BRITISH STANDARD

BS EN
479:1999

Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors — Determination of heat reversion

The European Standard EN 479:1995 has the status of a British Standard

ICS 83.140.99

National foreword

This British Standard is the English language version of EN 479:1995.

The UK participation in its preparation was entrusted by Technical Committee B/538, Doors, windows, shutters, hardware and curtain walling, to Subcommittee B/538/1, Windows, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/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.

This British Standard forms part of a package of standards on unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors which will not become fully effective until all standards in the package have been published and any superseded standards have been withdrawn. The date of withdrawal for national standards will be agreed within CEN and will be notified.

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 4, an inside back cover and a back cover.

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English version

Unplasticized polyvinychloride (PVC-U) profiles for the fabrication of windows and doors — Determination of heat reversion

Profilés de polychlorure de vinyle non plastifié (PVC-U) pour la fabrication des fenêtres et des portes — Détermination du retrait à chaud

Profile aus weichmacherfreiem Polyvinylchlorid (PVC-U) zur Herstellung von Fenstern und Türen — Bestimmung des Wärmeschrumpfes

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 479:1995 E

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 33, Windows, doors, shutters, building hardware and curtain walling, of which the Secretariat is held by AFNOR.

The requirements are incorporated in the product standards concerned.

This European Standard will result in one of a series of standards on test methods which supports a product standard for PVC-U profiles for the fabrication of windows and doors.

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 November 1995, and conflicting national standards shall be withdrawn at the latest by November 1995.

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

1 Scope

This European Standard specifies a method for the determination of the heat reversion of unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors by a test at 100 °C in an oven.

2 Principle

A test piece of a specified length of profile is maintained in an oven at 100 °C for 1 h.

A marked length of this test piece is measured under identical conditions, before and after heating in the oven.

The heat reversion is calculated as the percentage change of the final length relative to the initial length per pair of marks.

For main profiles the differential heat reversion is calculated as the difference between the heat reversion of opposite sight surfaces of each test piece.

3 Definitions

For the purpose of this European Standard the following definitions apply.

3.1

main profile

profile, which has a load bearing function in the construction of windows and doors

3.2

auxiliary profile

profile, which has no load bearing function in the construction of windows and doors

3.3

sight surface

face surface of a profile, that is exposed to view, when the window or door is closed

4 Apparatus

4.1 *Air oven*, thermostatically controlled, with forced air circulation, in which the test pieces can be exposed to a temperature of 100 °C.

The oven shall be equipped with a thermostat capable of maintaining the temperature at (100 ± 2) °C.

4.2 *Thermometer*, graduated in 0,5 °C.

4.3 *Heat resistant glass plate and talc or stainless steel plate and talc.*

4.4 *Measuring device*, to measure the length of the test piece to an accuracy of 0,1 mm.

5 Test pieces

5.1 The test piece shall be of a minimum length of 250 mm of profile.

5.2 Prepare three similar test pieces per length of profile.

6 Conditioning

Condition the test pieces for at least 1 h at room temperature.

In cases of dispute the test pieces shall be conditioned at (23 ± 2) °C.

7 Procedure

7.1 Using a scriber or similar implement, trace on each test piece two marks, perpendicular to the profile axis, 200 mm apart, so that one of them is approximately 25 mm from one end of the test piece.

On the main profiles one pair of marks shall be made on each of the two sight surfaces.

On the auxiliary profiles only one pair of marks is made.

7.2 Measure for every test piece at room temperature the distance between the two marks in one pair with an accuracy of 0,1 mm.

7.3 Set the oven temperature to 100 °C.

7.4 When the oven has reached 100 °C, place the test pieces horizontally in the oven on a glass or steel plate sprinkled with talc.

7.5 Maintain the test pieces in the oven for (60^{+3}_{0}) min, after the temperature has regained 100 °C.

7.6 Remove the glass or steel plate with the test pieces from the oven and let them cool down in air to room temperature.

Under identical conditions to those used in **7.2**, measure the distance between the two marks per pair.

7.7 In cases of dispute the cooling of the profiles and the measuring of the distance between the marks shall be performed at (23 ± 2) °C.

8 Expression of results

8.1 For each test piece, calculate the heat reversion R for each pair of marks, as a percentage using the following equation:

$$R = \frac{\Delta l}{L_o} \times 100$$

where:

$\Delta l = L_o - L_1$;

L_o is the distance between the marks before heating in the oven, in millimetres;

L_1 is the distance between the marks, after heating in the oven, in millimetres.

8.2 For the main profiles, take as the heat reversion R the value for each sight surface for each test piece.

For the main profiles take as the differential heat reversion ΔR the difference between the heat reversions of opposite sight surfaces of each test piece.

9 Test report

The test report shall include the following information:

a) reference to this European Standard;

b) the test laboratory;

c) full identification of the profile;

d) the date of testing;

e) the distance between the marks before heating in the oven (L_o) for each pair of marks of each test piece;

f) the distance between the marks after heating in the oven (L_1) for each pair of marks of each test piece;

g) the value R for each pair of marks for each test piece and for the main profiles the differential heat reversion ΔR for each test piece;

h) all operating details not specified in this European Standard, as well as any incidents likely to have influenced the results.

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