

**Unplasticized
polyvinylchloride (PVC-U)
profiles for the fabrication of
windows and doors —
Appearance after exposure at
150 °C — Test method**

The European Standard EN 478:1995 has the status of a
British Standard

ICS 83.140.99

National foreword

This British Standard is the English language version of EN 478:1995.

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windows and doors which will not become fully effective until all standards in the package have been published and any superseded standards have been withdrawn.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.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 and 3, and a back cover.

Amendments issued since publication

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English version

Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors — Appearance after exposure at 150 °C — Test method

Profils de polychlorure de vinyle non plastifié (PVC-U) pour la fabrication des fenêtres et des portes — Caractérisation de l'aspect après conditionnement à 150 °C — Méthode d'essai

Profile aus weichmacherfreiem Polyvinylchlorid (PVC-U) zur Herstellung von Fenstern und Türen — Bestimmung des Verhaltens nach Lagerung bei 150 °C — Prüfverfahren

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CEN

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

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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.

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1 Scope

This European Standard specifies two methods for the determination of the effect of heat on unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors.

The oven method is considered as the reference method.

2 Principle

A test piece of a specified length of profile is maintained in an oven or liquid bath at 150 °C for 30 min. and is inspected visually on the inside, outside and the cross-section of the wall for defects after heating.

3 Definition

For the purpose of this European Standard the following definition applies.

3.1

defect

visual appearance of blisters, cavities or cracks on any of the surfaces (inner and outer) of the profile and of any delamination in the cross-section

4 Apparatus

4.1 *Ventilated oven*, thermostatically controlled, with air circulation, in which the test pieces can be exposed to a temperature of 150 °C.

The oven shall be equipped with a thermostat capable of maintaining the temperature at (150 ± 2) °C.

The capacity of the oven shall be such that, after insertion of the test piece, the test temperature is regained within 15 min.

4.2 *Liquid bath*, thermostatically controlled, in which the test pieces can be exposed to a temperature of 150 °C.

The bath shall be equipped with a thermostat capable of maintaining the temperature at (150 ± 2) °C.

The capacity of the bath shall be such that after insertion of the test piece the test temperature is regained within 5 min.

The liquid to be used shall be glycerine or an aromatic-free hydrocarbon. This liquid shall be free of substances which may affect the properties of the PVC-U.

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

5 Test piece

The test piece shall be as follows:

- for testing in an oven, a minimum length of 200 mm of profile;
- for testing in a liquid bath, a minimum length of 300 mm of profile.

6 Test procedure

6.1 Oven method

6.1.1 Set the oven temperature to 150 °C.

6.1.2 When the oven has reached 150 °C, place the test piece horizontally in the oven.

NOTE The use of a glass sheet dusted with talcum can be convenient.

6.1.3 Maintain the test piece in the oven for (30^{+3}_0) min, measuring from the time when the oven temperature has returned to 150 °C.

6.1.4 Remove the test piece from the oven, taking care not to distort or otherwise damage it.

6.1.5 Allow the test piece to cool in air. When the test piece is cool enough for handling, examine it for defects.

6.2 Liquid bath method

6.2.1 Set the liquid bath temperature to 150 °C.

6.2.2 When the liquid bath has reached 150 °C, hang the test piece vertically in the test liquid, so that the upper part does not protrude more than 100 mm out of the fluid.

The means of suspending a test piece shall be such that it does not touch either the floor or the wall of the bath.

6.2.3 Keep the test piece in the liquid bath for (30^{+3}_0) min, measuring from the time when the liquid bath temperature has returned to 150 °C.

6.2.4 Remove the test piece from the bath, taking care not to distort or otherwise damage it.

6.2.5 Allow the test piece to cool in air. When the test piece is cool enough for handling, examine it for defects.

7 Expression of results

The nature and the location of any defects shall be noted.

8 Test report

The test report shall include the following information:

- reference to this European Standard;
- the test laboratory;
- full identification of the profile;
- the date of testing;
- the apparatus used and, for the liquid bath method, the type of liquid;
- the results of the examination of the test piece;
- all operating details not specified in this European Standard, as well as any incidents likely to have influenced the results.

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