

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS A 2201 : 2017

(JTCCM/JSA)

**Test method for performance of
building airtightness by fan
pressurization**

ICS 91.120.10

Reference number : **JIS A 2201 : 2017 (E)**

A 2201 : 2017

Date of Establishment: 2003-03-19

Date of Revision: 2017-12-25

Date of Public Notice in Official Gazette: 2017-12-25

Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area
Technical Committee on Architecture

JIS A 2201:2017, First English edition published in 2018-10

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2018

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

KK/AT

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative reference	1
3 Terms, definitions and symbols	1
3.1 Terms and definitions	1
3.2 Symbols and units	3
4 Test apparatus	3
4.1 Measurement principle	3
4.2 Composition of test apparatus	4
4.3 Equipment	4
5 Test method	5
5.1 Building conditions for measurement	5
5.2 Test conditions	8
5.3 Measurement procedure	8
6 Test results	10
6.1 Calculation air flow rate Q	10
6.2 Correction of pressure difference ΔP	10
6.3 Air leakage characteristic formula of air flow rate and regression chart	11
6.4 Calculation of total equivalent leakage area αA	11
6.5 Calculation of equivalent leakage area C	12
7 Calculation of uncertainty	12
8 Report	13
Annex A (normative) Method for calculation of real total floor area	14
Annex B (informative) Method for calculation of equivalent leakage area per building envelope area	19
Annex C (informative) Method for inducing a pressure difference in buildings and parts of buildings	21
Annex D (informative) Method for calculation of air flow rate Q taking into account temperature, barometric pressure and relative humidity	25
Annex E (informative) Beaufort wind scale	26
Annex F (informative) Recommended procedure for estimating uncertainty	30
Annex G (informative) Report form	34

Annex JA (informative)	Comparison table between JIS and corresponding International Standard	37
Annex JB (informative)	Comparison table between previous and current editions of this Standard on technically significant revisions	43

Foreword

This Japanese Industrial Standard has been revised by the Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Testing Center for Construction Materials (JTCCM)/ Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS A 2201**:2003 is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Test method for performance of building airtightness by fan pressurization

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 9972:2015**, Edition 3, with some modifications of the technical contents to reflect the actual situation in Japan.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA. The comparison table between previous and current editions of this Standard on technically significant revisions is given in Annex JB.

1 Scope

This Standard specifies the test method for the performance of airtightness of a building mainly used as a residence and part of a building by inducing an indoor-outdoor pressure difference using a fan.

NOTE 1 In this Standard, a residence refers to a single-family house, apartment house, row house, etc.

NOTE 2 An inside-outside building pressure difference can be induced by pressurizing or depressurizing inside the building, which are called the pressurization method and the depressurization method, respectively.

NOTE 3 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 9972:2015 *Thermal performance of buildings—Determination of air permeability of buildings—Fan pressurization method* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this Standard. The most recent edition of the standard (including amendments) indicated below shall be applied.

JIS B 8330 *Testing methods for turbo-fans*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.