

Your Guide to Property Preparation



Is my property at risk of fire?

You don't have to live in the country to be at risk.

Fires can occur where the suburbs meet the bush or in urban areas where houses have grass, bushland or parkland around them.

Fires occur in all these areas:

Close to or among grass or paddocks

Close to or among dense or open bush

Where cities and towns meet grasslands

Near coastal scrub

Where suburbs meet the bush or grasslands

How fires destroy houses

There are three main reasons houses burn down during fires. They are:

- Embers
- Heat
- Flame

Embers

Embers are burning pieces of bark, leaves and twigs. They are carried by wind and can start spot fires. They are the most common way houses catch fire. For hours before a fire reaches a home and after it has passed, embers land on and around it. Embers start fires when they land in gaps in the roof, chimneys, underfloor and through broken windows. Anywhere burning leaves or twigs enter your home, or get wedged, there is a risk they will start a fire. If embers get inside your home, fire will quickly spread because there are so many flammable objects inside such as curtains and carpet.



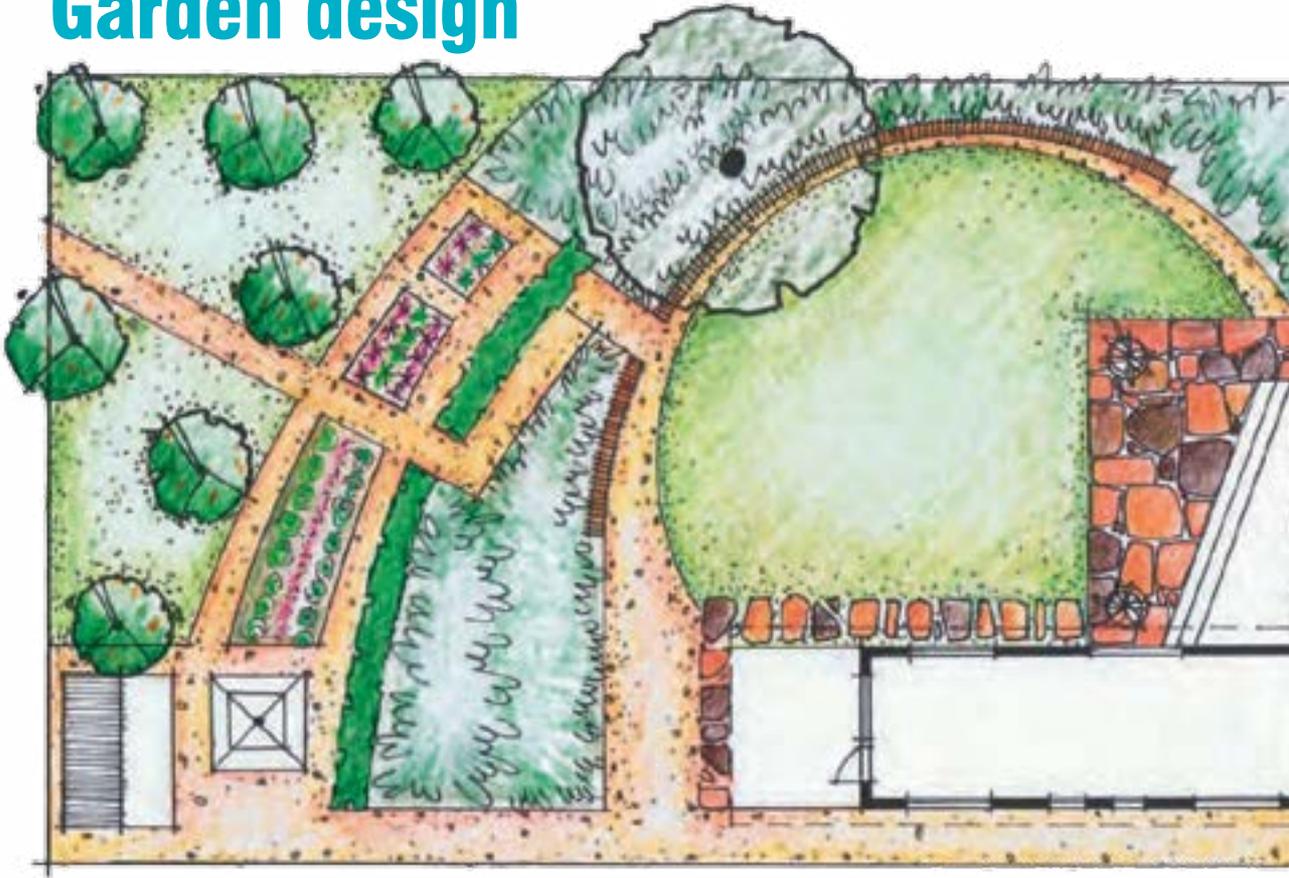
Heat

The heat from fires is intense, (think of how hot a campfire is). When flammable materials get hot enough, they can catch alight without any flame. Heat can also cause glass to break. Woodpiles, outdoor furniture and plants that are near or against your home can ignite and expose it to heat that is hot enough and sustained enough to cause fires and damage.

Flame

Fires typically destroy everything in their path. If you live in a high fire-risk area, it may be impossible to prevent. What you can do is design your property so that you reduce the intensity of the fire when it reaches your home. You can do this by designing your garden to reduce heat and flames reaching your house, by creating firebreaks with gravel or dirt, and keeping plants and trees maintained. By preparing properly, you give your house the best chance to survive fire, even if you plan to leave early.

Garden design



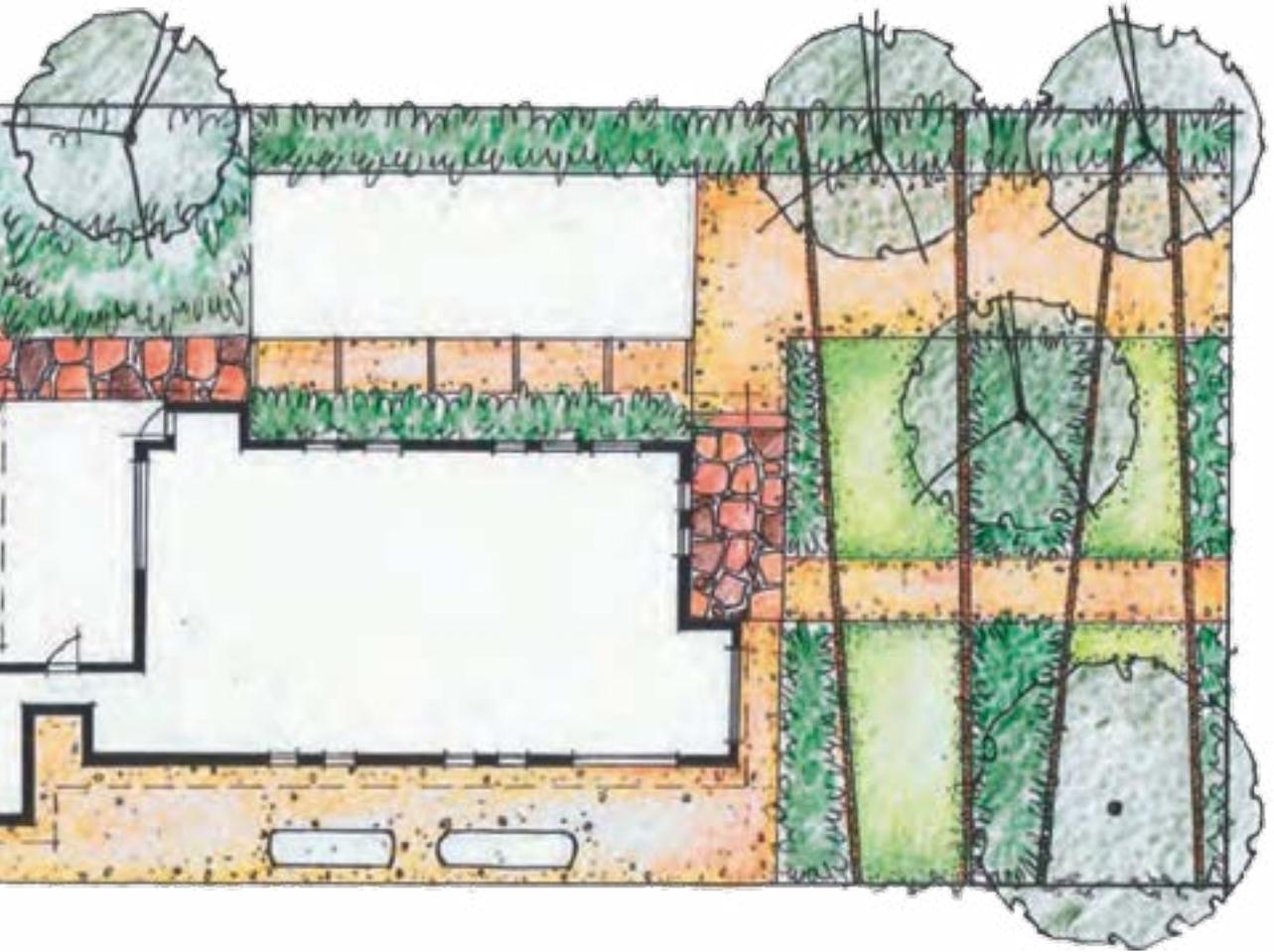
Even if you plan to leave early, you can do a lot to protect your home from fire. There are a couple of basic rules:

- **Reduce the risk of fire getting inside your house**
- **Reduce the flame and heat near your house.**

To reduce the risk of fire getting inside your house, you need to seal cracks and reduce weaknesses such as glass that can break during a fire.

Some preparations are costly and not achievable for everyone. If you can't afford protections such as fire-resistant shutters, there are still many things you can do to protect your home. Some are as simple as cutting back shrubs from your windows, or removing outdoor furniture and woodpiles from near your house.

Fire days are usually windy days. Most people who've experienced bushfire say there were more and larger embers than they expected. When you prepare, think about what might be a risk in these conditions.



You can do a lot to reduce the flame and heat near your house by designing a garden that is fire wise and maintaining it during warmer months. Fire burns wherever there is fuel. If you reduce fuel around your home, you can reduce how hot and destructive a fire is as it passes through your property.

Well-placed garden beds, firebreaks and reducing vegetation under trees are all ways you can manage fire risk.



Good separation is provided between all trees and garden beds to help slow fire spread. The entire area is irrigated to keep plants lush over hot summer days.

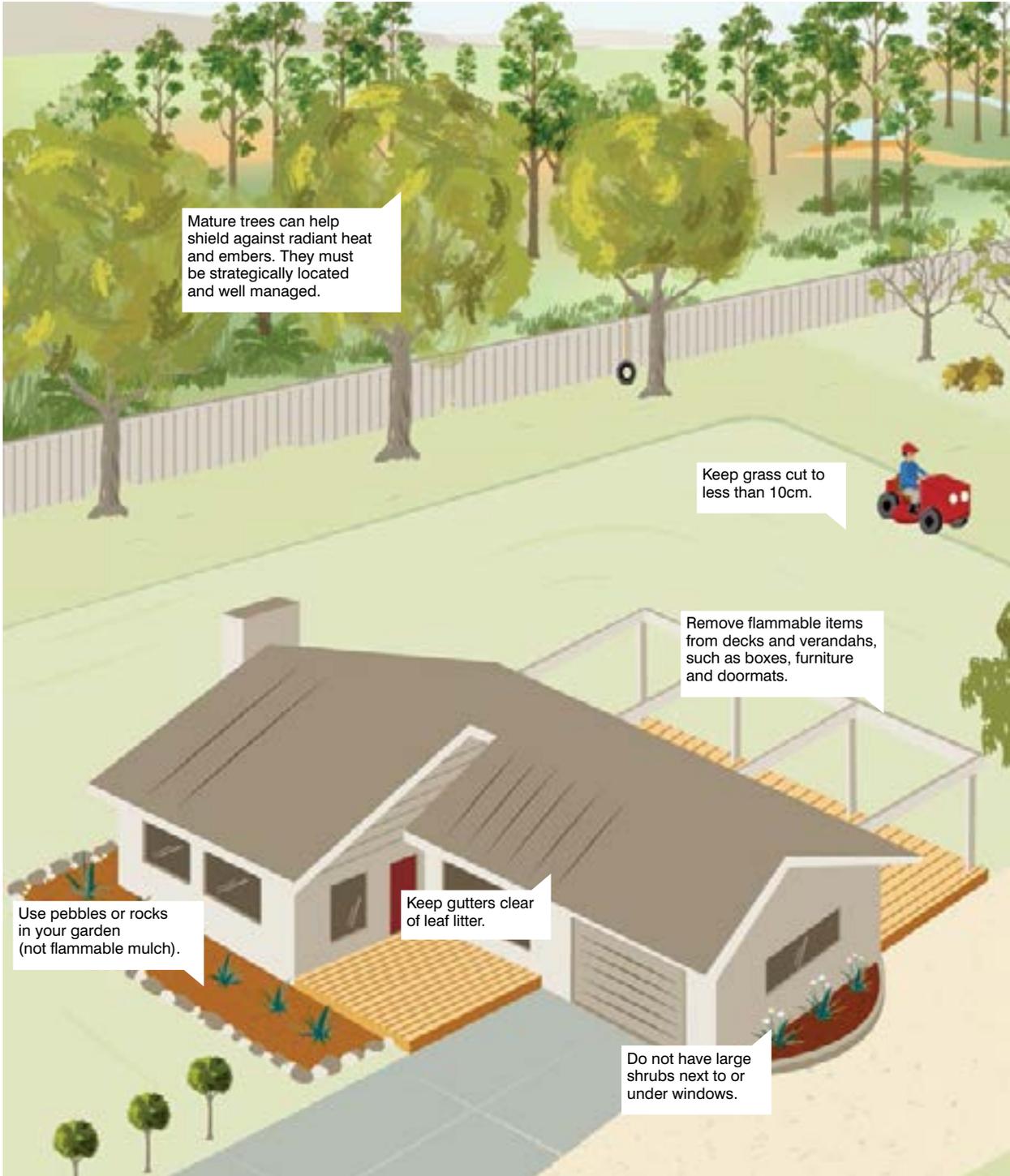


A small tree is located well away from the house. It provides shade and may also catch embers during a fire.



Lawn and low-sitting walls provide separation between the house and the direction of the most likely fire hazard.

Well-prepared property



Mature trees can help shield against radiant heat and embers. They must be strategically located and well managed.

Keep grass cut to less than 10cm.

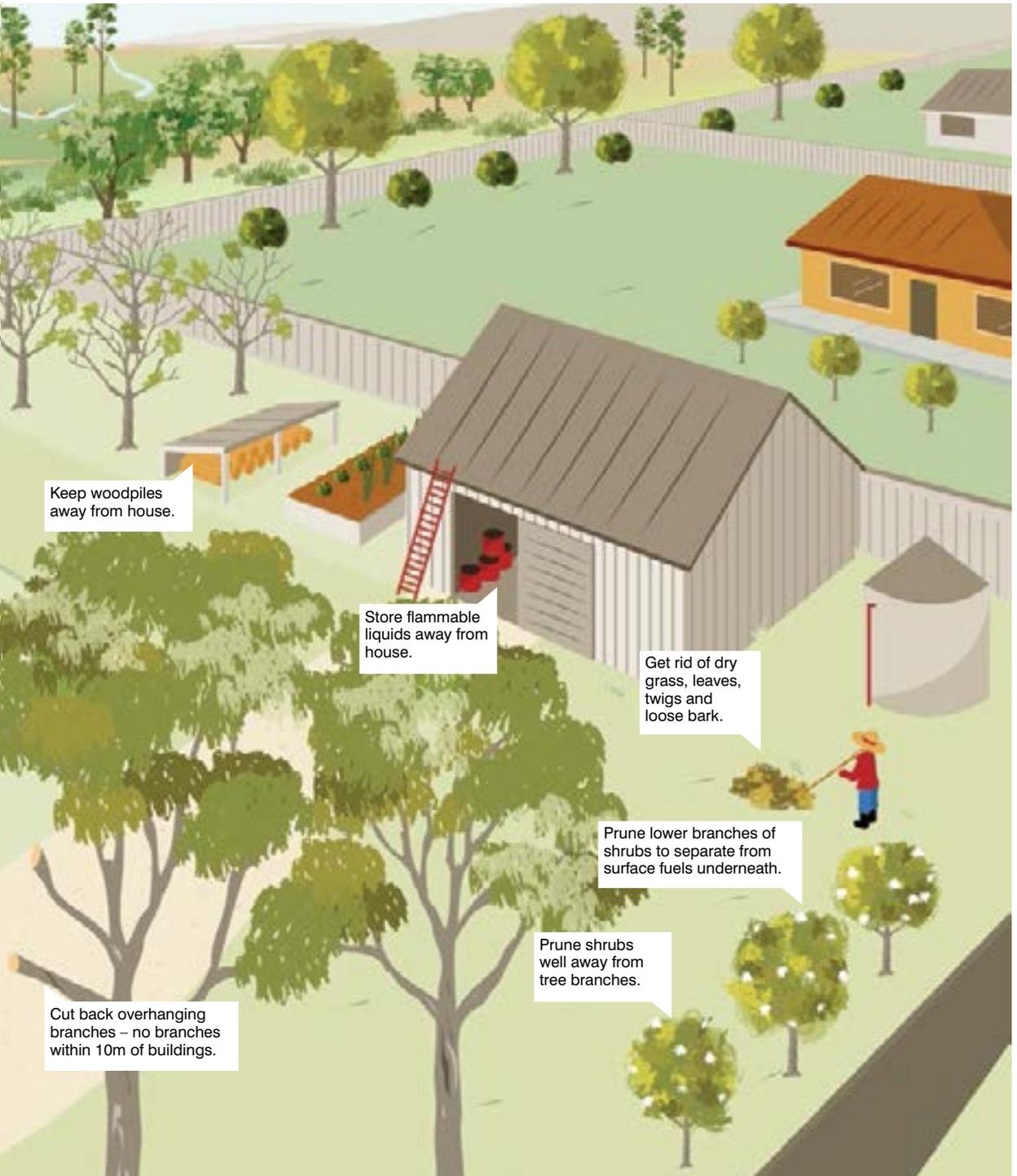
Remove flammable items from decks and verandahs, such as boxes, furniture and doormats.

Use pebbles or rocks in your garden (not flammable mulch).

Keep gutters clear of leaf litter.

Do not have large shrubs next to or under windows.

Things to do before and during the warmer months



Keep woodpiles away from house.

Store flammable liquids away from house.

Get rid of dry grass, leaves, twigs and loose bark.

Prune lower branches of shrubs to separate from surface fuels underneath.

Prune shrubs well away from tree branches.

Cut back overhanging branches – no branches within 10m of buildings.

Prepare your house

You can reduce the risk of fire entering your house. By sealing any gaps, and strengthening some areas, you can do a lot to help your house survive a fire.

Floors

Many houses catch fire from embers. One major problem is when embers get under sub-floors, especially when wood or other flammable objects are stored under the house.

To stop this happening, you need to seal your sub-floor. Make sure there are no gaps. Non-combustible materials such as masonry, brick veneer, mud brick or concrete are the best materials to use.

If your sub-floor isn't enclosed, there are two things you can do to reduce your risk from embers:

- Remove all flammable materials from under the house
- Seal any gaps using mesh or perforated sheet made of corrosion resistant bronze or steel (maximum aperture of 2mm).



Windows

If windows break, they let embers into the home. Once this happens fires can spread very quickly. Bad fire days are windy days so try to protect your windows from embers and other debris. You could use:

- Fire shutters
- Toughened glass (minimum 5mm thickness).

Heat can break glass. You can reduce the heat against your windows by removing shrubs and flammable mulch from under or around them.

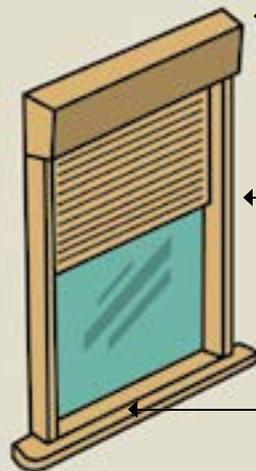
The best window frames are made from non-combustible materials such as metal or fire-resistant timber. If you have timber frames, make sure they are well maintained and painted.

Windows

Open and unscreened windows pose an extreme risk.

Screened windows and sills

Installing wire mesh screens (not aluminium) with 1.5mm holes over both the window and frame can prevent embers touching the glass or timber. This can also be an effective method for reflecting radiant heat.



Shutters

Installing shutters over both the window and frame will protect windows from cracking due to flying embers.

Seal gaps around window frames

This is an effective treatment for existing metal window frames. The sealant should be fire retardant.

Maintenance of window sills

Embers lodging on combustible window sills pose a high risk. Maintain window sills so there is no flaking paint.

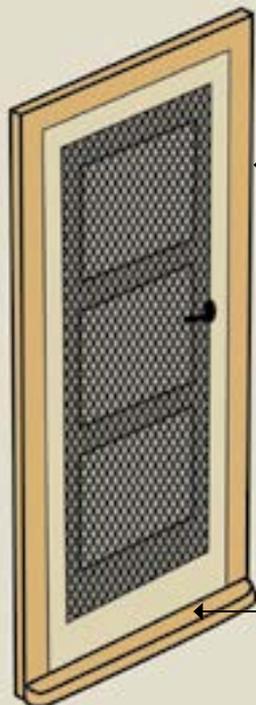
Prepare your house

Doors

Open and unscreened doors pose an extreme risk. Embers lodging on combustible door sills and gaps around door frames pose a high risk.

Screened doors

Installing metal screen doors over timber doors will reduce the chance of an ember igniting the door.



Seal gaps around door frames

If the door is non-combustible, sealing the gaps around the door will prevent embers from entering your home.

Non-combustible door sill

Replacing combustible door sills with a non-combustible product will reduce the chance of an ember igniting.

Doors

- Most modern doors can easily catch fire – you should aim to have a door made from solid timber or non-combustible materials
- Seal any gaps to stop embers getting inside
- Never leave your doormat under the door on bad fire-risk days
- If you have a fly-screen, the frame should be metal or non-combustible material, and the screen should be made of corrosion resistant bronze or steel mesh (maximum aperture of 2mm)
- Any glazing should be toughened glass with a minimum thickness of 6mm

Roof

You need to protect your roof to stop embers getting into the roof cavity and starting a fire.

- Seal gaps using compressed mineral wool insulation
- Use sarking (non-combustible sheeting) under the roof to stop embers
- Bushfire sprinklers can help but need to fully cover all exposed areas of the house and be constructed from non-combustible materials (seek professional advice)

- Cover skylights with non-combustible fire screens and gaps in evaporative coolers with metal mesh
- Keep gutters clear of any leaves or twigs during warmer months. Check after windy days.

Sarking (reflective non-combustible sheeting)

Sarking is an effective treatment to prevent embers from entering through your roof. Unless installed at construction stage this can be expensive to retrofit.

Seal gaps by using compressed mineral wool insulation

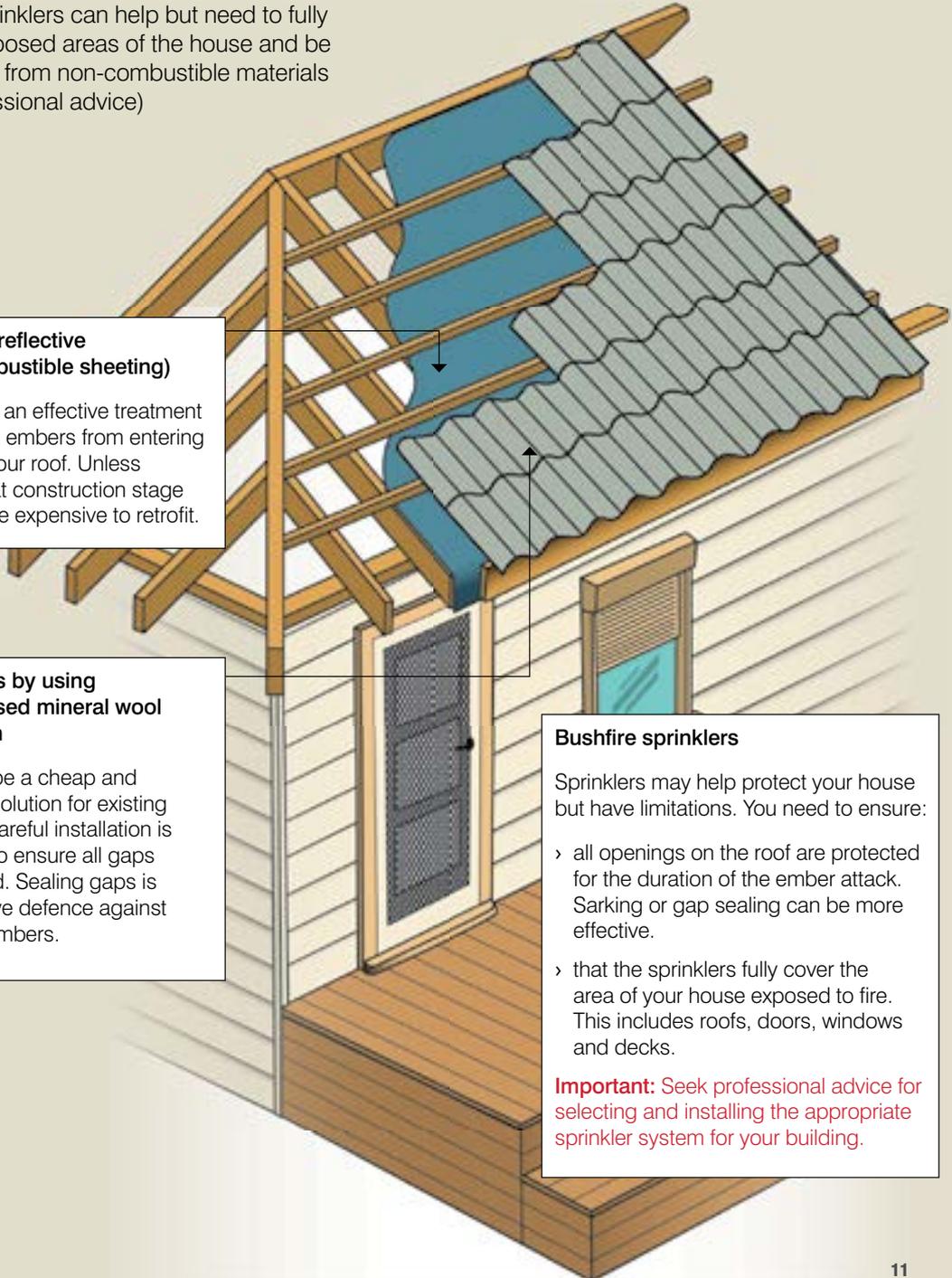
This can be a cheap and effective solution for existing homes. Careful installation is required to ensure all gaps are sealed. Sealing gaps is an effective defence against burning embers.

Bushfire sprinklers

Sprinklers may help protect your house but have limitations. You need to ensure:

- > all openings on the roof are protected for the duration of the ember attack. Sarking or gap sealing can be more effective.
- > that the sprinklers fully cover the area of your house exposed to fire. This includes roofs, doors, windows and decks.

Important: Seek professional advice for selecting and installing the appropriate sprinkler system for your building.



Prepare your house

Carports/decks/verandahs

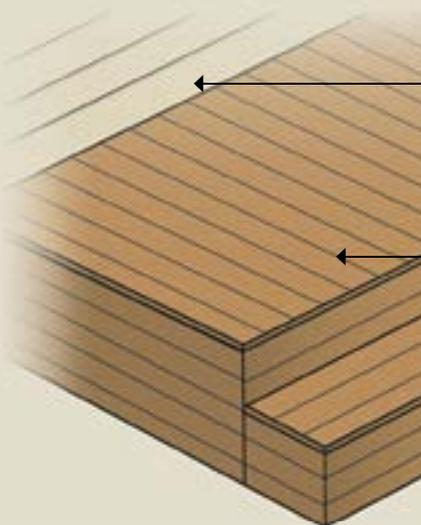
- If you live in a high fire-risk area, it's best to construct decks, carports or verandahs using non-combustible materials.
- If these structures are timber, make sure they're well maintained and note where leaves naturally gather, as this will probably be where embers land.
- Make sure you remove all flammable items such as outdoor furniture and pot plants before bad days.
- Try to keep shrubs and plants away from any timber structures.

Decks

Embers lodging on decks pose a very high risk of ignition

Non-combustible decking materials

Non-combustible decking material will not burn. Use concrete stumps, metal framing and fire-retardant-treated timber.



Separation from the dwelling to prevent fire spread

If the deck is built with combustible material, non-combustible material should be placed between the deck and the house. This will reduce the possibility of the fire spreading between the deck and the house.

Construct with gaps between decking materials

Leaving gaps between the decking timbers will allow most embers to fall through. However, there is still a possibility of embers igniting at timber junction points. Ensure there is no fuel under the decking and that you have access underneath to put out any spot fires.

You can reduce the flame and heat near your house by properly designing your garden. Fire doesn't jump, it burns where there's fuel. If you reduce and break up fuel, you can make the fire slower and less hot.

Lawns and garden beds

- Keep lawns between 5cm and 10cm. This means they are short enough to minimise fuel for fire but they can retain moisture.
- Where possible keep garden beds away from the house.
- Try to mulch garden beds within 10 metres of the house with stones not flammable materials.
- Keep garden beds clear of weeds and remove any dead vegetation.
- Keep plants well watered over warmer months.

Wooden sleepers have smouldered for days after fires have passed through properties. In hot and windy conditions, this could cause fine fuels such as mulch and leaves to catch fire. Use non-combustible materials for garden beds and retaining walls such as concrete or large rocks. It will give your home extra protection if you can't access your property after a fire.



Prepare your garden

Shrubs and trees

- Remove shrubs, plants and other flammable materials from around the bottom of trees. These can move fire up to the top of a tree and create embers.
- Look for bark that hangs off the tree and make sure it's well clear of the ground.
- Clear any branches away that overhang your house or decking.
- Remove dead branches from trees.
- Keep shrubs well watered, pruned and away from your house.

Don't leave piles of green waste near your home. Either dispose of them at the tip or in your usual green waste, or, if you're allowed, you may be able to burn off before the warmer season.

Don't forget that during certain times of the year burning off without a permit is not allowed. Before burning off:

- Check with CFA or your local council about any laws and restrictions
- Notify the Emergency Services Telecommunications Authority (ESTA) on 1800 668 511
- Check the weather forecast for the day of the burn and a few days afterwards. Don't burn on hot, dry, windy days
- Make a fire break of no less than three metres around the fire and clear it of anything flammable
- Make sure you watch the fire and have the tools to put it out if it escapes
- Have a good supply of water handy while you burn and put the fire out with water.





Breaking up fuels

One way to reduce the speed and heat of a fire is to create spaces without any fuel. If you break up fuel such as plants, garden beds and tree canopies, the fire can't spread as easily through your property. Fire needs a path of fuel to travel.

You can do this by:

- Keeping shrubs and plants away from the bottom of trees
- Using gravel paths and non-flammable mulch
- Keeping grass no longer than 10cm between trees, shrubs and garden beds
- Pruning tree branches at least 2 metres above the ground
- Keeping trees separated by pruning back branches.

What does it mean when we call plants fire resistant and fire retardant?

Fire resistant describes plants that can survive being burnt and will regrow after a fire. They will still burn. This means they aren't necessarily the best plant choice just because they have resistance to fire.

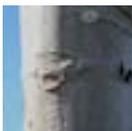
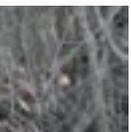
Fire retardant describes plants that may not catch fire or burn as easily as other plants, so they may slow a fire. But they will still burn. In fact, all plants will burn under the right conditions.

Prepare your garden

Choose the right plants

Although all plants will burn under the right conditions, some plants are less likely to catch fire than others. Choosing plants with low flammability and locating them correctly will help reduce the fire risk in a garden.

There are seven factors to consider when choosing fire wise plants:

	Good	Bad
Texture Plants with coarse texture are less flammable.		
Branching Choose plants with open and loose branching as well as leaves that are thinly spread.		
Bark type Smooth bark is best. Loose, stringy bark can catch fire easily.		
Density Plants that are dense with leaves very close together, can be more flammable because there is more to burn.		
Resins, oils and waxes If the leaves have a smell when crushed (such as eucalyptus, lavender and pines) they probably contain resins, oils or waxes which make them flammable.		
Leaves Wide, flat, thicker leaves, like those on camellias, are best because they usually have a high moisture content.		
Dead material If a plant is prone to having dry and dead sections, it will catch fire more easily.		

The **10/30** and **10/50** rule

Generally, you need a permit to clear vegetation from around your property but, in some council areas, particularly those with a high fire risk, the 10/30 rule or the 10/50 rule might apply to you. These rules allow you to clear vegetation without a permit, with certain restrictions.

You can check if they apply to your property by visiting cfa.vic.gov.au/plan-prepare/vegetation-clearing-tool/

Newer homes

If your home was built or approved after 10 September 2009 you will need a permit to clear vegetation no matter where you live. Contact your local shire or council for more information.

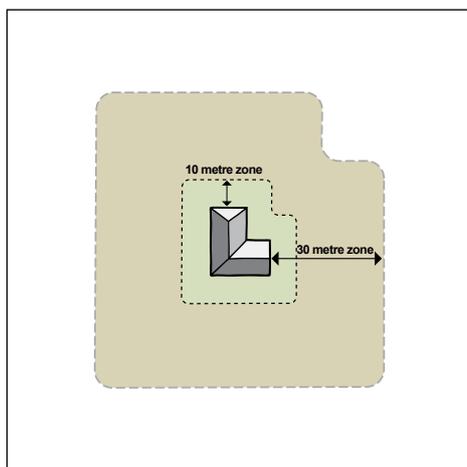
Note: houses that are replacements for a home damaged or destroyed by bushfire between 1 January 2009 and 31 March 2009 are entitled to clear vegetation according to the 10/30 and 10/50 rules.

The **10/30** rule

If this rule applies in your municipality, you will not need a permit to remove, destroy or lop:

1. any vegetation, including trees, within 10 metres of your house
2. any vegetation, excluding trees, within 30 metres of your house.

The 10/30 rule only applies for vegetation on your own land.

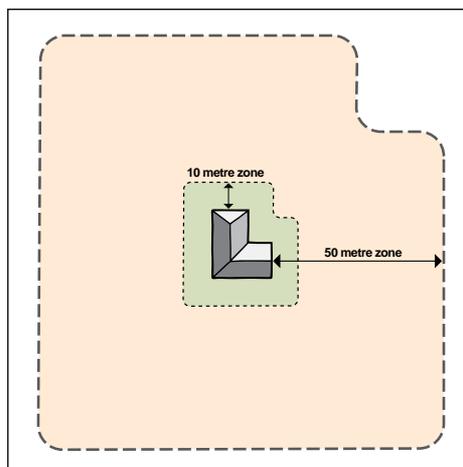


The **10/50** rule

If this rule applies in your municipality, you will not need a permit to remove, destroy or lop:

1. any vegetation, including trees, within 10 metres of your house
2. any vegetation, excluding trees, within 50 metres of your house.

The 10/50 rule only applies for vegetation on your own land.



Leading up to bad fire days

Don't leave things until the last minute. If you know a hot, dry, windy day is coming, start getting your property ready:

- Remove doormats from around the house
- Move combustible outdoor furniture and other items from decks, up against, or under the home
- Move pot plants a few metres from the home
- Double check that gas bottles are anchored securely with the relief valves pointing away from any flammable materials
- Mow your lawns. On bigger properties, a clearing of about 10 metres of well-mown grass around your home is advisable
- Walk around your home and remove piles of fine fuels such as leaves. It will probably be where embers will land
- Check your gutters to make sure leaves haven't built up
- Make sure you remove any fuels from around your windows and doors. These are the most vulnerable parts of your home
- Make sure trees on your property are healthy with no dead limbs and no vegetation underneath them
- Ensure your insurance is sufficient and current.

On bad fire days – last things to do before you leave

- Fire risk days are usually hot, dry and windy. This could mean you lose power. Consider moving cars out of garages with electric doors or outside of electric gates the night before.
- Check you have removed anything that could burn easily from around your house, on decks, verandahs and pergola areas. This includes mats, outdoor furniture and wood piles.
- Turn off the gas supply.
- If you have time, block your downpipes and partially fill your gutters with water.
- Close and lock all windows and doors.
- Leave your front or access gate open – unless this will mean large animals or livestock will be released on to roads.

Leaving early is always your safest option.

This booklet can help you prepare your property for bush and grassfire, but if you want to stay and actively defend your home, you will need to do far more preparation. You will also need to have a detailed understanding of fire risk, fire behaviour, property preparation, Fire Danger Ratings, warnings and alerts, and sheltering options.

Staying to actively defend your home is dangerous and you could suffer serious physical and emotional injury, or you could die. You must be fully prepared. We strongly recommend you talk to your local CFA brigade if you plan to stay to defend your property.

Dial: 000 If you see smoke, flame or embers

VicEmergency Hotline

for fire warnings and updates: 1800 226 226

Translating and Interpreting Service: 131 450

National Relay Service: 1800 555 677

cfa.vic.gov.au

delwp.vic.gov.au

emergency.vic.gov.au

Version 1

February 2017

Cover artwork by Portia Lea Fragapane

cfa.vic.gov.au