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# Australian Standard 1905, Part 2—1984

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## SAA FIRE DOOR CODE Part 2—FIRE-RESISTANT ROLLER SHUTTERS



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



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The following interests are represented on Committee BD/18/1:

Board of Fire Commissioners of New South Wales  
Building Owners and Managers Association of Australia Ltd  
Commonwealth Fire Board  
Confederation of Australian Industry  
Department of Local Government and Lands, N.S.W.  
Experimental Building Station  
Insurance Council of Australia  
Metal Trades Industry Association of Australia  
Royal Australian Institute of Architects

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**AUSTRALIAN STANDARD**

**COMPONENTS FOR THE PROTECTION  
OF OPENINGS IN FIRE-RESISTANT  
WALLS**

**known as the  
SAA FIRE DOOR CODE**

**Part 2  
FIRE-RESISTANT ROLLER  
SHUTTERS**

**AS 1905, Part 2—1984**

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## PREFACE

This edition of the standard was prepared by the Association's Committee on Fire Doors to supersede AS 1905, Part 2—1981, Construction and Installation of Fire Doors, Fire Windows and Fire Shutters—Fire Shutters.

The principal changes in this edition lie in the wording of some clauses and have been made at the request of Regulatory Authorities. The technical content of the standard, however, remains unchanged.

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## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

for

## COMPONENTS FOR THE PROTECTION OF OPENINGS IN FIRE-RESISTANT WALLS

## PART 2—FIRE-RESISTANT ROLLER SHUTTERS

**1 SCOPE.** This standard sets out requirements for the construction and installation of fire-resistant roller shutters (hereinafter referred to as 'fire shutters') intended to protect openings in certain walls of masonry or concrete required to have a fire-resistance rating.

**NOTE:** Experience with such shutters in actual fires has demonstrated their ability to impede the passage of flames and hot gases, but, being manufactured of steel, they become hot and can represent a significant heat radiation hazard. Accordingly, building regulations may not permit such shutters to be used in lieu of fire doors.

A fire shutter complying with this standard will have a fire-resistance rating of 2 h provided that the insulation requirement of AS 1530, Part 4 is waived.

**NOTE:** For other designs, it is required that the fire-resistance rating be determined by submitting a prototype to the standard fire resistance test in accordance with AS 1530, Part 4.

**2 APPLICATION.** This standard is intended to complement the fire protection requirements of an appropriate building code and provides minimum requirements. It does not include the requirements necessary for day-to-day operation of a fire shutter.

**3 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

- AS 1530 Methods for Fire Tests on Building Materials and Structures  
 Part 1—Combustibility Test for Materials  
 Part 3—Test for Early Fire Hazard Properties of Materials  
 Part 4—Fire-resistance Tests of Structures
- AS 1890 Thermally Released Links

**4 DEFINITIONS.** For the purpose of this standard, the following definitions apply:

**4.1 Approved**—approved by the Regulatory Authority.

**4.2 Automatic**—applied to a fire shutter, means designed to close automatically through operation of an approved heat-actuated device integral with the fire shutter in addition to any other sensing device that may be prescribed.

**4.3 Fire-rated**—having a fire-resistance rating as determined by the relevant fire test methods in accordance with AS 1530, Part 4.

**4.4 Fire shutter**—a fire-rated assembly, the curtain of which can be rolled down to close an opening in a fire-rated wall.

**NOTE:** Fire-resistant roller shutters are commonly referred to as 'fire shutters'.

**4.5 Heat-actuated device**—a device which operates to effect the closure of an automatic fire shutter.

**4.6 Regulatory Authority**—an authority administering Acts of Parliament or Regulations under such Acts.

**4.7 Required**—required by any government Act, Regulation, By-law or Statutory Rule, or by any Regulatory Authority.

## 5 DESIGN REQUIREMENTS.

**5.1 Dimensions.** An opening in which a fire shutter is fitted shall not exceed a width of 3600 mm or an area of 14 m<sup>2</sup>.

**5.2 Components** (See Figs 1 to 3).

**5.2.1 Components of fire shutter.** A fire shutter shall consist of the following principal components:

- (a) A curtain of horizontal interlocking steel slats.
- (b) Two vertical guides, one at each side of the opening, between which the curtain can slide vertically.
- (c) A horizontal barrel, mounted above the opening, on which the curtain is rolled when being raised.

**5.2.2 Slats.** Slats which form the curtain shall comply with the following requirements:

- (a) They shall be formed from steel strip not less than 0.8 mm thick.
- (b) Edges shall be rolled to form curls in opposite directions of not less than 300 degrees so that the edges of successive slats interlock to form hinges extending the full width of the curtain.
- (c) They shall be formed so that the curtain in the closed position shall be capable of withstanding the following pressures on the surface without impairment of its ability to function under ambient temperature:
  - (i) For shutters on external walls . . . . . 600 Pa.
  - (ii) For shutters on internal walls . . . . . 400 Pa.

**5.2.3 Slat end pieces.** End pieces of steel or malleable iron, complying with the following requirements, shall be fitted to the slats:

- (a) They shall be formed to fit the contours of the slats. They shall be a sliding fit in the vertical guides and shall fill the guides vertically, as far as practicable when the movement of individual slats in the curtain is considered. No part of any end piece shall be less than 3 mm thick.
- (b) They shall be riveted or welded to—
  - (i) each end of each slat; or
  - (ii) each end of each alternate slat.
- (c) Where rivets are used, they shall be solid iron or steel and not less than 3 mm diameter. Not less than two rivets shall be used to fasten each end piece.