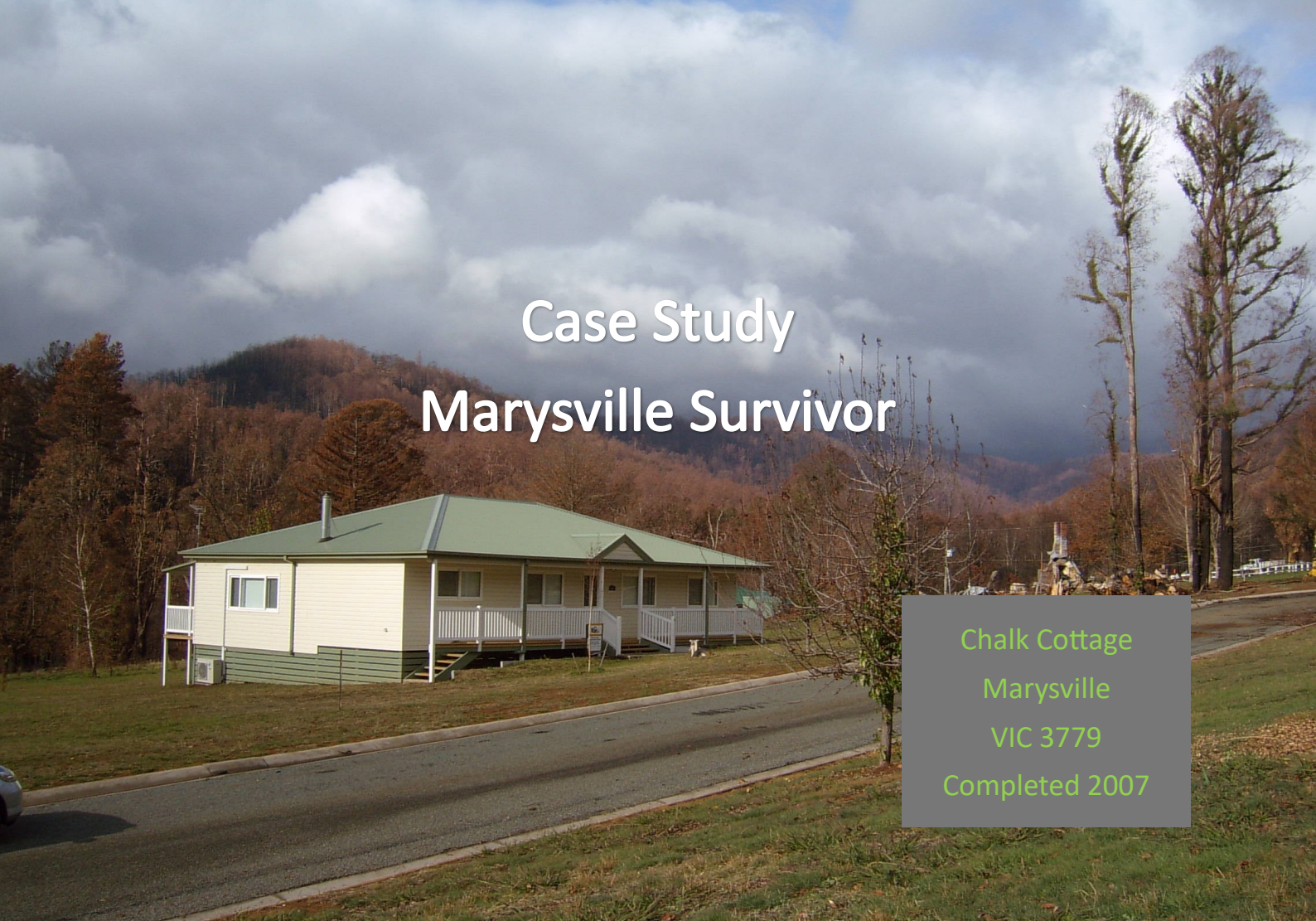


Case Study

Marysville Survivor



Chalk Cottage
Marysville
VIC 3779
Completed 2007

uPVC Windows
ALLIANCE
AN INITIATIVE OF VINYL COUNCIL OF AUSTRALIA



A two year old house constructed with vinyl weatherboards, vinyl fascia boards, vinyl fencing and uPVC windows, survived the horrific Black Saturday fires which devastated picturesque Marysville, Victoria on 9 February 2009.

Sitting on a cleared, sloping block, the house was left virtually unscathed while many neighbouring properties were completely incinerated.

Local builder Mr Rowan Steele, of Ro-N-Co Construction, and builder of the house, spent considerable time researching building materials for fire performance, low maintenance and energy efficiency.

He has been meticulous in experimenting with and selecting the materials he now builds with and was particularly impressed with the performance of the vinyl products and how they withstood the extreme conditions of the Black Saturday fires.

"A lot of my research was based on the 2003 Canberra bushfires," Rowan said. "Vinyl's fast to put up and there's minimal upkeep. It's also great in helping to insulate and maintain a comfortable internal environment. The added bonus, of course, is you don't have to paint it."

The increasing use of PVC in the construction and fit-out of buildings over the last 60 years has led to a thorough assessment of its fire performance: PVC has a low natural combustibility, it requires a high temperature ignite, it exhibits slow flame spread, and it will self-extinguish in the absence of a heat source.

The national standard for construction in bushfire-prone areas, AS 3959-2018, aims to improve the assessment of bushfire risk and provide clear guidance on permissible materials and construction of new houses in bushfire-prone areas.

Properties in bushfire-prone areas are assigned a Bushfire Attack Level (BAL) determined from a combination of risk factors associated with proximity to vegetation, the type of vegetation, and the topography of the property.

Certain vinyl products are allowed for construction within the Standard, including steel-reinforced vinyl windows up to specified radiant heat risk levels.

A combination of factors ultimately saved Rowan's vinyl weatherboard house; good planning prior to construction, distance from trees, vinyl weatherboards and double-glazed window frames with no air gaps, vinyl handrails, vinyl eaves sheeting and the consistent use of fire retardant materials such as vinyl products both inside and out.

Keeping the house air-tight, using good insulation and incorporating double-glazed uPVC windows also delivered an energy efficient home.



▲ The owner intentionally constructed the house away from vegetation and chose fire-retardant materials, including vinyl weatherboards and uPVC windows.



◀ ▶ The vinyl weatherboards and window frames escaped any significant damage and protected the house from ember attack to the interior.



◀ Rowan believes a fire-ball passed across the block along the side of the undefended house closest to nearby trees, dissolving several layers of paint on the timber posts of the rear deck.



▶ The ModWood® decking remained largely undamaged, with minor scorch marks from embers and a door mat which burned before being extinguished by a neighbour.

Building in Bushfire-Prone Areas

Australian Standard AS 3959-2018: Construction of buildings in bushfire-prone areas, states:

- ◆ Steel reinforced PVC window and door frames are permitted up to, and including, Bushfire Attack Level (BAL) 29.
- ◆ PVC gutters and downpipes are permitted up to BAL 29.
- ◆ PVC is allowed in decking and vent pipes up to BAL 12.5.
- ◆ Where any elements of construction and systems satisfy the test criteria of AS 1530.8.1-2007, for any Bushfire Attack Level (BAL 12.5 to BAL 40) it shall satisfy the requirements of that Bushfire Attack Level.