

Ways to make your home more resistant to bushfires



fact sheet

Making your home more resistant to bushfires can provide your home with a higher level of protection during a bushfire event. This will help not only your family and yourself, your home and possessions, but also the lives of fire fighters who may be called upon to defend your home. In addition, you will reduce the costs the community has to bear after bushfires, such as cleanup work, insurance claims and government support.

This fact sheet outlines simple measures for information purposes only. Your architect, builder, Council or building surveyor can explain the technical requirements in more detail.



images courtesy of Country Fire Service

There are four ways to make your home more resistant to bushfires:

1. Carefully choose where you build
2. Provide an easy-to-use track to your home
3. Provide a water supply that is just for bushfire use
4. Build your home using techniques and materials that make it more resistant to bushfires.

These measures are contained in the National Construction Code, Minister's Code, Minister's Specification SA 78 and other referenced documents.

1. Carefully choose where you build

Before building, it is recommended that you consider:

- where you will locate your home – consider access for fire fighting purposes and avoid steep slopes (especially upper slopes), narrow ridge crests, the tops of narrow gullies, and slopes facing north or west if possible
- the direction, type and proximity of any hazardous vegetation that may pose a risk to your home in a bushfire

2. Provide an easy-to-use track to your home

Fire fighters should be able to safely enter, leave, and move around your home. So if the track to your home is more than 30 metres from the nearest public road, it should:

- be made of all-weather materials
- be at least 3 metres wide, have a steepness of not more than 16 degrees at any point, and be located away from hazardous vegetation
- be built so that fire trucks don't have to back up. This could mean that it needs to have curves and turning areas, loops around buildings, bridges and/or passing bays.

Diagrams 1 and 2 show the recommended distances required when constructing your track so that fire trucks can move easily around your block.

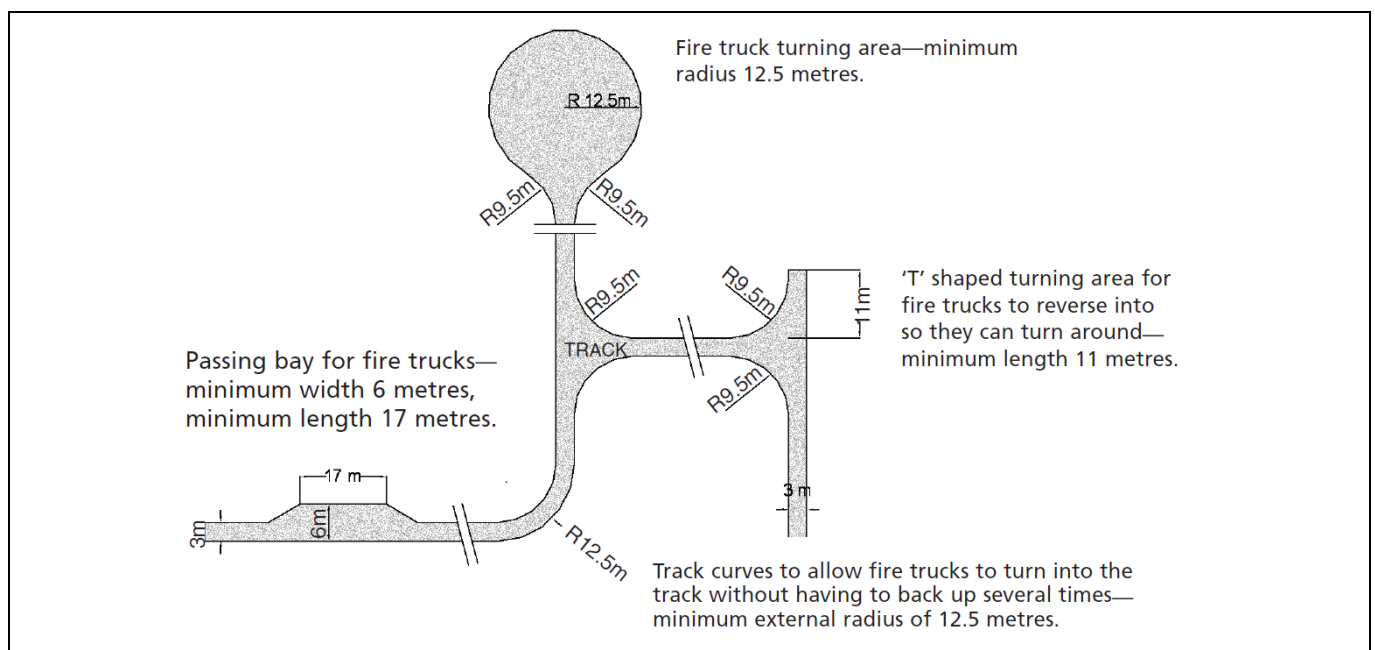


Diagram 1 - Access track dimensions – showing minimum turning circles and track widths for fire fighting vehicular access

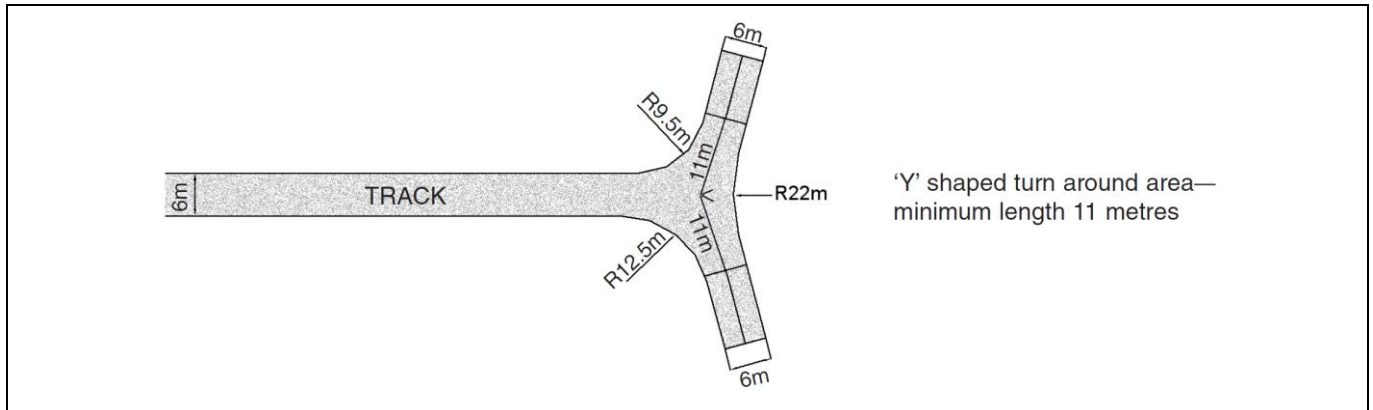


Diagram 2 - Access track dimensions – showing layout at the end of a track to allow fire fighting vehicles to turn into and reverse direction

3. Provide a water supply that is just for bushfire use

New homes have requirements for a fire protection water supply to be provided. For existing homes, it is recommended that you also consider providing a water supply for fire fighting purposes in a convenient location. Depending on the likely bushfire risk of your location, the following water supply should be provided-

- 2000 litres if connected to a mains water supply or 5000 litres where there is no mains water connected; or
- 22 000 litres if your home is in a high bushfire risk area

4. Build your home using techniques and materials that make it more resistant to bushfires

There are a few simple construction techniques and materials that can be used to increase your home's resistance to bushfires¹.

Flooring

Flooring should be one of the following:

- a concrete slab on the ground
- a suspended concrete floor
- a framed floor with the space under the floor protected by a non-combustible sheet material such as fibre cement sheeting placed on the underside of the floor joists or a vertical non-combustible lining placed around the perimeter of the floor to enclose the under floor space.

External walls

External walls should be made in one of the following ways:

- using an external leaf of masonry, concrete or earth wall construction
- building a timber or steel framed wall that has sarking installed (material aimed at reflecting and deterring heat transfer) with a flammability index of no more than 5, and is clad with a non-combustible material for the first 400mm above the finished ground level, paving level or any balcony or deck with solid flooring
- using timber logs with all joints between the logs gauge-planed and sealed

¹ Techniques listed here are based on Australian Standard AS 3959 Construction of buildings in bushfire prone areas for a building located in a medium bushfire attack level. Buildings may also be constructed to a higher bushfire attack level.

Supporting posts, columns, stumps, piers and poles

Posts, columns, stumps, piers and poles should be made of a non-combustible material, however timber posts may be used if they are mounted on metal stirrups with a clearance of 75mm or more above the finished ground or paving level as shown in diagram 3.

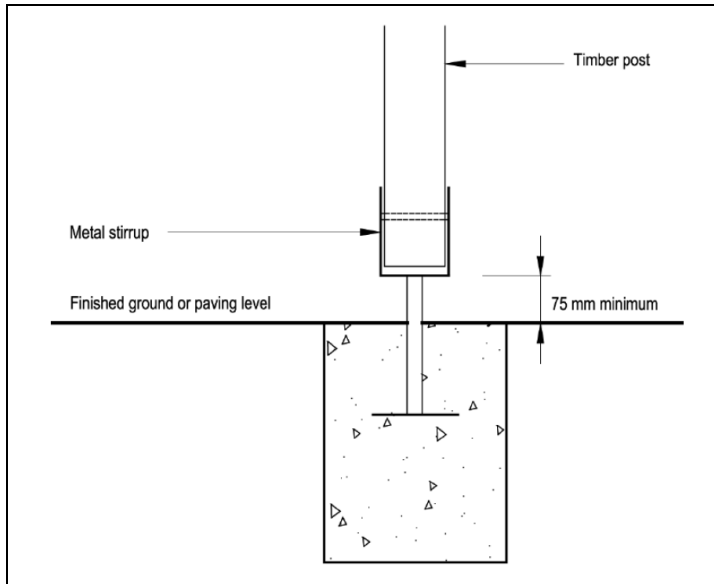


Diagram 3 - Bushfire protection for timber posts

Windows

Windows should be screened with corrosion-resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

External doors

External doors should be fitted with weather strips. Screen doors should be tightly fitting and use corrosion-resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

Vents and weepholes

Vents and weepholes should be protected with corrosion resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

Roof coverings

- Roof coverings should be made of metal sheets or fibre-reinforced cement. Do not use timber shakes or shingles.
- All gaps under corrugations in the sheet roofing should be sealed or protected in one of the following ways:
 - (a) fully sarking* the roof
 - (b) covering gaps with a corrosion-resistant steel or bronze mesh with a maximum aperture size of 2.0mm
 - (c) using profiled metal sheet
 - (d) using a neoprene seal or compressed mineral wool.
- Capping on sheet roofing should be pre-formed or the gaps between the capping and the sheeting should be sealed or protected.

- Tiled roofs should be fully sarked*, including the ridge, with a material having a flammability index of no more than 5. The sarking should be located directly beneath the tiling battens.

**see definition of sarking under heading 'External walls'.*

Eaves and fascias

- The roof/wall junction should be sealed with a fascia and eaves lining or the gaps between the rafters at the line of the wall sealed with a non-combustible material.
- Penetrations through the roof cladding for vent pipes and the like should be sealed with a non-combustible collar or fire-retardant sealant.

Skylights

Skylights and other shafts through the roof space should be sealed with a non-combustible sleeve or lining. Thermoplastic sheet in a metal frame may be used, provided that the diffuser at ceiling level is made of wired or toughened glass in a metal frame. Openings in ventilated skylights should be covered with corrosion resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

Roof ventilators

All components of roof ventilators, including rotary ventilators, should be made of non-combustible material and have their openings protected by corrosion resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

Roof mounted evaporated air cooling units

All openings into cooling units should be protected by corrosion-resistant steel or bronze mesh with a maximum aperture size of 2.0mm.

Gutters and downpipes

Materials or devices used to stop leaves collecting in gutters should be of a non-combustible material.

Service pipes (water and gas)

All above ground piping for water and gas supplies should be made of metal.

Verandahs and decks

Any supporting posts, columns, stumps, piers and poles must be of a non-combustible material. Timber posts may be used if they are mounted on metal stirrups with a clearance of 75mm or more above the finished ground or paving level as shown in the previous diagram. The preferred gaps between decking boards to avoid embers lodging between boards is 3mm. Any materials used to enclose the space under a verandah or deck must be of non-combustible materials for the first 400mm above the finished ground or paving level.

Further information:

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