

Australian Standard[®]

Bushfire water spray systems



This Australian Standard® was prepared by Committee FP-024, Bushfire Water Spray Systems. It was approved on behalf of the Council of Standards Australia on 9 July 2012. This Standard was published on 20 August 2012.

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- Australasian Fire and Emergency Service Authorities Council
 - Australian Building Codes Board
 - Australian Chamber of Commerce and Industry
 - Australian Industry Group
 - Australian Institute of Architects
 - Australian Institute of Building Surveyors
 - Fire Protection Association Australia
 - Insurance Council of Australia
 - Master Builders Association
 - Plumbing Industry Commission
 - Roofing Tile Association of Australia
 - Society of Fire Safety
-

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PREFACE

This Standard was prepared by the Standards Australia Committee FP-024, Bushfire Water Spray Systems.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

This Standard incorporates a commentary on some of the clauses. The commentary directly follows the relevant Clause shown in italics font-type and enclosed in a panel. The commentary is for information only and does not need to be followed for compliance with the Standard. Commentaries on clauses explain the purpose of a Clause and give, in some cases, background information.

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FOREWORD

The bushfire water spray systems specified in this Standard are designed to provide a degree of exposure protection against ember attack and low levels of radiant heat flux. As such, they are intended to complement the construction, passive fire protection and housekeeping features detailed elsewhere (for example, AS 3959, *Construction of buildings in bushfire-prone areas*).

It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions. Accordingly, requirements such as duration of water supply and number of spray nozzles in simultaneous operation are to be regarded as minimum, and increased wherever practicable.

The matter of alternative building solutions is not addressed in this Standard.

STANDARDS AUSTRALIA

Australian Standard

Bushfire water spray systems

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out general requirements for the design, installation and maintenance of water spray systems intended to provide a degree of building protection against bushfire exposure, including ember attack, together with limited protection against radiant heat exposure [up to 19 kW/m²(BAL 19)]. Bushfire water spray systems are intended to complement the requirements of AS 3959, and should be considered as one component of a holistic fire management plan.

NOTE: For further guidance see Appendix B of this Standard and the site assessment aspects of AS 3959.

It is recognized that installation of a bushfire water spray system is to be preceded by some form of on-site evaluation by a qualified bushfire assessment practitioner. In such cases it is recommended that the practitioner witness the system commissioning test and countersign the completion certificate.

NOTE: Where required, a copy of the completion certificate should be forwarded to the local government authority and the fire service concerned.

Bushfire water spray systems may be used for protection against bushfire ember attack on BCA Class 1a, 1b, 2, 3 and 9c buildings, particularly existing buildings which are not fully compliant with the requirements of AS 3959.

CI.1 Ideally, automatic fire sprinkler protection within the building (including roof and underfloor spaces) together with an external bushfire water spray system is considered to represent superior protection against bushfire ember attack. AS 2118.4 sets out requirements for protection within the building (with minor variations).

1.2 OBJECTIVE

The objective of this Standard is to provide building owners, system designers and installers with information on the design, installation and maintenance of bushfire water spray systems intended to confer a degree of protection for buildings exposed to ember attack and limited radiant heat flux.

1.3 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

AS

- 4118 Fire sprinkler systems
- 4118.1.1 Part 1.1: Components—Sprinklers and sprayers
- 4118.1.6 Part 1.6: Components—Stop valves and non-return valves
- 4118.2.1 Part 2.1: Piping—General

AS/NZS

- 3500 Plumbing and drainage
- 3500.1 Part 1: Water services
- 3959 Construction of buildings in bushfire-prone areas