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## SARKING - WHEN TO USE IT

One of our customers was recently asked the following question, "Is sarking compulsory for all roofs?"

This is actually a very good question as there is not an easy 'over the counter' answer.

After diving into a pool of standards and codes, I soon realised that there is no single regulation which addresses the sarking issue as a whole but a handful of documents, each dictating when and how sarking is to be used under different scenarios.

By definition, sarking is an impervious barrier comprising of foils and films of diverse materials which is used to prevent water from penetrating the building envelope beyond the exterior roof (and wall) cladding.

While there are several regulations concerning sarking to service different requirements, the BCA makes it easier to see the big picture by listing the various referenced documents necessary for roofs to be compliant.

Here are some of the different scenarios.

### TILED ROOFS (AS 2050)

**On tiled roofs, full sarking over the entire roof is compulsory whenever the wind classification exceeds N3.**

In lower wind classifications, partial sarking on long roof slopes is necessary to divert accumulated water that penetrates the tile roof.

Table 1 indicates the maximum rafter lengths (measured down from the apex) below which sarking must be installed over the remainder of the rafter length.

In another situation, local sarking of an affected area (in addition to other measures such as spreader pipes and flashing) is also mandatory when there is any discharge of water from an upper gutter/valley or downpipe in order to conduct penetrated water away.

### SHEETED ROOFS (AS 1562)

**Condensation is one of the biggest single items contributing to the deterioration of buildings.**

If it occurs, it will be particularly difficult to rectify the cause of the problem.

Moisture in humid air tends to condense on the underside of metal roofs when there is a particular temperature difference between the roof space and the exterior (e.g. cold nights).

This condensed water will act to rust the roof sheets and when it drips onto the trusses, insulation and ceiling boards below will cause timber to decay, connector plates to withdraw and plasterboard to stain and deteriorate.

**(BAL) beginning with 'BAL-LOW' at the lowest level.**

Most metropolitan and suburban areas fall under this category and no special requirement exists from a bushfire point of view. At the highest "BAL-FZ" level, special regulations govern which is outside the scope of this Guideline.

For other BALs in between, tiled roofs must always be fully covered with a non-flammable sarked material.



■ Sarking on the roof of a house.

**TABLE 1 – SARKING REQUIREMENTS IN RELATION TO PITCH/RAFTER LENGTH**

Roof – degrees of pitch	Maximum rafter length without sarking, mm
From 18° up to less than 20°	4500
From 20° up to less than 22°	5500
From 22° upwards	6000

Hence, although sarking is not strictly compulsory on metal sheeted roofs, it is nonetheless strongly recommended to prevent water condensation thereby avoiding all of these potential problems.

As for metal roofs, fibre-cement sheeted roofs do not mandate the use of sarking either. But because fibre-cement has natural insulating properties, it is not susceptible to water condensation and hence sarking will not offer any better protection.

Sheeted roofs can also be fully sarked as a tiled roof or partially sarked, in which case any gaps to the roof space at the ridge, gutter, valley, fascia, etc. must be sealed with non-combustible material to make the roof fire tight.

### FINAL WORD

**The bottom line is that sarking is always a sure bet and a cheap insurance policy as it will always protect the roof from being attacked by the elements, thus preserving the longevity of the entire house.**

### BUSHFIRE PRONE AREAS (AS 3959)

**There are six Bushfire Attack Levels**