

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

BS EN 12608-1:2016



BSI Standards Publication

Unplasticized poly(vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors — Classification, requirements and test methods

Part 1: Non-coated PVC-U profiles with light coloured surfaces

bsi.

...making excellence a habit.™

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN 12608-1:2016. It supersedes BS EN 12608:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/538/1, Windows and doors.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2016.
Published by BSI Standards Limited 2016

ISBN 978 0 580 84511 6

ICS 83.140.99; 91.060.50

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2016.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

March 2016

ICS 83.140.99; 91.060.50

Supersedes EN 12608:2003

English Version

Unplasticized poly(vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods - Part 1: Non-coated PVC-U profiles with light coloured surfaces

Profils de poly(chlorure de vinyle) non plastifié (PVC-U) pour la fabrication des fenêtres et des portes - Classification, exigences et méthodes d'essai - Partie 1: Profils en PVC-U non revêtus avec des faces de teinte claire

Profile aus weichmacherfreiem Polyvinylchlorid (PVC-U) zur Herstellung von Fenstern und Türen - Klassifizierung, Anforderungen und Prüfverfahren - Teil 1: Nicht beschichtete PVC-U Profile mit hellen Oberflächen

This European Standard was approved by CEN on 15 January 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword.....	4
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	7
3.1 General.....	7
3.2 Profile definitions	7
3.3 Geometrical definitions	8
3.4 Material definitions.....	9
4 Classifications.....	10
4.1 General.....	10
4.2 Classification of climatic zones.....	10
4.3 Classification of main profiles according to the resistance to impact by falling mass.....	11
4.4 Classification of main profiles according to the wall thickness of the external walls.....	11
5 Requirements	13
5.1 Material.....	13
5.1.1 UV resistant virgin material	13
5.1.2 Non-UV resistant virgin material	13
5.1.3 Reprocessed, recycled materials and non-UV resistant virgin materials	13
5.2 Appearance.....	14
5.3 Dimensions and tolerances	14
5.3.1 General.....	14
5.3.2 Nominal shape.....	14
5.3.3 Wall thickness of main profiles.....	14
5.3.4 Tolerances on other dimensions	15
5.3.5 Deviation from straightness of the main profiles.....	15
5.4 Linear weight of the main profiles.....	15
5.5 Heat reversion.....	15
5.5.1 Main profile	15
5.5.2 Auxiliary profiles.....	15
5.6 Resistance to impact of main profiles by falling mass.....	16
5.7 Behaviour after heating at 150 °C	16
5.8 Charpy impact resistance of main profile	16
5.9 Resistance to weathering	16
5.9.1 Exposure procedure.....	16
5.9.2 Impact strength after artificial weathering of main profiles	17
5.9.3 Colour fastness	17
5.10 Strength of welded corners and T-joints of main profiles.....	17
5.10.1 Test method	17
5.10.2 Tensile bending test.....	17
5.10.3 Compression bending test	17
6 Test methods	17
6.1 Determination of the appearance	17
6.2 Determination of dimensions.....	18
6.2.1 Measuring devices	18

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

6.2.2	Test specimen	18
6.2.3	Conditioning	18
6.2.4	Procedure	18
6.3	Determination of the linear weight of the profile.....	18
6.3.1	Apparatus	18
6.3.2	Test specimen	18
6.3.3	Conditioning	18
6.3.4	Procedure	18
6.4	Determination of the thickness of a coextruded layer.....	19
6.5	Determination of colorimetric co-ordinates	19
6.6	Permissible tolerances on standard colours	19
7	Marking	19
7.1	Main profiles.....	19
7.2	Auxiliary profiles	20
Annex A (normative) Material characteristics, preparation of samples and requirements		21
A.1	General	21
A.2	Test specimens	21
A.3	Preparation of pressed plates.....	21
A.4	Material characteristics	21
A.4.1	Vicat softening temperature.....	21
A.4.2	Flexural modulus of elasticity	22
A.4.3	Tensile impact strength.....	22
A.5	Test report	22
Annex B (normative) Calculation method for the determination of the radiant exposure and exposure time to be used for artificial weathering.....		23
B.1	General	23
B.2	Calculation.....	23

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

European foreword

This document (EN 12608-1:2016) 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 September 2016, and conflicting national standards shall be withdrawn at the latest by March 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12608:2003.

The major modifications to the previous edition are:

- Change in structure of definitions (general, profile, geometrical and material);
- Review of definitions of own reprocessed (previously reprocessable) material (3.4.5) and external reprocessed (previously reprocessable) material (3.4.6);
- Including a new material (non-UV resistant virgin material);
- Review of Table 1, which defines the classification of climatic zones in Europe; (correction of a mistake in EN12608:2003);
- Addition of a class (no performance determined) for the classification of main profiles according to the resistance to impact by falling mass (Table 2);
- Complete review of 5.1, giving the requirements for materials, establishing the distinction between UV resistant virgin material (5.1.1), non UV-resistant virgin material (5.1.2) and reprocessed (previously reprocessable), recycled (previously recyclable) materials and non-UV resistant virgin materials (5.1.3) with the addition of Table 4 which defines the uses allowed according to the type of material);
- Review of the test of Charpy impact resistance of main profiles (5.8); Introduction of dependence on classes of wall thickness;
- Review of the methods to determine the colorimetric co-ordinates (6.5);
- Addition of new subclause 6.4 for the determination of the thickness of a co-extruded layer;
- Addition of a requirement for individual values for the Vicat softening temperature (A.4.1);
- Addition of a requirement for individual values for the flexural modulus of elasticity (A.4.2);
- Addition of a requirement for individual values for the tensile impact strength (A.4.3);
- Deletion of the Charpy impact resistance from Annex A (material characteristics);
- Editorial review of the whole document and updating of normative references.

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

EN 12608, *Unplasticized poly(vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods* consists of the following parts:

- *Part 1: Non-coated PVC-U profiles with light coloured surfaces*
- *Parts 2: PVC-U profiles with laminated foils* (in preparation)
- *Parts 3: PVC-U profiles with coextruded coloured top-layer* (in preparation)
- *Parts 4: PVC-U profiles with lacquered-coating* (in preparation)

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

This is a preview of "BS EN 12608-1:2016". [Click here to purchase the full version from the ANSI store.](#)

1 Scope

This European Standard specifies the classifications, requirements and test methods for non-coated unplasticized poly(vinyl chloride) (PVC-U) profiles with light coloured surfaces intended to be used for the fabrication of windows and doors.

It is applicable to PVC-U profiles with the colorimetric co-ordinates measured on the visible surfaces, as follows:

- $L^* \geq 82$ (chromaticity co-ordinate $Y \geq 60$),
- $-2,5 \leq a^* \leq 5$,
- $-5 \leq b^* \leq 15$.

NOTE 1 For editorial reasons in this document the term "window" is used for window/door.

NOTE 2 Profiles made from PVC-U materials with reinforcements (e.g. glass fibres) are not part of this scope.

2 Normative references

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

EN 477, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Determination of the resistance to impact of main profiles by falling mass*

EN 478, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Appearance after exposure at 150 °C - Test method*

EN 479, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Determination of heat reversion*

EN 513, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Determination of the resistance to artificial weathering*

EN 514, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Determination of the strength of welded corners and T-joints*

EN ISO 105-A01:2010, *Textiles - Tests for colour fastness - Part A01: General principles of testing (ISO 105-A01:2010)*

EN ISO 178, *Plastics - Determination of flexural properties (ISO 178)*

EN ISO 179-1, *Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test (ISO 179-1)*

EN ISO 306, *Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST) (ISO 306)*

EN ISO 1163-2:1999, *Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties (ISO 1163-2:1995)*