BRITISH STANDARD

BS EN
1933:1999

Exterior blinds — Resistance to load due to water accumulation — Test method

The European Standard EN 1933:1998 has the status of a British Standard

ICS 91.060.50

National foreword

This British Standard is the English language version of EN 1933:1998.

The UK participation in its preparation was entrusted by Technical Committee B/538, Doors, windows, shutters, hardware and curtain walling, to Subcommittee B/538/3, Domestic shutters and blinds, 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;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 5 and a back cover.

This British Standard, having been prepared under the direction of the Sector Committee for Building and Civil Engineering , was published under the authority of the Standards Committee and comes into effect on 15 March 1999

ISBN 0 580 30831 6

Amendments issued since publication

Amd. No.	Date	Text affected

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1933

November 1998

ICS 91.060.50

Descriptors: buildings, roller, exterior, mechanical strength, loads : forces, water, tests

English version

Exterior blinds — Resistance to load due to water accumulation — Test method

Stores extérieurs — Résistance à la charge due à l'accumulation d'eau — Méthode d'essai

Markisen — Widerstandsfähigkeit gegenüber der Belastung durch Wasseransammlung — Prüfverfahren

This European Standard was approved by CEN on 2 November 1999.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Ref. No. EN 1933:1998 E

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 33, Doors, windows, shutters and building hardware, 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 May 1999, and conflicting national standards shall be withdrawn at the latest by May 1999.

It is part of a package of standards dealing with blinds and shutters defined in prEN 12216.

The test method is linked to performance requirements for exterior blinds specified in a standard in preparation (WI 00033143, *Exterior blinds — Requirements and classification*).

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.

Contents

1 Scope

This European Standard specifies a test method for determining the ability of exterior blinds to resist loads caused by the retention of rain water by the fabric.

This standard is applicable to exterior blinds forming an overhang when they are in extended position. These are:

— folding arm blind;

— trellis arm blind;

— adjustable or fixed Dutch awning.

2 Normative references

This European Standard incorporates by dated or undated references, 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.

prEN 12216, *Terminology and definitions for blinds and shutters.*

prEN 12046, *Shutters and blinds — Measurement of operating force — Test methods.*

3 Definitions

For the purposes of this standard, the definitions given in prEN 12216 and in the standard in preparation (WI 00033143) apply together with the following.

3.1

water pocket

reservoir formed when, under the action of precipitation, the fabric of the external blind, in extended position, retains and accumulates water and suffers progressive deformation (see Figure 1)

3.2

slope

angle of the fabric in relation to the horizontal expressed in degrees (see Figure 1)

Does not apply to Dutch awning.

3.3

drainage holes

holes made in the fabric at carefully chosen points allowing the drainage of water retained by the fabric before water pockets form

3.4

projection

distance *AL* measured horizontally with the blind in the fully extended position, between the wall and the front profile

3.5 width

width *L* of the fabric, or the frame width for a Dutch awning

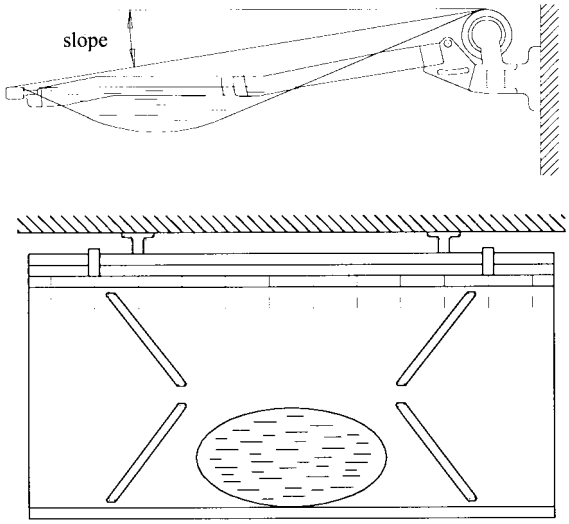


Figure 1 — Water pocket caused by precipation (rain) for folding arm blind

4 Test conditions

The extended blind is sprayed with a controlled amount of water and its mechanical performance is tested under the action of a weight of retained water.

5 Equipment

5.1 Test rig

The test rig is made up of a rigid support in which the blind is installed using its fixtures according to the installation instruction. For trellis arm and folding arm blinds, the angle below the horizontal is 14° (slope 25%).

5.2 Watering spray pipe

The shower of water is obtained using a 1½ in (38 mm diameter) row pierced with holes of $2{,}0\ ^{+0{,}5}_{0}$ mm diameter spaced at regular intervals of 50 mm ± 1 mm and positioned above the blind as shown in Figures 2a) and 2b).

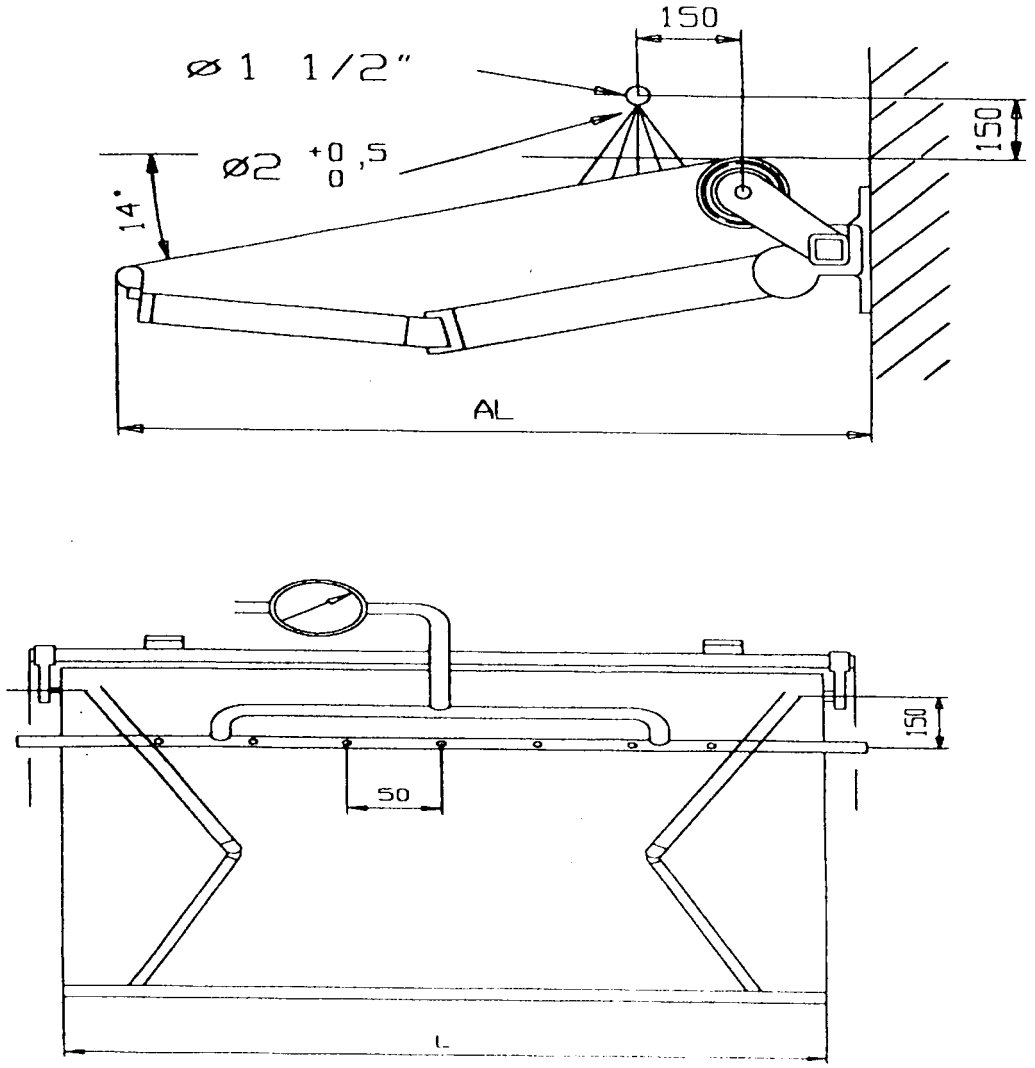
A uniform spraying requires a two point entry of water to the spray pipe equidistant from the middle. The distance between the two entry points is between one-third and one-half of the total pipe length.

The pipe length shall be at least the width of the awning. If the awning width is less, it shall be positioned in the middle of the water spray pipe. The extra holes shall be sealed.

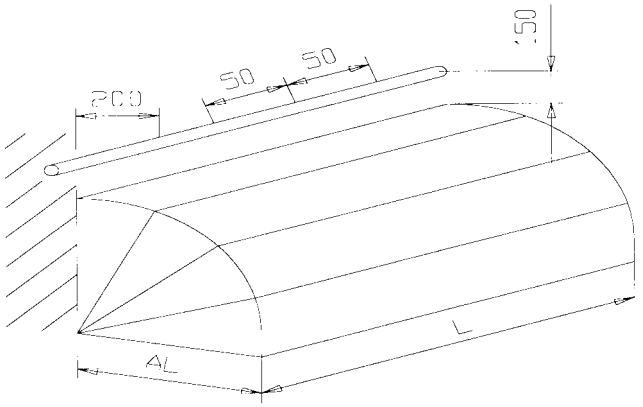
5.3 Measuring equipment

An installation capable of measuring the water flow to an accuracy of ±5%.

Dimensions in millimetres



a) Projecting and trellis arm blinds



b) Dutch awning

Figure 2 — Positioning of watering spray pipe and holes

6 Test sample dimensions

6.1 Folding and trellis arm blinds

Use the maximum dimensions (width and projection) of the manufacturer's specification for a pair of arms.

Smaller sizes of awnings receive the same class.

6.2 Dutch awning

Use the maximum dimensions (width and projection) of the manufacturer's specification for the maximum distance between the arms.

Smaller sizes of awnings receive the same class.

7 Tests

For adjustable blinds, measure and record the operating force P_i, according to prEN 12046, prior to the test.

With the flow of water set for the class being tested, the spraying is maintained for 1 h. In the case of class 1: 17 l/(m^2·h), for class 2: 56 l/(m^2·h) (surface = $L \times AL$).

The test method described also applies to test the correct functioning of the drainage holes where they exist.

Once the showering has stopped, the water has drained and the fabric dried for 30 min, measure the operating force P_e as described in prEN 12046.

8 Expression of results

— Failure, yes/no.

— Record any deterioration.

— For adjustable blinds, record the value of the operating force P_e (after the fabric has dried) and the performance variation:

$$V = 100 \left(\frac{P_e}{P_i} - 1 \right) \text{ in \%}$$

where

P_i is the operating force before test;

P_e is the operating force after test;

V is the variation as a percentage.

9 Test report

The report shall cover the following:

a) conformity of the test product with the manufacturer's technical instructions including dimensions;

b) positioning of the operating mechanism used relative to the types of operation available, possible options and their technical limits;

c) information necessary to identify the product;

d) information as to type, the dimensions, materials, form and assembly, means of evacuating the water, instruction relating to the projection;

e) information on accessories, fixings, operation mechanism;

f) dimensional limits relative to width, drop, height, surface area and slope;

g) dimensions of the product under test;

h) types of test carried out;

i) types and weight per square metre of the cover;

j) height of the water column supported by the new fabric (stated by the manufacturer);

k) number and position of drainage holes (eyelets);

l) diameter of the eyelets;

m) adjustable blinds — the values of P_i and P_e of the operating force and the percentage variation V in performance;

n) name of the test laboratory (firm or laboratory), name of person responsible for the test;

o) date of the test;

p) reference of the standard prevailing.

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