

Australian/New Zealand Standard™

**Windows, external glazed, timber and
composite doors—Methods of test**

**Part 1: Test sequence, sampling and
test methods**



AS/NZS 4420.1:2016

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-021, Doors and Windows. It was approved on behalf of the Council of Standards Australia on 14 October 2016 and by the New Zealand Standards Approval Board on 5 October 2016.

This Standard was published on 1 December 2016.

The following are represented on Committee BD-021:

Australasian Institute of Surface Finishing
Australian Building Codes Board
Australian Glass and Glazing Association
Australian Industry Group
Australian Window Association
Building Research Association of New Zealand
CSIRO
Glass Association of New Zealand
Housing Industry Association
Master Builders Australia
Master Locksmiths Association of Australasia
National Association of Testing Authorities Australia
New Zealand Joinery Manufacturers Federation
Standards New Zealand
Window and Door Industry Council
Window Association of New Zealand

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

Australian/New Zealand Standard™

Windows, external glazed, timber and composite doors—Methods of test

Part 1: Test sequence, sampling and test methods

Originally as AS 4420.0—1996, AS 4420.1—1996, AS 4420.2—1996, AS 4420.3—1996, AS 4420.4—1996, AS 4420.5—1996 and AS 4420.6—1996.
Revised, amalgamated and redesignated (in part) as AS/NZS 4420.1:2016.

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6011.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-021, Doors and Windows, to supersede the following documents:

- (a) AS 4420.0—1996, *Windows—Methods of test*, Part 0: *General introduction and list of methods*.
- (b) AS 4420.1—1996, *Windows—Methods of test*, Method 1: *Test specimen, preparation for tests, and test sequence*.
- (c) AS 4420.2—1996, *Windows—Methods of test*, Method 2: *Deflection test*.
- (d) AS 4420.3—1996, *Windows—Methods of test*, Method 3: *Operating force test*.
- (e) AS 4420.4—1996, *Windows—Methods of test*, Method 4: *Air infiltration test*.
- (f) AS 4420.5—1996, *Windows—Methods of test*, Method 5: *Water penetration resistance test*.
- (g) AS 4420.6—1996, *Windows—Methods of test*, Method 6: *Ultimate strength test*.

This Standard is referenced by AS 2047—2014 and NZS 4211—2007 to provide uniform direction for the essential requirements and methods to test for windows designed for installation in all classes of buildings.

CONTENTS

	<i>Page</i>
1 SCOPE AND GENERAL	4
2 TEST SPECIMEN, PREPARATION FOR TESTS, AND TEST SEQUENCE	4
3 DEFLECTION TEST	6
4 OPERATING FORCE TEST	8
5 AIR INFILTRATION TEST	11
6 WATER PENETRATION RESISTANCE TEST	12
7 ULTIMATE STRENGTH TEST	14

Currently in preview, click buy full version

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Windows, external glazed, timber and composite doors—Methods of test****Part 1: Test sequence, sampling and test methods****1 SCOPE AND GENERAL****1.1 Scope**

This Standard sets out methods of test for determining the following performance aspects of windows, external glazed, timber and composite doors designed for installation in all classes of buildings:

- (a) Deflection test.
- (b) Operating force test.
- (c) Air infiltration test.
- (d) Water penetration resistance test.
- (e) Ultimate strength test.

This Standard also addresses the requirements for test specimens, the methods of preparation, and the test sequence.

The objective of this Standard is to provide window designers and manufacturers with the essential requirements and deemed-to-comply solutions to test windows designed for installation in all classes of buildings.

During the preparation of the methods of test, cognizance was taken of the latest test information and performance criteria in Australia, New Zealand and overseas.

1.2 Normative references

The following documents are referred to in this Standard:

AS	
2047	Windows and external glazed doors in buildings
NZS	
4211	Specification for performance of windows
ASTM	
E331	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference

1.3 Definitions

For the purpose of this Standard, the definitions in AS 2047 apply for Australia and the definitions in NZS 4211 apply for New Zealand.

2 TEST SPECIMEN, PREPARATION FOR TESTS, AND TEST SEQUENCE**2.1 Scope**

This Clause specifies the requirements for a test specimen, the methods of its preparation for test, and the test sequence.