

Australian Standard™

Smoke/heat release vents

This Australian Standard was prepared by Committee ME-062, Ventilation and Airconditioning. It was approved on behalf of the Council of Standards Australia on 23 March 2004 and published on 10 May 2004.

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Australasian Fire Authorities Council
Australian Building Codes Board
Australian Industry Group
Australian Institute of Building Surveyors
Australian Institute of Refrigeration Air Conditioning and Heating
Chartered Institution of Building Services Engineers
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This Standard was issued in draft form for comment as DR 03391.

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Smoke/heat release vents

Originated as AS 2427—1981.
Previous edition 1983.
Third edition 2004.

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Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5949 1

PREFACE

This Standard was prepared by the Standards Australia Committee ME-062, Ventilation and Airconditioning, to supersede AS 2427—1983.

This edition is technically identical with the previous edition but some of the material has been rearranged to facilitate the application of this Standard with the associated test methods (AS 2428) and the new Standard for the design, installation and commissioning of smoke/heat venting systems, AS 2665.

The main changes from the 1983 edition are summarized as follows:

- (a) New requirements for resistance to collapse during a fire were added under a new Clause 2.2.
- (b) An advisory statement for the possible use of other devices in lieu of tension springs was added to Clause 2.6.
- (c) A new clause addressing construction requirements of vents in order to prevent any discharging flames and gases from impinging upon any adjacent structure was added to Section 3, see Clause 3.1.
- (d) Clause 3.2.1: *Automatic operation* was fully revised to address vent failure position and use of various control devices and arrangements in addition to thermally released links.
- (e) A new Clause 4.1: *Performance testing of smoke and heat vents* was added to replace the previous Section 5: *Determination of compliance to the basis of performance*. Additional requirements for testing and test samples were introduced.
- (f) New Section 5: *Project specific information* was added to address the information that needs to be provided to the manufacturer at the time of order.

Maintenance of these vents is dealt with in AS 1851, *Maintenance of fire protection equipment*, Part 5: *Automatic smoke/heat venting systems*.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard
Smoke/heat release vents

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for buoyancy-driven smoke and heat exhaust vents that are intended to be mounted in roofs of buildings to release the products of combustion in the event of fire.

1.2 APPLICATION

Smoke/heat release vents shall comply with the requirements of Clause 1.5 and with the relevant requirements of the following Sections:

- (a) Section 2—Materials of construction.
- (b) Section 3—Design and manufacturing requirements.
- (c) Section 4—Performance requirements.

Compliance with this standard shall be assessed in accordance with Section 4.

1.3 REFERENCED DOCUMENTS

The following Standards are referred to in this Standard:

AS

- 1397 Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc-coated
- 1444 Wrought alloy steels—Standard, hardenability (H) series and hardened and tempered to designated mechanical properties
- 1472 Carbon steel spring wire for mechanical springs
- 1874 Aluminium and aluminium alloys—Ingots and castings
- 1890 Thermally released links
- 1897 Electroplated coatings on threaded components (metric coarse series)
- 2428 Methods of testing smoke/heat release vents
 - 2428.1 Part 1: Determination of resistance to leakage during rain
 - 2428.2 Part 2: Determination of ability to operate under wind loading
 - 2428.3 Part 3: Determination of operating characteristics
 - 2428.4 Part 4: Determination of effect of flame contact
 - 2428.5 Part 5: Determination of coefficient of discharge and effective aerodynamic area
 - 2428.6 Part 6: Determination of ability to operate under snow loading

AS/NZS

- 1167 Welding and brazing—Filler metals
 - 1167.2 Part 2: Filler metal for welding
- 1567 Copper and copper alloys—Wrought rods, bars and sections
- 1734 Aluminium and aluminium alloys—Flat sheet, coiled sheet and plate
- 1865 Aluminium and aluminium alloys—Drawn wire, rod, bar and strip