

In response to the February 2009 Victorian Bushfires, the Victorian Government has been the first state to adopt the new revision of AS3959-2009 *Construction of buildings in bushfire prone area*, which was intended to be referred by the Building Code of Australia in 2010.

Adoption of this standard has been followed by a suite of changes to the Victorian Building Regulations to allow use of this standard as the prescribed construction practice, as well as changes to the areas of its application.

The key change in the application of bushfire standards is that it now applies to the whole of Victoria and that every new residential dwelling and development (BCA Class 1, 2, 3 and associated 10a) will be subject to it.

The Bushfire Construction Standard AS3959-2009

AS3959-2009 *Construction of buildings in bushfire prone area* brings together 10 years of scientific research since the 1999 revision to incorporate the state of the art in undertaking bushfire attack assessments and house construction practices, commensurate to the bushfire attack level. AS3959-2009 is designed to allow flexibility in the location, the form of construction, and building materials for new houses in bushfire prone area, but with the extent or form of a building element appropriate with the bushfire risk.

AS3959-2009 is formed in two (2) parts:

1. Determination of the Bushfire Attack Level (BAL) after a site assessment.
 - o Method 1 (Simple Tabulation Method).
 - o Method 2 (Site Specific Calculation Method)
2. Construction practices at designated BALs.

The prescribed performance of construction for building elements is commensurate with the determined BAL.

To provide flexibility and allow innovation in building design and choice of materials, AS3959-2009 allows variation from the prescribed methods of construction. This is by the use of fire testing and/or assessment to verify that the performance level of a building element, system or entire assembly is at least equivalent to the prescribed benchmark – the BAL.

To cover the range of BAL, two (2) bushfire testing standards have been developed and referred by AS3959-2009. They are AS 1530.8.1-2007 and AS 1530.8.2-2007.

“The higher the bushfire risk, the higher the required performance of the building.”

Exova Warringtonfire is part of the Exova Group, an international organisation with operations in over 25 countries. Exova provides professional, independent, impartial and confidential fire safety consultancy and testing services.

Being one of the leaders in Australia over the last 25 years in fire safety and testing, Exova Warringtonfire has a strong tradition of interweaving our understanding of fire and behaviour of materials exposed to fire through our testing and research activities, into the consultancy and design services. This includes bushfire safety, with active research into bushfire construction practices.

EXOVA WARRINGTONFIRE

Implementing the new Victorian Bushfire Building Regulations and AS3959-2009

Bushfire Services Provided by Exova Warringtonfire Australia

Site Assessment

Exova Warringtonfire has consultants that are trained to undertake a bushfire threat assessment using the methodology adopted in AS3959-2009. Information gathered from the site assessment will be used to determine the Bushfire Attack Level using Method 2.

The site assessment can be undertaken for an individual allotment as an in-fill development or be extended to the sub-division scale for new land releases. Planners may then use such a plan to maximise the buildable areas within the lower BAL zones, whilst placing amenities, services, parks, roads, and other developments in zones where house construction may be cost ineffective.

Building Design Review and Advice

To assist your building designers transitioning to the new bushfire regulatory environment and adoption of AS3959-2009, we can review architectural drawings and identify:

- the extent the design satisfies the Construction Practice Schedule for that BAL, or
- where it may vary with the prescribed requirements and an alternative design solution may be formulated to improve efficacy of the design, or when requested to accommodate innovative planning or design.

Building design is only one aspect of bushfire safety. Consideration must also be given to vegetation management, water supplies, access, and services.

Exova Warringtonfire has expertise in the design and specification of water tanks, pumps, fire fighting equipment, hydrants, and other fire fighting measures. Such advice may be limited to a single dwelling, to a new subdivision, where a reticulated water supply and associated fire hydrants, or even a community bushfire refuge, may be made available to serve the new community.

Testing and Assessment

Verification of innovative systems may be conducted by fire testing and/or assessment.

Exova Warringtonfire is a testing authority registered with the National Association of Testing Authorities (NATA) and can undertake fire testing to AS1530.8.1 and 2-2007.

Design Accreditation to CodeMark

Formal accreditation of the design of your standard building configurations can be gained through the nationwide accreditation scheme CodeMark. Accreditation of a design to this scheme denotes that the design complies with the Building Code of Australia (BCA) to the extent nominated in the relevant Certificate of Accreditation.

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