

Australian Standard™

Methods of testing smoke/heat release vents

Method 1: Determination of resistance to leakage during rain

AS 2428.1

PREFACE

This Standard was prepared by Standards Australia Committee ME-062, Ventilation and Air Conditioning to supersede AS 2428.1—1983, *Methods of testing smoke/heat release vents, Part 1: Determination of resistance to leakage during rain*.

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

Clause 7.2—Failing criteria was revised, criteria clarified and expanded.

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.

METHOD

1 SCOPE

This Standard sets out the method for determining the resistance of a smoke/heat release vent leakage during rain.

2 PRINCIPLE

The smoke/heat release vent is mounted in a section of roof and subjected to an airstream into which water has been introduced to simulate wind-blown rain. The vent is monitored visually from inside the roof for signs of water penetration. The maximum wind velocity at which the vent resists the entry of water, i.e., the rain leakage wind velocity v_r , is determined.

3 APPARATUS

The following apparatus is required:

- (a) A wind machine having a propeller of a diameter not less than 3900 mm, for producing an airstream or wind. The wind velocity shall be measured 11 ± 1 m upstream from the nearest part of the specimen.
- (b) A system of 72 spray nozzles fixed in a rectangular grid pattern of—
 - (i) 12 horizontal rows each spaced 450 mm apart; and
 - (ii) 6 vertical rows 610 mm apart.

This system shall be located 8.800 m from the wind-speed measuring device and with the centre of the grid of nozzles on the centreline of the airstream. The system shall introduce water into the airstream at a rate of 1.6 L/s or 2.5 L/s, whenever required.