

FIRE PROTECTION FOR YOUR HOME

This article is to assist in this process and to give advice on how to try to protect your home against gale-force bushfires.

The majority of homes caught fire mainly due to trees being in such close proximity to the homes or by burning embers penetrating the homes – two foremost vulnerable zones are the roofs and windows.

Burning embers can be carried over several kilometers and ignite dry exposed areas of your home.

Here are some practical ways to try to make your house fireproof:

1. **Roof material** – obviously the owners with thatch type roofs would be more receptive to fires. There are several Fire Fighting Foams on the market that could be sprayed onto these roofs. Some would last up to three days and are bio-degradable. Cement roof tiles offer a better protection, especially if the silver foil insulation is installed underneath the tiles. That could, however, become brittle and disintegrate over the years. Gale-force winds could force the burning embers underneath the cement tiles into the roof void. Try to paint your roof with a Fire Retardant product and make sure to fill all openings between tiles. Unfortunately even metal roof sheeting on your roof can open up under intense radiant heat. (More on how to combat radiant heat under Landscaping.)



2. **Roof trusses** – most of roofs are constructed using timber trusses. Overhangs of the roofs often have exposed eaves where these trusses are open to the elements. The best way is to close the eaves and trusses with a fire rated fibre-cement board. The edges of the trusses dry out over time – protect these edges with fibre-cement fascias.



3. **Roof gutters** – dry leaves and twigs are the ideal place for embers to ignite the entire roof. Clean out your roof gutters and valleys regularly. Plastic gutters are excellent at the coast because of the low maintenance – but in a fire situation can ignite within 3minutes. We do suggest that if you live in a bushy area – to have no gutters on your roof but rather to have a 1,5 meter pebble apron around your house for rainwater from roof to fall upon.



4. **Roof vents** – are normally situated in the gable wall areas of the roof. Burning embers can be forced into these and ignite the roof from the inside. Install a stainless-steel fine mesh grid over these vents. These vents should be treated as windows and closed in case of bush fires.

5. **Roof void** – this area is classified as the area between your ceiling and roof covering. Over years fine dust penetrates this area and will be stirred up in windy conditions. This fine dust when airborne; is itself fire combustible. Get professional cleaners in to vacuum roof void every second year – depending on the amount of external dust in your area.

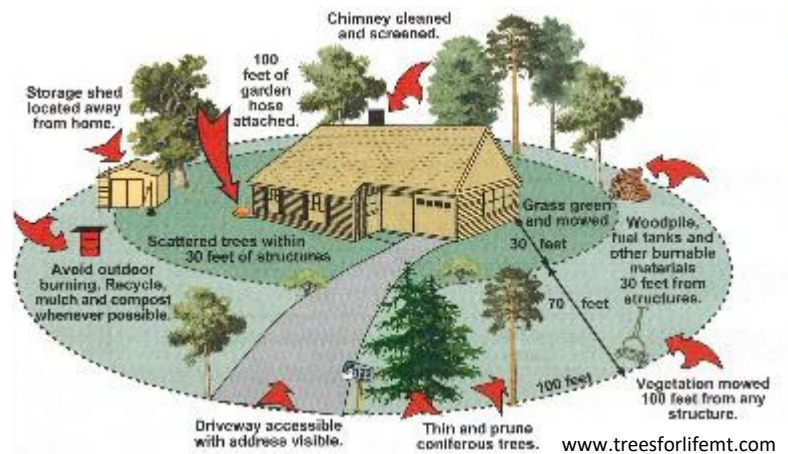


6. **Roof sprinklers** – this is a cost-effective way to protect your home. Install standard sprinklers on the outer edges of your roof ridge. Just make sure that you use stainless steel pipes – this is to prevent the fire from melting plastic piping and to prevent any rust occurring. This constant water over your roof will extinguish most burning embers. Of course in high fire situations the electricity and water supply will be non-existent. Make use of a back-up battery to drive a water pump – swimming pools could be a very good emergency water supply for this.



7. **Windows** – we are spoiled with beautiful vistas here in the Southern-Cape – hence the huge glass areas to enjoy this. Glass windows are an easy way for fire to enter a structure – especially when it is a single pane glass. Radiant heat from fires will crack and burst this glass – fire will then be able to enter without any obstruction. There are very expensive fire blankets available on the market – they will drop down automatically should fire be detected. Another more economical and manual way is to cut fire rated fibre-cement boards and have stainless steel clips onto your window reveals for these boards to clip onto. The thicker the board the more it will be classified for a higher fire rating.

8. **Landscaping** – trees and shrubs right against a house are excellent fuel for a fire. It is advisable to have at least a 10 meter defensible barrier around your home clear of any ignitable vegetation. Talk to your local nursery about evergreen flora with low combustibility. Have a 1,5 meter pebble apron or paving around your house with no pot plants or other flammable elements. High trees should be at least 30 meters away from your home. (Take notice that timber fencing connected to the house is also a fire risk.) Mow your lawns frequently and keep it green if possible (drought areas use greywater systems.) Contact professional tree fellers to clear high trees.



9. **Firewood** – keep it outside the 10 meter barrier area and not up against your house or garage.

10. **Gas bottles** –gas is a very energy efficient way for cooking and hot-water supply. Try not to have gas bottles against the exterior perimeter wall of your house. All piping into the house should be fire protected – an emergency cut-off valve at the gas bottles could also be installed. Build a brick and mortar gas-cage with stainless steel fire-grid in front of the louvered doors (protection against burning embers.) Make sure that there are no combustible elements, like garden furniture, in close proximity to these gas bottles.

11. **Garden furniture** – timber or plastic type garden furniture are also combustible. Foam seating cushions blown up against the house in strong winds. These will certainly be a high fire risk and can be easily ignited by burning embers.

12. **Garden sprinklers** – they could be effectively used when they are close to your house. Turn it so that it will also wet your walls and windows in case of a bush fire.
13. **Home automation** – the basics are to install a battery-operated Smoke Alarm in your garage and main passage area. This to warn you should any smoke be present while sleeping. In areas where you have higher risk of bush fires – install them outside as well (maintenance against elements may be more.) But Home Automation can also warn you via cellphone of approaching fires – exterior cameras can likewise be connected to your phone. You can even operate sprinkler systems remotely.
14. **Exterior Decks** – choose a decking system with an approved fire rating. The other problem with decks is the same as roof voids. Dust, leaves and twigs collect underneath and could be start of fire source. Clean frequently and try to have easy access underneath. This said – closing the area beneath the deck can help against dry material collecting there. But open area between decking planks give entree to foliage and burning embers.
15. **Identification & Access** – it is of vital importance that your house number is highly visible – this will help the fire authorities to find your house quickly in case of fire. Also see to it that there is easy access to your driveway by a Fire Truck.



Marius Smith is an Affiliate member of The Institution of Fire Engineers and has his own Architectural Practice in George.

Contact us for Fire Protection & Consultation

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