



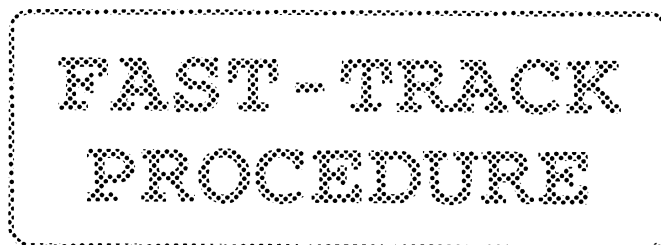
DRAFT INTERNATIONAL STANDARD ISO/DIS 6612

Attributed to ISO/TC 162 by the Central Secretariat (see page ii)

Voting begins on
2001-07-19

Voting terminates on
2001-12-19

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION



Windows and doors — Resistance to wind load — Test method

[Revision of first edition (ISO 6612:1980)]

Fenêtres et portes — Résistance au vent — Essai

ITeH STANDARD PREVIEW
(standards.iteh.ai)

ICS 91.060.50

[ISO/DIS 6612](#)

<https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-e2ccbfc3a1e7/iso-dis-6612>

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

NOTE FROM THE ISO CENTRAL SECRETARIAT

This draft International Standard is submitted for voting to ISO member bodies under the fast-track procedure.

Technical Committee ISO/TC 162, *Doors and windows*, at its meeting held on 2000-02-23, decided to approve the submission of the standard EN 12211, *Windows and doors - Resistance to wind load - Test method*, for processing under the "Fast-track procedure", in accordance with the provisions of clause G.2, Annex G, of the ISO/IEC Directives, Part 1 (third edition, 1995).

G.2 "Fast-track procedure"

G.2.1 Proposals to apply the fast-track procedure may be made as follows.

G.2.1.1 Any P-member and any category A liaison organization of a concerned technical committee may propose that an **existing standard from any source** be submitted for vote as a draft International Standard. The proposer shall obtain the agreement of the originating organization before making a proposal. The criteria for proposing an existing standard for the fast-track procedure are a matter for each proposer to decide.

[NOTE – The Technical Management Board has waived the requirement that such proposals, in fields other than those covered by ISO/IEC JTC 1 and ISO/TC 184, be subject to prior approval by the Technical Management Board.]

G.2.1.2 An international standardizing body recognized by the ISO Council may propose that a **standard developed by that body** be submitted for vote as a draft International Standard.

G.2.2 The proposal shall be received by the Chief Executive Officer, who shall take the following actions:

- a) settle the copyright and/or trademark situation with the organization having originated the proposed document, so that it can be freely copied and distributed to national bodies without restriction;
- b) for case G.2.1.1, assess in consultation with the relevant secretariats which technical committee/subcommittee is competent for the subject covered by the proposed document; where no technical committee exists competent to deal with the subject of the document in question, the Chief Executive Officer shall refer the proposal to the Technical Management Board, which may request the Chief Executive Officer to submit the document to the approval stage and to establish an ad hoc group to deal with matters subsequently arising;
- c) ascertain that there is no evident contradiction with other International Standards;
- d) distribute the proposed document as a draft International Standard, (G.2.1.1), or as an FDIS (G.2.1.2), indicating (in case G.2.1.1) the technical committee/subcommittee to the domain of which the proposed document belongs;

in the case of particularly bulky documents, the Chief Executive Officer may request the necessary number of copies from the proposer.

G.2.3 The period for voting and the conditions for approval shall be as specified in 2.6 or 2.7, except that the voting period on an FDIS submitted in accordance with G.2.1.2 shall be five months. In the case where no technical committee is involved, the condition for approval of a draft International Standard is that not more than one-quarter of the total number of votes cast are negative.

G.2.4 If the conditions of approval are met, the document shall progress to the approval stage (2.7) in the case of a DIS or to the publication stage (2.8) in the case of an FDIS. If not, the proposal has failed and any further action shall be decided upon by the technical committee/subcommittee to which the DIS was attributed in accordance with G.2.2 b), or by discussion between the originating organization and the office of the CEO if no technical committee was involved.

If the standard is published, its maintenance shall be handled by the technical committee/subcommittee to which the document was attributed in accordance with G.2.2 b), or, if no technical committee was involved, the approval procedure set out above shall be repeated if the originating organization decided that changes to the standard are required.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/DIS 6612](https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-e2ccbfc3a1e7/iso-dis-6612)

<https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-e2ccbfc3a1e7/iso-dis-6612>

Contents

1	Scope	3
2	Normative references.....	3
3	Definitions	4
4	Principles of test	4
5	Apparatus	4
6	Preparation of test specimen	5
7	Test procedure	5
8	Test report	7
	Annex A (informative) Deflection measurements.....	8
	Annex B (informative) Wind resistance test method.....	10

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[ISO/DIS 6612](https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-e2ccbf3a1e7/iso-dis-6612)

<https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-e2ccbf3a1e7/iso-dis-6612>

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 33 "Doors, windows, shutters, building hardware and curtain walling", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2000, and conflicting national standards shall be withdrawn at the latest by December 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This standard is one of a series of standards for windows and doors.

This European Standard supersedes EN 77:1977 "Methods of testing windows – Wind resistance tests".

The Annexes A and B are informatives.

1 Scope **iTeh STANDARD PREVIEW**

(standards.iteh.ai)
This standard defines the method of test to determine the resistance to wind load for completely assembled windows and doors of any materials when submitted to positive and negative test pressures. [ISO/DIS 6612](https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-241e83147800/en-12211-1-2000)

<https://standards.iteh.ai/catalog/standards/sist/d68f737f-a8a0-4d7c-b0fc-241e83147800/en-12211-1-2000>
This test method is designed to take account of conditions in use, when the window or door is installed in accordance with the manufactures specification and the requirements of relevant European Standards and codes of practice.

This standard does not apply to joints between the window or door frame and the building construction. This standard is not intended to evaluate strength of the glass.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1026:2000	Windows and doors - Air permeability - Test method•
prEN 12519	Doors and windows – Terminology

3 Definitions

For the purposes of this Standard the definitions given in prEN 12519 apply, together with those given hereafter and in figures A.1 to A.3.

3.1

frontal displacement

movement of a point on a frame member measured normal to the member

3.2

frontal deflection

maximum frontal displacement of a frame member minus half the sum of the frontal displacements at each end of the member

3.3

relative frontal deflection

frontal deflection of a frame member divided by the length of the member over which the frontal deflection was measured, e.g. distance between the ends of the member.

3.4

test pressure

difference between the static air pressures on the external face and the internal face of the test specimen.

Test pressure is positive if the static air pressure on the external face is higher than that on the internal face.

Test pressure is negative if the static air pressure on the external face is lower than that on the internal face.

For the purpose of these tests, three sets of test pressure are defined :

- P1 applied to measure deflections of parts of the test specimen ;
- P2 pulsating pressure applied for 50 cycles to assess performance under repeated windloads ;
- P3 applied to assess the safety of the test specimen under extreme conditions.

The values of P1, P2, P3 are related as follows : $P2 = 0,5 P1$ and $P3 = 1,5 P1$

4 Principles of test

Application of a defined series of positive and negative test pressures at which measurements and inspections are made to assess relative frontal deflection and resistance to damage from wind loads.

5 Apparatus

5.1 A chamber with an open side to which the test specimen can be fitted. It shall be constructed so as to be able to withstand the test pressures without deflecting to an extent likely to influence the test results.

- 5.2** Means for applying controlled test pressure to test specimen.
- 5.3** Means of producing rapid changes in test pressure, controlled within defined limits.
- 5.4** Instrument suitable for measuring the quantity of air flow into or out of the chamber within an accuracy of $\pm 5\%$ (calibrated to 20 °C, 101 Kpa).
- 5.5** Means of measuring the test pressure applied across the specimen, within an accuracy of $\pm 5\%$.
- 5.6** Devices, such as dial gauges or displacement transducers, for measuring displacements of measured points with an accuracy of 0,1 mm.
- 5.7** Means for fitting the measuring devices properly to ensure their stability during the test.
- 5.8** A measuring tape accurate to ± 1 mm to measure the length of members to be tested.

6 Preparation of test specimen

6.1 Set-up of the test specimen

The test specimen shall be fixed as intended for use in the works without any twists or bends which may influence the test results. The test specimen shall be fully operable.

The stiffness of the test rig and the fixing of the specimen to it shall be sufficient to avoid adverse effects on the performance of the specimen during testing.

The test specimen shall be cleaned and surfaces dry. Ventilation devices, if any, shall be taped over.

6.2 Set-up of measuring devices

6.2.1 Frontal deflection

Measuring devices (see 5.6) shall be fixed in position at each end and at the centre of the frame member to be measured. Alternatively, a single measuring device shall be fixed at the centre of a rigid beam that is fixed to and supported only at the ends of the frame member to be measured.

7 Test procedure

7.1 Preliminaries

The ambient temperature and humidity close to the specimen shall be within the range 10 °C to 30 °C and 25 % to 75 % RH and the specimen shall be conditioned thus for at least 4 h immediately before test.

Figure B.1 shows the sequence of test to be carried out and the set of test pressures, and their features, to be applied.

The test for air permeability in accordance with EN 1026 shall be completed before the wind resistance test to test pressures P1 and P2.

7.2 Deflection test

Record the length of the members whose frontal deflection is to be measured.

NOTE : If several displacements or deflections are to be measured, they can be recorded either during one sequence of test pressure steps to P1 or during as many sequences to P1 as there are measurements to be made.

7.2.1 Positive pressure

Apply three pressure pulses, each 10 % greater than the test pressure P1. The time to reach the maximum pressure shall not be less than 1 s and it shall be sustained for at least 3 s.

All the gauges shall be set to zero or have their initial reading recorded.

Apply test pressure equal P1 according to the classification required for the specimen, at a rate not exceeding 100 Pa/s, either incrementally or continuously.

When the pressure P1 has been applied for 30 s, record the required frontal deflection(s) or frontal displacement(s).

Reduce the test pressure to 0 Pa, at a rate not greater than 100 Pa/s and after (60 ± 5) s record the residual frontal deflection(s) or frontal displacement.

7.2.2 Negative pressure

Apply procedure specified in 7.2.1 using negative test pressures.

7.3 Repeated pressure test

The test specimen shall be subjected to 50 cycles including negative and positive pressures, with the following features:

- test pressure equal P2;
- first step is negative, next is positive as is the last of the sequence of 50 impulses;
- variation from $-P2$ to $+P2$ and the reverse shall take (7 ± 3) s;
- value P2 is maintained at least for (7 ± 3) s.

After completion of the 50 cycles, open and close the moving parts of specimen and note damage or functioning defects if any.

Repeat the test for air permeability in accordance with EN 1026.

7.4 Safety test

The specimen shall be subjected to one cycle including negative and positive test pressure with the following features :

- test pressure equal P3;
- negative test pressure is applied first;

- variation from 0 Pa to – P3 and back from – P3 to 0 Pa shall take (7 ± 3) s, the maximum test pressure P3 shall be maintained for (7 ± 3) s;
- positive test pressure is applied after a (7 ± 3) s rest at 0 Pa
- variation from 0 Pa to + P3 and back to 0 Pa shall be the same duration as for the negative test pressure – P3.

After the safety test record whether the test specimen remains closed and describe any parts of the test specimen which have become detached.

8 Test report

The test report shall include a drawing of the face of the specimen showing the relevant members, the displacement measuring points and the location of any damage and operating defects.

8.1 Deflection

Deflection(s) and displacement, under pressure steps + P1 and –P1 shall be recorded. Relative frontal deflections shall be calculated in the form of fractions with the numerator equal to 1 and the denominator expressed to 3 significant figures.

8.2 Repeated pressure

Record any damage and operating defects.

8.3 Safety test

Any damage and failure which occurs as well as any operating difficulties shall be recorded.