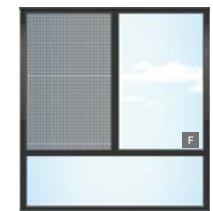
Method 2 – Deemed to satisfy

Standard windows must be completely protected by bushfire shutters complying with AS3959:2018.

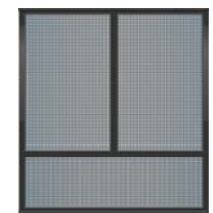
OR

Method 3 – Deemed to satisfy

- Window frames and window joinery shall be metal.
- Externally fitted hardware that supports the sash in its functions of opening and closing shall be metal.
- Glazing shall be toughened glass a minimum of 6mm thickness.
- Seals manufactured from Silicone or a material with a flammability index no greater than 5.
- Both openable and fixed portions of the window shall be screened externally with Amplimesh SupaScreen.



TESTED SYSTEM



DEEMED-TO-SATISFY

BAL-40 DOORS – SIDE-HUNG

Method 1 - Tested System

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

OR

Method 2 – Deemed to satisfy

Standard doors must be completely protected by bushfire shutters complying with AS3959:2018.

OR

Method 3 – Deemed to satisfy

- Door frame material will be metal.
- Glazing shall be toughened safety glass minimum 6mm.
- External fitted hardware that supports the panel in its functions of opening and closing shall be metal.
- Weather strips, draught excluders or draft seals to be installed.
- Doors shall be tight fitting into frames.
- Seals manufactured from Silicone or a material with a flammability index no greater than 5.
- Both openable and fixed portions of the door shall be screened externally with Amplimesh SupaScreen.



TESTED SYSTEM



DEEMED-TO-SATISFY



DEEMED-TO-SATISFY

**BAL
40**

BAL-40 DOOR – SLIDING

Method 1 - Tested System

A tested Capral door system as noted on page 5 can be used, and there is no requirement to screen the openable portion of the door.

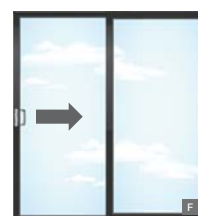
OR

Method 2 – Deemed to satisfy

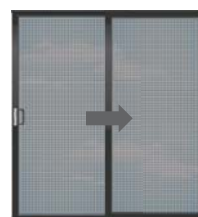
Standard doors must be completely protected by bushfire shutters complying with AS3959:2018.

OR Method 3 – Deemed to satisfy

- Door frame material will be metal.
- Glazing shall be toughened safety glass minimum 6mm.
- External fitted hardware that supports the panel in its functions of opening and closing shall be metal.
- Weather strips, draught excluders or draft seals to be installed
- Doors shall be tight fitting into frames.
- Seals manufactured from Silicone or a material with a flammability index no greater than 5.
- Both openable and fixed portions of the door shall be screened externally with Amplimesh SupaScreen.



TESTED SYSTEM



DEEMED-TO-SATISFY

FLAME ZONE WINDOWS AND DOORS

Standard windows and doors can be used provided they are completely protected by bushfire shutters complying with AS3959:2009 and be made from non combustible material.

**BAL
FZ**



Want to know more?

Capral Aluminium welcomes the opportunity to have one of our Specification specialists review your requirements. We have experts in all states and regions to assist you.

For further information please visit

www.capral.com.au

or call **1800 ALUMINIUM (258 646)** to speak to one of our Specification specialists.



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ABN 78 004 213 692

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