

norm

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Beproevingsmethode prestatiekenmerken

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External blinds and shutters - Resistance to wind loads - Method of testing and performance criteria

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Preview

May 2011

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Will supersede EN 1932:2001

English Version

External blinds and shutters - Resistance to wind loads - Method of testing and performance criteria

Fermetures pour baies équipées de fenêtres et stores extérieurs - Résistance aux charges de vent - Méthodes d'essai et critères de performance

Abschlüsse und Markisen - Widerstand gegen Windlast - Prüfverfahren und Nachweiskriterien

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Foreword

This document (prEN 1932:2011) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 1932:2001.

This document is part of a package of standards dealing with external blinds and shutters fitted to buildings as defined in EN 12216.

The tests defined in this standard conventionally reproduce the positive and negative pressures due to the wind applied to external blinds and shutters

Under these conditions, these tests allow the verification that external blinds and shutters as a whole fulfil the requirements specified in prEN 13561:2011 and prEN 13659:2011, namely:

- no unacceptable visual defects appear;
- the suitability for use is maintained;
- the safety of users is maintained.

The main changes incorporated in this revision are:

- A complete editorial review of the document has been carried out.
- Pergola awnings have been added in accordance with the modification of the scope of EN 13561.
- The possibility to apply a uniformly distributed load with a mattress has been added for some products (e.g. Awnings with lateral guiderail with fabric running into the lateral rails without tension system)
- The test method for External Venetian Blinds has been changed: the bar test has been replaced by a test with a pneumatic device.

1 Scope

The current standard specifies the test methods to evaluate the wind resistance of external blinds and shutters designed to be fitted to buildings, in front of windows, doors or façades and delivered as a complete unit.

This standard applies to:

- Shutters: roller shutter, external venetian blind, wing shutter, venetian shutter, concertina shutter, flat closing concertina shutter and sliding panel shutter (including those with projection systems).
- External blinds: folding arm awning, trellis arm awning, pivot arm awning, marquisolette, vertical awning, façade awning, conservatory awning, roof window awning and Pergola awning.

whatever the nature of the constituent materials, under normal operating conditions and installed in compliance with the manufacturer's installations instructions.

Dutch awnings (adjustable or fixed) and brise-soleil are not included.

NOTE The wind resistance of such products shall be evaluated by calculations.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12216, *Shutters, external blinds, internal blinds – Terminology, glossary and definitions.*

prEN 13561:2010, *External blinds and Awnings – Performance requirements including safety.*

prEN 13659:2010, *Shutters and External Venetian Blinds – Performance requirements including safety.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12216, prEN 13561:2011 and prEN 13659:2011 and the following apply.

3.1

test pressure p

pressure exerted on the external or internal face of the test sample which represents the differential pressure (difference in pressure between the two faces) exerted by the wind on the external blind/awning or the shutter

3.2

nominal pressure p_N

test pressure under which the test sample does not sustain deformation or deterioration detrimental to its correct operation.

3.3

safety pressure p_S

test pressure under which no deterioration which may be dangerous for the persons shall be observed.

NOTE p_N and p_S are defined in the classification specified in prEN 13561:2011 and prEN 13659:2011.

prEN 1932:2011 (E)

3.4

nominal load F_N

load applied to the test sample allowing the reproduction of the effects due to the uniform nominal pressure p_N exerted on the test sample

3.5

safety load F_S

load applied to the test sample allowing the reproduction of the effects due to the uniform safety pressure p_S exerted on the test sample

4 Test conditions

4.1 General

The tests shall be carried out with the maximum dimensions defined by the manufacturer (see clause 4.2) in the most unfavourable configuration for each product type. The test results obtained can then be applied to all more favourable configurations and to all smaller dimensions in the particular product design.

NOTE For example, for the same dimensions, a conservatory awning with relieving rollers could be considered a better configuration than without relieving rollers, for the same product design.

4.2 Dimensions of test samples

4.2.1 General

The dimensional technical limits are the maximum dimensions for the width and height (L_{max} and H_{max}) associated with the maximum surface area (S_{max}) specified by the manufacturer.

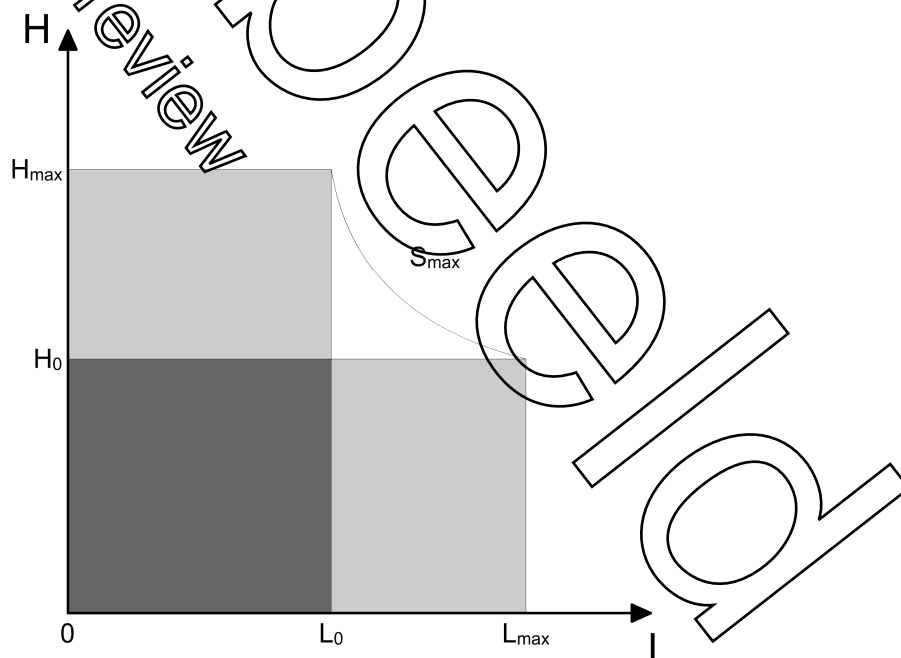


Figure 1 — Dimensions of test samples

To be representative of a range, the samples submitted for test shall be of the following dimensions (see Figure 1):

- the maximum width associated with the greatest height achievable with this width ($L_{max} \times H_0$),

and

- the maximum height associated with the greatest width achievable with this height ($L_0 \times H_{max}$),

the two tests being necessary for a same range.

4.2.2 Definition of height H

In the case of awnings, H is the distance between the axis of the roller tube and the extremity of the front or bottom bar (see Figure 2 and Figure 3).

In the case the projection of the awning is made of two parts (e.g. for marquiselette), the height H is the sum of the vertical and the projected part: $H = H_1 + H_2$ (see Figure 3).

In the case of roller shutters and external venetian blinds, H is the height of the visible part of the curtain including the bottom rail (see Figure 4 and Figure 5).

In the case of others shutters, H is the height of the curtain.

In the case of conservatory blind, the height to be considered is the distance between the roller tube and the front profile, or between these and the relieving rollers, or between the relieving rollers, whichever is the maximum distance.

4.2.3 Definition of width L

In the case of awnings, L is the width of the fabric.

In the case of shutters, L is the visible width of the curtain.

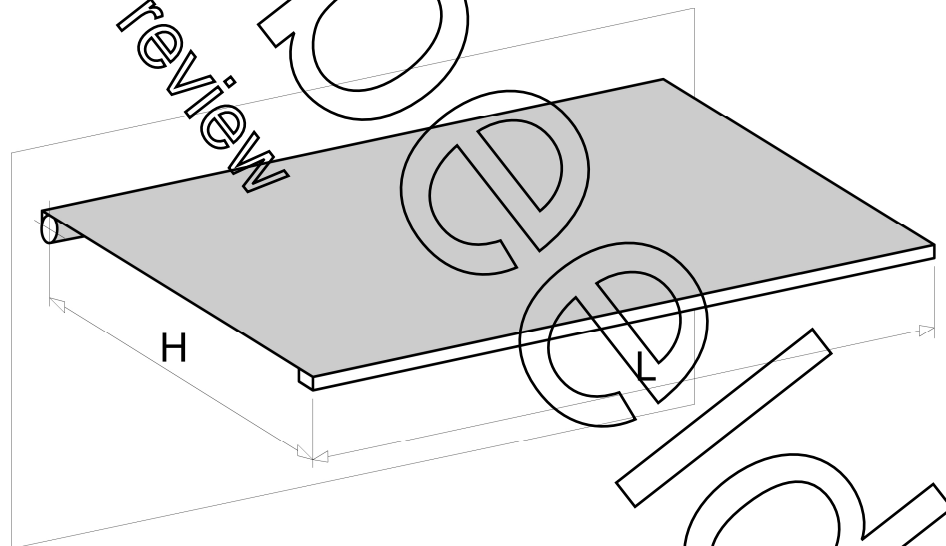


Figure 2 — Dimensions — Example of folding arm awning

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