

TECHNICAL:

Water tanks for fighting bushfires

This Advisory Notice explains the nature of water tanks required to be provided for fighting bushfires as there are reports of inconsistent application of the statutory requirements.

BACKGROUND

In bushfire protection areas identified in council development plans, water tanks are required to be provided to assist in fighting bushfires. The technical requirements are provided in Minister's Specification 78, *Additional requirements in designated bushfire prone areas*, which are mandated through Development Regulation 78 (3) and is part of the building rules assessment.

DISCUSSION

Types of water tanks

There are two basic types of required water tanks:

- Occupant and CFS use – full bushfire fire fighting capability
- Occupant only use – for extinguishing sparks and embers with domestic hoses and buckets

When are they used?

The first type of tank is only required in areas indicated as having a HIGH bushfire risk. In these areas water is critical for fire fighting operations and even mains water supply may not be sufficient for various reasons. Accordingly, at least a 22,000L tank must be provided with the appropriate fire fighting equipment.

In all other areas (General, Medium and Excluded), while it is unlikely that the property will be directly involved bushfire fighting operations, there will nevertheless be a significant fire risk from sparks and embers being blown considerable distances from the actual fire front. The quantity of water for extinguishing accumulated sparks and embers can take into account the availability of some mains water (even if the pressure is low) so two tank sizes are provided occupant use - 2,000L and 5,000L. To enable a person to be able to fill a bucket from the outlet, there must be at least 400mm clearance available under the outlet and for 200mm either side.

Water tank materials

All above ground water tanks must be constructed of non-combustible material as tested in accordance with AS1530.1, *Combustibility test for materials*. While steel and concrete readily meet this requirement any other material should only be accepted if the appropriate test certificates are available.

As part of the Bushfire Co-operative Research Centre project there has been research into the performance of water tanks in bushfire conditions:

http://www.bushfirecrc.com/managed/resource/water-tank-behavior-bushfires_0.pdf

This research identified that polyethylene tanks can be at risk of structural failure from radiation exposure and they also showed some involvement in the combustion process from burning leaf litter.

Tanks located below ground are not exposed to radiation or to sparks and embers but any portions projecting above ground should be constructed of non-combustible material.



Government
of South Australia

Further information

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