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SINGAPORE STANDARD

Specification for fire doors

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The Working Group, appointed by the Technical Committee to assist in the preparation of this standard, comprises the following experts who contribute in their *individual capacity*:

		Name
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The organisations in which the experts of the Working Group are involved are:

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Housing & Development Board
Land Transport Authority
SALTO Systems Asia Pte Ltd
Setsco Services Pte Ltd
Singapore Civil Defence Force
Singapore Manufacturing Federation
Singco (Private) Limited
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Foreword

This Singapore Standard was prepared by the Working Group appointed by the Technical Committee on Architectural Works which is under the purview of the Building and Construction Standards Committee.

It is a revision of SS 332 : 2007, “Specification for fire doors”.

This standard covers the installation and construction of the fire door assemblies. The requirements specified in this standard generally refer to materials and assemblies, which, through field experience, have been found acceptable for such application.

The major revisions made in the standard are as follows:

a) The test standards for various hardware are extended to include mechatronic cylinder and electromechanical lockset. All hardware tests are in accordance to European Standard (EN).
b) The fire resistance test is in accordance to BS EN 1634-1.
c) The inclusion of a clause for double acting glazed doorset to incorporate fire seals around perimeter of door panels, except the bottom edge.
d) The inclusion of maximum force requirement for door closer to facilitate door opening.

In preparing this standard, reference was made to the following publications:

AS 1530.4	Methods for fire tests on building materials, components and structure – Part 4: Fire-resistance tests of elements of construction
BS 476-4	Fire tests on building materials and structures – Part 4: Non-combustibility test for materials
BS 476-11	Fire tests on building materials and structures – Part 11: Method for assessing the heat emission from building materials
BS 476-22	Fire tests on building materials and structures – Part 22: Method for determination of the fire resistance of non-loadbearing elements of construction
BS EN 1363-1	Fire resistance tests – Part 1: General requirements
BS EN 1363-2	Fire resistance tests – Part 2: Alternative and additional procedures
BS EN 1634-1	Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Part 1: Fire resistance test for door and shutter assemblies and openable windows
BS EN 13637	Building hardware – Electrically controlled exit systems for use on escape routes – Requirements and test methods
ISO 3008:2007	Fire-resistance tests – Door and shutter assemblies

Permission has been sought for the reproduction of materials from the following organisations:

Standards Australia Limited

1. AS 1905 Components for the protection of openings in fire-resistant walls – Fire-resistant doorsets

CEN – European Committee for Standardization

2. EN 179 Building hardware – Emergency exit devices operated by a lever handle or push pad, for use on escape routes – Requirements and test methods

3. EN 1125 Building hardware – Panic exit devices operated by a horizontal bar, for use on escape routes – Requirements and test methods

4. EN 1634-1 Fire resistance and smoke control tests for door and shutter assembles, openable windows and elements of building hardware – Part 1: Fire resistance test for door and shutter assemblies and openable windows

Acknowledgement is made for the use of information from the above organisations.

NOTE

1. Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.

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Specification for fire doors

1 Scope

This standard specifies requirements for the construction and installation of fire-resistant doorsets used to protect openings in walls and partitions, which are required to resist the passage of fire. Manufacturers of fire-resistant doorsets are strongly encouraged to implement a quality control system in accordance with ISO 9001 / ISO 9002.

This standard also applies to transom panels over 0.5 h fire-rated doors, where the panels are contained within the door frame and form part of the doorset. A panel above a doorset, which is not contained within the door frame, is considered as being part of the wall and is therefore subject to the stability, integrity and insulation requirements set out in accordance with applicable statutory and regulatory requirements. A transom within a door frame may be permanently fixed to the side members of the frame or may be removable by means of mechanical fixing.

This standard does not apply to lift-landing doors.

Materials for floor coverings that extend through a fire-resistant doorset opening are not within the scope of this standard.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 476-4	Fire tests on building materials and structures – Part 4: Non-combustibility test for materials
BS 476-11	Fire tests on building materials and structures – Part 11: Method for assessing the heat emission from building materials
BS EN 179	Building hardware – Emergency exit devices operated by a lever handle or push pad, for use on escape routes – Requirements and test methods
BS EN 1125	Building hardware – Panic exit devices operated by a horizontal bar, for use on escape routes – Requirements and test methods
BS EN 1154	Building hardware – Controlled door closing devices –Requirements and test methods
BS EN 1155	Building hardware – Electrically powered hold-open devices for swing doors – Requirements and test methods
BS EN 1158	Building hardware – Door coordinator devices – Requirements and test methods
BS EN 1303	Building hardware – Cylinders for locks – Requirements and test methods
BS EN 1634-1	Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Fire resistance test for door and shutter assemblies and openable windows

BS EN 1906	Building hardware – Lever handles and knob furniture – Requirements and test methods
BS EN 1935	Building hardware – Single-axis hinges – Requirements and test methods
BS EN 12051	Building hardware – Door and window bolts – Requirements and test methods
BS EN 12209	Building hardware – Locks and latches – Mechanically operated locks, latches and locking plates – Requirements and test methods
BS EN 14846	Building hardware – Locks and latches – Electromechanically operated locks and striking plates – Requirements and test methods
BS EN 15684	Building hardware – Mechatronic cylinders – Requirements and test methods