

JAPANESE INDUSTRIAL STANDARD

Translated and Published by Japanese Standards Association

 $JIS \ R \ 3109:2024$

(FGMAJ/JSA)

Glass in building — Destructivewindstorm-resistant security glazing — Test method

ICS 81.040.20

Reference number: JIS R 3109: 2024 (E)

R 3109: 2024

Date of Establishment: 2018-07-20

Date of Revision: 2024-06-20

Date of Public Notice in Official Gazette: 2024-06-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Architecture

JIS R 3109: 2024, First English edition published in 2025-07

Translated and published by: Japanese Standards Association Mita Avanti, 3-11-28, 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 2025

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 HN

Contents

	P	age
Introd	luction ·····	1
1	Scope ····	1
2	Normative references ·····	1
3	Terms and definitions ·····	2
4 4.1 4.2	Principle and significance Principle Purpose	3
5 5.1 5.2 5.3	Apparatus General Elements of test equipment Calibration	4
6 6.1 6.2 6.3 6.4	Test specimens General Glazing material Number of test specimens Test specimen for air-pressure cycling test	6 7 7
7 7.1 7.2 7.3 7.4	Test procedure General Preparation Missile impact test Air-pressure cycling test	7 7 8
8 8.1 8.2 8.3	Judgement of test results1Acceptance criteria1Openings1Edge releases1	$\frac{2}{2}$
9 9.1 9.2 9.3	Selection of test conditions 1 General 1 Missiles 1 Levels of protection 1	3 3
10 10.1 10.2 10.3 10.4	Test report 1 General 1 Missile impact test 1 Air-pressure cycling test 1 Results 1	3 4 4
Annex	x A (normative) Required information ······1	6

R 3109: 2024

Annex B (normative)	Standard test frame ·······17
Annex C (informative)	Recommended missile-propulsion devices · · · · · · 20
Annex D (informative)	Basic wind speed ······21
Annex JA (informative)	Comparison table between JIS and corresponding International Standard · · · · · · 22
Annex JB (informative)	List of technically significant revisions from the previous edition ————————————————————————————————————

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Flat Glass Manufacturers Association of Japan (FGMAJ)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (JIS R 3109: 2018), which has been technically revised.

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

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

Blank

Glass in building — Destructive-windstorm-resistant security glazing — Test method

JIS R 3109: 2024

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 16932**: 2020, Edition 3, with some modifications of the technical contents.

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. A list of technically significant revisions from the previous edition (**JIS R 3109**: 2018) with reasons is given in Annex JB.

1 Scope

This Standard specifies a test method for determining the resistance of security glazing products to the threat of windborne debris from destructive windstorm events (hereafter referred to as security glazing in buildings). This Standard applies to the determination of whether or not openings in glazing are caused by high winds with a basic wind speed equal to or greater than 30 m/s, such as those caused by typhoons, and does not apply to windstorms with a basic wind speed or greater than 48 m/s.

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

ISO 16932: 2020 Glass in building — Destructive-windstorm-resistant security glazing — Test and classification (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 references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

- JIS K 6253-2 Rubber, vulcanized or thermoplastic Determination of hardness Part 2: IRHD method (hardness between 10 IRHD and 100 IRHD)
 - NOTE 1 Normative reference in the corresponding International Standard: ISO 48-2 Rubber, vulcanized or thermoplastic Determination of hardness Part 2: Hardness between 10 IRHD and 100 IRHD
 - NOTE 2 The **JIS** cited above is not a corresponding standard to but equivalent to the **ISO** Standard given in NOTE 1 in the contents relevant to this Standard.