THE IGNEOUS HOUSE

Is it possible to build a bushfire resistant house? Master Builders director Michael McLean provides us with his thoughts.

IT is a fact of life that bushfires are common around Australia due to our climatic conditions and environment. Planning authorities have therefore zoned much of Australia as 'bushfire prone'. Persons who intend to build in those areas must obtain a building licence that ensures certain protections are in place to minimise damage to the property. Fires also frequently occur in suburban homes due largely to electrical faults, something accidentally catching alight or arson.

For years, regulators have tried to protect the average Australian home from bushfires by implementing measures from Australian Standard 3959, which deals with the construction of buildings in bushfire prone areas. But compliance with this standard won't guarantee your home is completely fire resistant.

I recently met with Phil Faigen, an experienced architect and builder, who since 2011 has been developing a fireproof home.

Phil has invented two products (patents published) that will be of interest to persons who live in bushfire areas and firefighters alike, particularly those involved in the Yarloop reconstruction.

One of those is a building system that is an 'all tempest resistant' building composed of modular units prefabricated under factory conditions and delivered to site and erected ready for occupation in 7-14 working days after completion of site works. It is called the 'Igneous Building System'.

Unlike traditional building methods, there is no part of the Igneous structure that will burn, be deformed or melt by bushfire or be adversely affected by cyclones.

This innovative building system provides a structural shell (i.e. walls, floors and roof) that is non-combustible, robust, virtually maintenance-free and suitable for fire prone areas.

In fact, not only are Igneous structures resilient buildings designed to resist damage that might be caused by bushfire, they are equally suitable for use in zones subject to cyclones, flooding and hail so as to be usable after all such events.

Such buildings are considered to be non-combustible and thereby 'fireproof' in the context of the usual definition of fireproof which is 'capable of resisting damage by fire'.

The Igneous House is a building capable of resisting damage by fire because:

a) The building structural shell is composed of only one material that is non-combustible
b) None of the connections are exposed to direct heat, or weathering (rusting)
c) There are no gutters or penetrations to collect vegetative debris or entry for embers
d) The water source and equipment is fully protected from fire
e) Vulnerable openings can be protected by the 'water-wall' (sprinkler) system and/or with specially designed fire-rated screens or doors, and
f) Being a modular construction it can be disassembled if it is required to be relocated at a later time.

Recent technology will allow each house to be totally self-sustaining so the house does not need to be connected to mains power or require scheme water.

The second invention Phil has developed is a transportable personal refuge (colloquially termed a 'bunker') for use in emergencies when firefighters and local residents need a sanctuary from a bushfire that puts them in life threatening peril – it is called the IgPod.

The IgPod is a unit that has all facilities to sustain a group of people for a short period before, during, or after a fire and can be readily transported ahead of a fire-front.

Patents have been applied for both Igneous and IgPod in numerous overseas countries.

To expedite the production of the Igneous House and the IgPod, Phil is seeking a site onto which to erect the prototype Igneous House and another to place the IgPod.

In summary, the Igneous House will not burn and will automatically extinguish embers while the occupants remain safe inside. It will achieve a BAL-FZ rating. It comes complete with its own water source (about 30,000 litres), emergency power, and automatically activated fire screens for all openings.

This is another example of an innovative solution to the common problem of how to build more safety in bushfire prone areas.

The entire product has been conceived, developed and will be manufactured in WA ready for the world market.

More information about the Igneous House can be accessed via www.igneous.net.au.