SLOVENSKI STANDARD
SIST EN 607:1998

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Žlebovi in fazonski kosi iz PVC-U - Definicije, zahteve, preskušanje

Eaves gutters and fittings made of PVC-U - Definitions, requirements and testing

Hängedachrinnen und Zubehörteile aus PVC-U - Begriffe, Anforderungen und Prüfung

Gouttieres pendantes et leurs raccords en PVC-U - Définitions, exigences et méthodes d'essai

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English version

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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

Contents

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 128 "Roof covering products for discontinuous laying", the secretariat of which is held by IBN.

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of an identical text or by endorsement at the latest by December 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.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 requirements and test methods of eaves gutters and fittings made from unplasticized polyvinyl chloride (PVC-U), and intended to be used for rainwater drainage.

2 Normative references

This European Standard incorporates by dated or undated reference, 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 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.

EN 638 : 1992	Plastics piping and ducting systems - Thermoplastics pipes - Determination of short term tensile properties
EN 727 : 1992	Plastics piping and ducting systems - Thermoplastics pipes and fittings - Determination of Vicat softening temperature
prEN 743	Plastics piping and ducting systems - Thermoplastics pipes - Determination of the longitudinal reversion
prEN 763	Thermoplastics piping and ducting systems - Injection-moulded fittings - Test methods for visually assessing effects of heating
ISO 105-A02 : 1987	Textiles - Tests for colour fastness - Part A02: Grey scale for assessing change in colour
ISO/DIS 4892-2	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon arc sources
ISO/DIS 4892-3	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent lamps
ISO 8256 : 1990	Plastics - Determination of tensile impact strength

3 Definitions

For the purposes of this European standard, the following definitions apply.

3.1 Components

3.1.1 eaves gutter: A gutter situated outside the building and supported by brackets.

3.1.2 down-pipe: A pipe fitted to a gutter to lead rainwater from the gutter to the drainage system or sewer.

3.1.3 union-clip (gutter-union) A fitting for joining two gutters and supported only by those gutters.

3.1.4 joint-bracket (union-bracket): A fitting for joining two gutters which is supported by the building structure.

3.1.5 gutter adaptor: A fitting for joining two different shaped gutters.

3.1.6 angle: A fitting for joining two gutters installed in two different directions.

3.1.7 stop end: A fitting for stopping the flow, fixed at the end of a gutter or an outlet.

3.1.8 outlet: A fitting for draining off the rainwater from the gutter into the down-pipe.

3.1.9 commercial length: The length of a gutter or a down-pipe which was produced in a factory.

3.2 Material

3.2.1 virgin material : A material in a form of granules or powder that has not been subjected to use or processing other than that required for their manufacture and to which no reprocessable or recyclable materials have been added.

3.2.2 own reprocessable material: Material prepared from rejected unused profiles and fittings, including trimmings from the production of profiles and fittings, that will be reprocessed in a manufacturer's plant after having been previously processed by the same manufacturer by a process such as moulding or extrusion, providing the complete formulation is known.

3.2.3 external reprocessable material: Material comprising either one of the following forms.

a) Material from rejected unused profiles, or fittings or trimmings therefrom, that will be reprocessed and that were originally processed by another manu facturer.

b) Material from the production of unused PVC-U products other than profiles and fittings, regardless of where they are manufactured, that will be processed into profiles and/or fittings.

3.2.4 recyclable material: Material comprising either one of the following forms.

a) Material from used profiles or fittings which have been cleaned and crushed or ground.

b) Material from used PVC-U products other than profiles or fittings which have been cleaned and crushed or ground.

4 Requirements on the material

The material from which the gutters and the fittings is made shall consist substantially of unplasticized polyvinyl chloride (PVC-U), to which may be added those additives needed to facilitate the production of gutters conforming to this European Standard.

The use of manufacturer's own reprocessable materials produced during the manufacture and works testing of products conforming to the material requirements of this standard shall be permissible. If other reprocessable or recyclable material is used it shall be blended with virgin or own reprocessable material. Such reprocessable or recyclable material shall be of the same type and compatible with the virgin material and shall not exceeed 20 % by mass of the blend. The inclusion of material other than virgin or own reprocessable material shall constitute a change of formulation for the purposes of type testing.

5 Gutters, requirements and test methods

5.1 Appearance

When viewed without magnification the internal and external surfaces of gutters shall be smooth, clean and free from scoring, cavities, and other surface defects. The ends of gutters shall be cut cleanly and square to the axis of the profile.

5.2 Width

Gutters shall be designated by their upper opening width (size). The manufacturer shall declare the usable area of the cross-section of the gutter at its designed top opening width for the calculation of flow capacity. This usable area shall be either marked on the gutter or given in commercial documents.

5.3 Length

The commercial length of a gutter shall have a positive tolerance when measured at 20 °C.

5.4 Physical and mechanical properties

The requirements for the physical and mechanical properties and the conditions for the respective test methods shall conform to those given in table 1.

NOTE: Any conflicting parameters and requirements given in the test method standards referred to do not apply here.

Table 1. Physical and mechanical properties of gutters

Property	Requirement	Test method	Test conditions
Hammer impact strength (type test)	No break or crack visible without magnification	Annex A	-
Tensile strength (type test)	min. 42 MPa	EN 368	-
Elongation at break (type test)	min. 100 %	EN 368	5 mm/min
Tensile impact strength (type test)	min. 500 kJ/m^2	ISO 8256	Method A, measured at (23 ± 2) °C before ageing; 10 machined test pieces shape 2, 3 oder 5*)
Heat reversion (type and production control test)	max. 3 %	EN 743	Method B; in air at (100 ± 2) °C for (30 ± 2) min
Vicat softening temperature (type test)	min. 75 °C	EN 727	-
*) In case of dispute, test piece shape 5 shall be used.			

6 Fittings, requirements and test methods

6.1 General

The following types of fittings shall conform to the requirements given in 6.2, 6.3 and 6.4: union clip, joint-bracket, gutter adaptor, angle, stop end, outlet and expansion piece.

6.2 Appearance

When viewed without magnification the internal and external surfaces of fittings shall be smooth, clean and free from scoring, cavities, and other surface defects.

6.3 Shape and dimensions

The fittings shall be compatible with the shape and the dimensions of the profile of the gutter. The outlets shall be compatible with down-pipes and fittings .

6.4 Physical properties

The requirements for the physical properties and the conditions for the respective test methods shall conform to those given in table 2.

NOTE: Any conflicting parameters and requirements given in the test method standards referred to do not apply.

Table 2. Physical properties of fittings

Property	Requirement	Test method	Test conditions
Effect of heating[1] (production control test)	No crack through the thickness of the wall on a weld line, no surface defect reaching further than halfway through the thickness of the wall.	EN 763	at 150 °C for 15 min
Heat reversion[2] (type test)	No visible deformation	Annex B	-
Vicat softening temperature (type test)	min. 75 °C	EN 727	-

1) Without seal and only for injection-moulded fittings.
2) For fittings produced by processes other than injection moulding.

7 Gutter seals and solvent cements

The gutter seals shall have no detrimental effect on the properties of gutters and fittings and shall enable the test assembly to conform to clause 10.

If solvent cement is used, it shall be that specified by the producer of the fittings.

8 Designation

Eaves gutters and fittings shall be designated by

a) a description of the product, e.g. gutter, stop end, outlet;
b) the number of this standard (EN 607);
c) the identity block comprising
   - the width of the gutter or, in case of a fitting, the width of the appropriate gutter, in mm;
   - the material symbol (PVC-U).

EXAMPLE:

Designation of an eaves gutter of PVC-U with a width of 150 mm:

Eaves gutter EN 607 - 150 - PVC-U

9 Marking

9.1 The marking shall be printed or formed directly on the gutter or, if applicable, on the fitting in such a way that it does not initiate cracks or other types of failure and that with normal storage, weathering and processing, and the permissible method of installation and use, legibility shall be durably maintained. Alternatively for fittings, the marking may be on a permanently attached label.

If printing is used, the colour of the printed information shall differ from the basic colouring of the product.

The marking shall be easily readable without magnification.

9.2 The marking shall includee at least the following details:

a) name, which may be abbreviated, or trade-mark of the manufacturer,
b) upper opening width, in mm,
c) quality mark, if a certification scheme is set up,
d) the number of this standard (EN 607).