

Curtain walling — Watertightness — Performance requirements and classification

The European Standard EN 12154:1999 has the status of a
British Standard

ICS 91.060.10

National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/538, Doors, window, shutters, hardware and curtain walling, to Subcommittee B/538/6, Curtain walling, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Summary of pages

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English version

Curtain walling - Watertightness - Performance requirements and classification

Façades rideaux - Etanchéité à l'eau - Exigences de
performance et classification

Vorhangfassaden - Schlagregendichtheit -
Leistungsanforderungen und Klassifizierung

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Contents

Foreword	3
1 Scope.....	4
2 Normative References	4
3 Definitions	4
4 Requirements	4
5 Test methods	5
6 Classification.....	5
Bibliography.....	7

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of an identical text or by endorsement, at the latest by June 2000, and conflicting national standards shall be withdrawn at the latest by June 2000.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 European standard is part of a series of European standards dedicated to curtain walling products.

This European standard forms part of a series of curtain walling performance requirements as defined in the product standard WI 00033 238.

1 Scope

This standard defines the requirements and classification of watertightness performance of both fixed and openable parts of curtain walling under positive static air pressure.

NOTE: This standard applies to curtain walling in accordance with WI 00033238.

2 Normative references

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

prEN 13119:1997 Curtain walling - Terminology.

prEN 12155:1995 Curtain walling - Watertightness - Laboratory test under static pressure.

3 Definitions

For the purposes of this standard, the definitions given in prEN 13119:1997, together with the following, apply.

3.1 test pressure differential pressure between the two faces of the test specimen, expressed in pascals (Pa)

3.2 positive pressure when outer face is subjected to higher pressure than inner face

3.3 watertightness the ability of the curtain walling to resist water leakage

3.4 water leakage the penetration of water that would continuously or repeatedly wet parts of:

1. the inside face of the test specimen;
2. any parts of the specimen intended to remain dry, not being part of the water drainage system to the outside

3.5 limit of watertightness the maximum test pressure for which the specimen remains watertight for the specified time (see Table 1)

4 Requirements

There shall be no water leakage to the maximum test pressure (P_{max}) throughout the sequence of test pressures and times specified in Table 1.

5 Test methods

The test unit shall be tested in accordance with prEN 12155:1995.

NOTE: The test sequence as specified in WI 00033238 should be followed.

6 Classification

Five classes R are defined in order to adequately cover all locational and regional conditions likely to be experienced.

TABLE 1 - Pressure steps

Class	Pressure steps in Pa and test duration in minutes, Pa/T	Water spray rate, l/min m ²
R4	0/15; 50/5; 100/5; 150/5	2
R5	0/15; 50/5; 100/5; 150/5; 200/5; 300/5	2
R6	0/15; 50/5; 100/5; 150/5; 200/5; 300/5; 450/5	2
R7	0/15; 50/5; 100/5; 150/5; 200/5; 300/5; 450/5; 600/5	2
RE xxx	0/15; 50/5; 100/5; 150/5; 200/5; 300/5; 450/5; 600/5; above 600/5 in steps of 150 Pa and 5 minutes duration.	2

For class RE xxx the exceptional test pressure should be taken as a minimum of 0,25 of the designed wind pressure where the calculated designed wind pressure is greater than 2 400 Pa.

According to the results of the tests, the curtain walling product can be classified as indicated in Table 2.

TABLE 2 - Classification

Maximum test pressure P_{max} in Pa	Classification
150	R4
300	R5
450	R6
600	R7
Above 600	RE xxx

- Specimens with water leakage at less than 150 Pa cannot be classified.
- Specimens without water leakage at more than 600 Pa are classified E (Exceptional).
- Where P_{max} is the final exceptional test pressure, the final pressure shall be quoted in the test report. This exceptional pressure shall be demonstrated by test in steps of 150 Pa for a time duration of 5 minutes at each extra step and the final pressure shall be indicated as a suffix to the classification, i.e. RE₇₅₀, RE₉₀₀, etc.

Bibliography

- prEN 1027:1999 Windows and doors - Watertightness - Test method
- prEN 12208:1999 Windows and doors - Watertightness – Classification.

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