

SS 347:1990(2022)
(ICS 91.060.50; 91.080.20)

SINGAPORE STANDARD

Specification for timber doors

Confirmed and classified as a mature standard 2022



SS 347:1990(2022)
(ICS 91.060.50; 91.080.20)

SINGAPORE STANDARD
Specification for timber doors

Published by Enterprise Singapore

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from Enterprise Singapore. Request for permission can be sent to: standards@enterprisesg.gov.sg.

© Enterprise Singapore 1990

ISBN 9971-67-390-8

Contents

	Page
Foreword _____	3
1 Scope and general requirements _____	4
2 Materials and related requirements _____	9
3 Flush doors with cellular core _____	13
4 Flush doors with intermediate rail core _____	15
5 Flush doors with blockboard core _____	17
6 Flush doors with particleboard core _____	19
7 Joinery doors – ledged and braced _____	21
8 Joinery doors – framed and ledged _____	21
9 Joinery doors – panelled _____	23
10 Joinery doors – louvred _____	25
 Appendix	
A Method for the determination of flatness of doors _____	28
B Method for the determination of lateral stiffness of doors _____	32
C Method for the determination of puncture resistance of doors _____	34
D Method for the determination of compressive strength of cellular core materials for doors _____	36
 Tables	
1 Dimensions of doors _____	7
2 Minimum rebate width for glass panels _____	23
 Figures	
1 Orientation of width and depth of rebates and grooves _____	6
2 Measurement of twist _____	30
3 Measurement of bending _____	31
4 Impact puncture test equipment for doors _____	35
Bibliography _____	38

Foreword

This Singapore Standard was prepared by the Technical Committee for Timber Doors under the direction of the Building Materials Product Standards Committee. It confines itself to specifying the construction of various types of timber doors.

This standard applies to basic general purpose doors. It does not apply to fire-resistant doors, hospital doors, special-purpose doors and doors that are higher or wider than the maximum given in Table 1. For these latter doors, the jointing systems and component sizes specified in Clauses 3 to 10 may be insufficient to impart the necessary structural adequacy or room to fit the desired hardware. The designers of doors not included in Table 1 shall have to ensure structural adequacy and provide sufficient allowance for the desired hardware.

The specification covers common materials and construction. Decorative planted mouldings, inlay, bolection, etc., are not specified, but may be used as required.

In the specification for materials and related requirement, reference to SS CP 1 – The Use of Timber in Building Construction has been included for tropical timber grading and selection.

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

1. AS 2688-1984 Timber doors

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

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all such patent rights.

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. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Specification for timber doors

1 Scope and general requirements

1.1 Scope

This standard specifies requirements for timber doors of the types listed in 1.2 and of sizes listed in Table 1.

NOTE – This standard does not apply to doors of dimensions larger than those given in Table 1 and designers of larger doors should ensure structural adequacy.

1.2 Application

Doors shall comply with the relevant requirements of Clause 1, together with the specific requirements of Clauses 2 to 10 as appropriate to the type of door as follows:

- a) Materials Clause 2
- b) Flush Doors
 - (i) Cellular core Clause 3
 - (ii) Intermediate rail core Clause 4
 - (iii) Blockboard core Clause 5
 - (iv) Particleboard core Clause 6
- c) Joinery Doors
 - (i) Ledged and braced Clause 7
 - (ii) Framed and ledged Clause 8
 - (iii) Panelled Clause 9
 - (iv) Louvred Clause 10

1.3 Definitions

1.3.1 Balanced construction

A construction of flush doors in which the facings on one side of the core are essentially equal in thickness, grain direction, properties and arrangement to those on the other side of the core. It is such that the forces induced by uniformly distributed changes in moisture content will not cause warpage.

1.3.2 Crossband

A veneer ply laid with the direction of the grain transverse to the length of the door.

1.3.3 Close-fitted

Edges of adjacent timbers or veneers fitted in contact for their full length and width.

1.3.4 Flush door

A door having two plane faces which entirely cover and conceal its structure. Includes doors with intermediate rail, cellular, blockboard or particleboard cores.

1.3.5 Flush door with blockboard core

A door consisting of a core plate of timber strips laid edge-to-edge, and to which is bonded not less than two sheets of veneer on each face.

1.3.6 Framed and ledged door

A joinery door sheeted on one face with boarding of less thickness than the framing. The boarding overruns the intermediate and bottom rails which are less than the top rail and stiles.

1.3.7 Framed, ledged and braced door

A framed and ledged door with the addition of diagonal braces.

1.3.8 Haunched tenons

A tenon from the width of which a part has been cut away leaving a haunch near its root.

1.3.9 Irregular grain

A type of grain in which the angle of the fibres changes considerably and abruptly from the general direction, e.g. around a knot.

1.3.10 Joinery door

A door having either stiles and rails, or stiles, rails, and muntins, framed together. A joinery door may also incorporate glazing bars.

1.3.11 Ledged and braced door

An unframed timber door consisting of vertical boards fixed to horizontal ledges and diagonal brace or braces.

1.3.12 Louvred door

A joinery door in which the panel spaces are filled in with louvre blades.

1.3.13 Panel door

A joinery door with spaces filled in with panels (including glass).

1.3.14 Ply

A lamina of a door.

NOTE – Where two veneer piles of a door are laid together with the grain in the same direction, the two are regarded as one ply.