

**Topic 5    Roofs    Capping, Dektite, gutters & gutterguard,  
roof space, sarking**

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**Chair**

Blocking of a roof ridge capping caused by corrugated roofing. Can you confirm that you suggested a fiberglass type batt to block the openings? This person had read, and I must admit, I believed, that rockwool was recommended for those things. Because again, not all insulation is created equal.

**Justin Leonard**

it's certainly true that rockwool and glass wool are two quite different batt materials, and that the rockwool, by name, means that it's actually made from a rock silica material which has a much higher melting point than glass wool. But in that application, under a roof ridgeline for ember attack, both will perform adequately because there simply isn't the heat locally to actually melt out the glass batt. So, it's easy to go with the more compliant, cheaper glass batt. If you were trying to prepare a roof for flame attack and direct like flame zone impingement, then the rockwool option would be a preferred upgrade.

**Chair**

What's the probability of embers or radiant heat affecting Dektites the rubber piping that surrounds a roof opening with a pipe coming through it? And is there any way to minimize the impact?

**Justin Leonard**

So, all Dektites aren't created equal, and you'll find that there's two types when you go into a hardware store. One is a high temperature one, which is actually designed to go around things like flues for wood heaters and gas heaters that perforate up through the roof, and they're typically a red silicon material. They're quite high temperature performing, and can resist quite a bit of debris build up against them, and the burning out of that debris. The other types, which are a butyl rubber style material, which can also be red or black, so be careful. It will burn out readily when a small amount of debris builds up against it and burns in a bushfire.

**Chair**

And those Dektites, those different styles, are they marked or do you have to ask about their flammability?

**Justin Leonard**

The high temperature ones will be deliberately rated and marked, and will cost significantly more. So, there'll be a fair bit of enthusiastic advertising around them to try and convince you to pay the extra.

## **Justin Leonard**

The same goes with unprotected gutters. Yes, you can clean your gutters out, but during the fire event itself the debris can build up again, to some extent in those gutters and apply localized flame attack to the roof elements adjacent.

## **Justin Leonard**

And, of course, there's other conventional ways to protect our gutter lines, and one of those is using gutter guards. But, in the event of using a gutter guard, it's very important to firstly select ones that are not made of polymeric materials, because they simply add to the fuel load that's in your gutter. And, when the embers arrive, they will melt and burn through along with any debris that has built up on top of them.

The mesh size for these gutter guards really needs to be 2mm or smaller in aperture size to be effective, because embers will simply pass through larger gaps and access what debris, if any, has built up under them. And, of course, the means of fixing them both to the roof and to the gutter line must be of some type of noncombustible material and flashing, so that it can perform adequately under the combined actions that bushfires bring.

## **Chair**

Last year, different speakers had different opinions about gutter guard in our series last year. Are there any new recommendations about the best way to stop debris getting into gutters with gutter guard and how to seal the end of the roof edge? Particularly on a metal roof.

## **Justin Leonard**

So, obviously, absolute rule number one is make sure your gutter guard's not made out of anything that can burn itself, because the last thing we want to do is put more fuel on the gutter. It has to be sealed, obviously, has to form an intimate connection to the roof sheet itself, and to the lip of the gutter. So you actually form a complete enclosure between the gutter, the fascia and the roof sheet. And the most appropriate ways to do that is using some form of metal fixing rather than a bonded polymer based approach, because as the debris lands on and acts on it, it could actually burn the polymer and cause it to disconnect.

Things like fine metal mesh with things like stainless steel fine mesh, or galvanised fine mesh are at the higher performing temperature metals, is probably a preferred approach. But, also noting a bit like closing up all your cavities, putting fine mesh over your gutters in a high rainfall, high discharge area, you're actually also potentially disturbing the rate that the water can get through the mesh and fall into your gutters as well. So there's a whole lot of challenges and trade offs, but, yeah, I guess I'd encourage you to explore all the weird and wonderful ones but still apply the 2mm threshold ember test to it and it should all be tight fitting and robust to that 2mm tolerance if it's really going to become an ember barrier.

## **Justin Leonard**

I'd always encourage people that are in the unfortunate circumstance of using their house to survive a fire to monitor and roam around inside the structure during the fire event, including accessing the roof space very carefully by popping your head in up through the manhole and having a look. And, ideally, having something like a super soaker water pistol to distribute water throughout that roof space if the framing starts to burn in that roof space.

## **Chair**

After the 1969 fires, this person's family visited friends, whose house in the foothills of the Dandenongs was left standing in the street. So, we're still there and that had had covered everything with reflective building foil. Is that thinking out of date?

## **Justin Leonard**

The reflective building foil obviously does what it says: it reflects. And if it reflects light and heat, it can reflect radiant heat. And, obviously if it's wrapped well enough, you've actually got a secondary ember barrier that may compensate for ember issues in whatever it's being wrapped over. I'd say it'd be particularly challenging to get that right, and also to wrap a house in a high wind scenario.

And, I would also caution in terms of what would be the most appropriate thing to use. So, if you duck down to Bunnings and bought the roll of the cheapest sarking you can get your hands on, that in itself does not offer much protection, and actually will have a lot of holes burnt through it even if that's what they call Level Five sarking, which is the sarking required to be used in AS 3959 in bushfire resistant houses.

So, even though it's shiny on one side, the back of it can be paper, and in many cases, it doesn't offer a specific barrier to flame or ember attack.