

HOTHAM

Mount Hotham Resort Management Board

Bushfire Protection Compliance Guidelines

1. Purpose

The purpose of these Guidelines is to ensure that the Board has an appropriate process in place that progressively upgrades existing buildings to meet minimum bushfire protection standards.

2. Background

All new leases at Mt Hotham are required to follow a standard form acceptable to the Minister. The current alpine standard lease requires the Board as the Landlord to prepare a Building Standards Report for the purpose of providing a record of the Tenant's response to the matters relating to the Standards of Occupancy and for reference during negotiations for a new lease.

The Mount Hotham Alpine Resort Management Board (Board) has developed and formally adopted these Guidelines that will form part of the Building Standards Inspection and Report required as a reference for all new lease renewals under current alpine standard lease.

The Board acknowledges that there is no legislative obligation to retrospectively upgrade existing residential buildings to comply with AS 3959 where no new building works are proposed to be undertaken. New building work in a designated BPA is subject to compliance with AS 3959 via the planning and building permit process.

However, the Board is committed to ensuring all buildings within its jurisdiction are afforded a minimum level of protection against bushfire attack. Initially, the new lease application process will be used as the trigger for requiring existing buildings to comply with these Guidelines. Specific elements of the existing building will be assessed during an inspection and a report prepared outlining any upgrade works required.

The MHARMB is cognizant of the inherent difficulties that potentially arise in attempting to retrospectively achieve full compliance with AS 3959 relative to the specific circumstances of the subject property. Therefore, these Guidelines are generically structured around compliance with a bushfire attack level (BAL) of 12.5. This represents protection against a radiant heat flux of 12.5kW/m² (considered low) and primarily ember attack. It is noted that research has consistently identified that over 85% of buildings destroyed by bushfires is due to ember attack.

As such, retro-fit construction requirements, have been established to relate specifically to ember attack and are considered to represent an appropriate minimum level of bushfire resistance for existing buildings in the alpine resort precinct.

3. Definitions

AS 3959 means Australian Standard 3959 – Construction of Buildings in Bushfire Prone Areas – 2009 and contains the construction requirements new building work must achieve when building in designated areas.

BAL means Bushfire Attack Level and represents a site specific assessment of bushfire risk and therefore, the relative construction required to be achieved under AS 3959.

Board means the Mount Hotham Alpine Resort Management Board

BMO means Bushfire Management Overlay (formerly known as a Wildfire Management Overlay (WMO)) and are areas designated by municipal authorities and formally adopted into their planning schemes.

BPA means Bushfire Prone Area and are areas designated as being subject to bushfire attack under the provisions of the Building Regulations 2006.

Municipal Building Surveyor means the Consultant appointed by the Board to provide services for the performance of all functions and duties and the exercise of all powers imposed or conferred on a Municipal Building Surveyor under the Building Act 1993 and the Regulations thereto in relation to the issuing of permits, the certifying of plans, drawings and specifications and the conducting of inspections of land, buildings or building works with the Resort.

Standards of Occupancy means a standard determined by the Board, acting reasonably, for the Tenant's improvements taking into account, without limitation:

- (a) Contemporary standards; and
- (b) The need for regular maintenance and upgrading of the exterior and interior of the Tenant's Improvements to meet visitor expectations.

4. Scope

These Guidelines apply to all new lease applications, lease renewals and existing alpine standard leases.

5. Standard of Protection

The minimum standard of bushfire protection is compliance with a Bushfire Attack Level of 12.5 (BAL-12.5) with specific reference to the elements assessed as outlined below in Item 8.

6. Implementation

An inspection will be undertaken by the Municipal Building Surveyor and a Report provided to Lessees for the further consideration and/or subsequent action. The inspection and report will be at the Board's cost.

7. Standards Guidelines

In formulating these Guidelines, the Board has been mindful of the need to balance objectives relating to achieving compliance with current building legislation in particular, the Building Code of Australia (BCA). And, the inherent difficulties (and costs) associated with the upgrading/rectification of existing buildings.

It is the Board's view that it has achieved that balance and satisfied its statutory obligation to act reasonably in determining appropriate standards of occupancy across all buildings in the Mount Hotham alpine precinct.

The Guidelines have been developed as a response to the fire events that have occurred in recent years and equally, the recommendations arising out of the 2009 Victoria Bushfires Royal Commission (VBRC). In addition, the major revision to Australian Standard 3959 "Construction of Buildings in Bushfire Prone Areas" – 2009 (AS 3959), and the *Building Amendment (Bushfire Construction) Regulations 2011* which came into effect on 8 September 2011, reinforced the need to act.

8. Elements Assessed

a) Sub Floor Spaces

- i. Ember entry to sub floor spaces must be prevented where the clearance from finished ground level to the underside of the lowest structural member is less than 600mm. In such cases, the sub floor space is to be completely enclosed with a non-combustible material or alternatively, if timber is to be used, a species that has a natural resistance to bushfire (eg. Merbau, Spotted Gum, Red Ironbark, Silvertop Ash, etc.).

- ii. Any penetrations or openings (eg. Sub floor vents) in the sub floor membrane are to be protected by steel or bronze mesh screens with a maximum aperture of 2mm.

b) Supporting Posts, Columns, Stumps, Piers and Poles

- i. The requirements in relation to supporting posts, columns, stumps, piers and poles apply when the sub floor space is NOT enclosed.
- ii. Supporting posts, columns, stumps, piers and poles, shall be one, or a combination of the following:
 - a) Non-combustible.
 - b) If timber, be of a species that has an inherent resistance to bushfire attack such as white cypress or river red gum. Alternatively, be mounted on galvanized metal shoes (brackets) with a minimum clearance of 75mm above the adjacent finished ground level.
 - c) If timber, and not of a naturally resistant bushfire species, be encased with a non-combustible material for a minimum of 400mm above the adjoining ground surface.

c) External Walls

- i. All external surfaces that are less than 400mm above:
 - a) the adjoining ground level; or
 - b) decks; or
 - c) roofs, awnings and similar elements having an angle less than 18° to the horizontal and extending at least 110mm in width:are to be replaced or covered with:
 - a) Non-combustible material; or
 - b) Fibre cement external cladding with a 6mm minimum thickness; or
 - c) A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - d) A combination of the above.
- ii. Cover, seal, overlap, back or butt-joint all joints in the external surface material of walls to prevent gaps greater than 3mm.
- iii. Apply sarking-type material over the outer face of the building frame prior to the re-fixing of any external cladding. Note: sarking should not be considered a replacement for sealing gaps but serves as a useful backup if gaps do occur.

Note:

It is noted that where existing external cladding is to be covered or replaced, advice should be sought from the Alpine Planning Unit - **Department of Planning and Community Development** ((03) 9098 8919) on planning scheme requirements in relation to external materials, colours, etc.

d) Windows (including skylights)

- i. All window assemblies that are less than 400mm above:
 - a) the adjoining ground level; or
 - b) decks; or
 - c) roofs, awnings and similar elements having an angle less than 18° to the horizontal and extending at least 110mm in width:

should be made from:

- a) A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - b) Metal; or
 - c) Metal-reinforced PVC-U; or
 - d) A combination of the above.
- ii. External hardware to windows required for opening should be of metal.
- iii. Where windows are not protected with external screens or bushfire shutters:
 - a) Glazing less than 400mm above the adjoining ground level, decks, roofs, awnings and similar elements should be 4mm (or thicker) Grade A safety glass; and
 - b) Glazing more than 400mm above the adjoining ground level, decks, roofs, awnings and similar elements may be ordinary annealed glass; and
 - c) External screens must be provided to all openable portions of the window; or
 - d) Glass blocks may be used for glazing of any height, without screens.
- iv. Where fitted, screens for windows and doors should comply with AS 3959 and have a mesh or perforated sheet with a maximum aperture of 2mm and made from corrosion-resistant steel, bronze or aluminium. Gaps around the perimeter of the screen to the building should not exceed 3mm. The frame supporting the mesh or perforated sheet should be:

- a) Metal; or
 - b) A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - c) A combination of the above.
- v. Where fitted, bushfire shutters should be checked for compliance with AS 3959 and be made from:
- a) Non-combustible material; or
 - b) A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - c) A combination of the above.
- vi. Where leadlight windows are installed, they shall be protected by bushfire shutters constructed as above or of toughened glass.

e) External Doors

- i. Side hung external doors are to be protected as follows:
- a) External screens (see Windows); or
 - b) Bushfire shutters (see Windows); or
 - c) Neither of the above if the door is:
 - Non-combustible; or
 - A solid core timber door with a minimum thickness of 35mm for at least the first 400mm above the threshold; or
 - A hollow core door with a non-combustible kickplate for the first 400mm above the threshold; or
 - A fully framed glazed door with the frame constructed of a natural bushfire resistant timber species (refer Appendix E or F of AS 3959).
 - d) External hardware to doors required for opening shall be of metal.
 - e) Glazing in doors shall comply with the glazing requirements for windows.
 - f) Parts of doors frames less than 400mm above the adjoining ground level, decks, roofs, awnings and similar elements having an angle less than 18° to the horizontal and extending at least 110mm in width shall be made of the following:
 - A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - Metal; or
 - Metal-reinforced PVC-U; or
 - A combination of the above.

- g) Weather strips, draught excluders or draught seals should be installed at the base of side hung doors (gaps to the perimeter should generally be less than 3mm).
- ii. External sliding doors shall be protected as follows:
 - a) External screens (see Windows); or
 - b) Bushfire shutters (see Windows); or
 - c) Neither of the above if:
 - Any glazing in the door is Grade A safety glass; and
 - The frame of the door is made of the following:
 - A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - Metal; or
 - Metal-reinforced PVC-U; or
 - A combination of the above.
- iii. Any vehicle access doors are to be in accordance with the following:
 - a) All parts of doors less than 400mm above the adjoining ground surface shall be made from:
 - Non-combustible material; or
 - Fibre cement external cladding with a 6mm minimum thickness; or
 - A natural bushfire resistant timber species (refer Appendix E or F of AS 3959); or
 - A combination of the above.
 - b) Panel lift, tilt and side-hung doors should be fitted with suitable weather-strips, draught excluders, draught seals or guide tracks (as appropriate), with a maximum gap size of 3mm.
 - c) Roller doors should have guide tracks with a maximum gap area of 3mm and be fitted with a nylon brush in contact with the door.
 - d) Doors shall not include ventilation slots.

f) Vents and Weepholes

- i. Any openings in external walls greater than 3 mm such as vents, weepholes and with mesh having a maximum aperture of 2mm and made of corrosion-resistant steel, bronze or aluminium.

g) Roofs

Roofs are to be constructed as follows:

- i. All roof cladding/covering shall be non-combustible (including covering accessories). Any combustible material such as timber shakes or shingles (unless of a naturally bushfire resistant species) shall be replaced.
- ii. Roof and wall junctions shall be sealed to fill gaps greater than 3mm, either by the use of fascia and eaves linings or by sealing the top of the wall to the rafters at the line of the wall.
- iii. Ember guards over roof ventilation points (such as gable and roof vents) are to be fitted with non-combustible material or with mesh having a maximum aperture of 2mm and made of corrosion-resistant steel, bronze or aluminium.
- iv. Fully sark sheet and tiled roofs by the following:
 - The sarking material should have a flammability index of not more than 5; and
 - Be located directly below the roof battens; and
 - Cover the entire roof area (including the ridge); and
 - Be installed to eliminate gaps where the sarking meets fascias, gutters, valleys, etc; and
 - Sheet roofs may use foil backed insulation blankets over the battens.
- v. Alternatively for sheet roofs, protection may be provided by sealing any gaps greater than 3mm at the fascia, wall line, valleys, hips and ridges – under corrugations or ribs of roof sheeting, or between roof components with:
 - A mesh or perforated sheet with a maximum aperture of 2mm and made from corrosion-resistant steel, bronze or aluminium; or
 - Mineral wool; or
 - Other non-combustible material; or
 - A combination of the above.

Notes:

- It is recognized that where compressed mineral wool is used for sealing against bushfire attack or for other purposes, adequate ventilation should be provided to prevent condensation on the mineral fibre causing corrosion in the roof sheeting or supporting structure.
- Rib caps and ridge capping shall be sealed to restrict the entry of embers into the roof/ceiling space.
- Where roofing systems are fully sarked, effectively restricting or excluding airflow, it may be necessary to provide ventilation to prevent moisture (condensation) from occurring in the roof space. If vents need to be installed to address this issue, adequate sealing to restrict ember and spark entry via corrosion resistant steel, bronze or aluminium mesh with a maximum aperture of 2mm may be required.
- Consideration should be given to roof penetrations such as vent pipes, flues and exhaust fans which are subject to damage by snow and ice sliding down the roof. Where possible, all flues and vents should be located either at the ridge line or on the end wall of the building. Vent pipes may also be located

on the side walls of a building in alpine areas where they are permitted to terminate under the eaves.

- For flues and vents which must penetrate the roof other than at the ridge line, adequate snow splitters must be placed upslope of the flue or vent to allow for snow shedding around the fixture.

h) Eaves

- i. All eaves shall be enclosed and the fascia or the gaps between the rafters sealed.

i) Services

- i. Above ground exposed water and gas supply pipes should be metal.