



# SLOVENSKI STANDARD SIST EN 607:2023

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

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

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

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

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

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

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This European Standard was approved by CEN on 17 March 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN 607:2023) has been prepared by Technical Committee CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, SC10 “Gutters”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by November 2023, and conflicting national standards shall be withdrawn at the latest by November 2023.

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

This document supersedes EN 607:2004.

The main changes include:

- Clarification of the products covered;
- Conditions for the use of non-virgin materials (see Annex A);
- Update of the Normative references.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

**EN 607:2023 (E)****1 Scope**

This document specifies the requirements for eaves gutters made of unplasticized poly(vinyl chloride) (PVC-U), fittings and the system intended to be used for rainwater roof drainage.

It applies to:

- solid wall monolayer gutters;
- solid wall multilayer gutters;
- solid wall fittings.

This document is not applicable to PVC gutters with a foamed layer.

The test parameters for the test methods are specified in the document.

Gutters covered by this document can be used in conjunction with fittings of acrylic materials provided these products meet the applicable requirements of this document.

NOTE 1 Products complying with this document are suitable to be used in conjunction with rainwater downpipes conforming to EN 12200-1 [1] and fixed with brackets complying with EN 1462 [2].

This document is applicable to PVC-U gutter systems of any shape with rubber seal or adhesive joints.

NOTE 2 It is the responsibility of the purchaser or specifier to make the appropriate selections from the size range and the design to take into account their particular requirements and any relevant national regulations and installation practices or codes.

NOTE 3 The term “rainwater” in this document is used also to encompass “surface water” (as defined in EN 752 [3]) run-off from buildings.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 513, *Plastics — Poly(vinyl chloride) (PVC) based profiles — Determination of the resistance to artificial weathering*

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 681-3, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 3: Cellular materials of vulcanized rubber*

EN 681-4, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 4: Cast polyurethane sealing elements*

EN 14680, *Adhesives for non-pressure thermoplastics piping systems — Specifications*

EN 14814, *Adhesives for thermoplastic piping systems for fluids under pressure — Specifications*

EN ISO 1158, *Plastics — Vinyl chloride homopolymers and copolymers — Determination of chlorine content (ISO 1158)*

EN 20105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02)*

EN ISO 527-2, *Plastics - Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 580, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating (ISO 580)*

EN ISO 1183-3, *Plastics — Methods for determining the density of non-cellular plastics — Part 3: Gas pycnometer method (ISO 1183-3)*

EN ISO 2505, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters (ISO 2505)*

EN ISO 2507-1, *Thermoplastics pipes and fittings — Vicat softening temperature — Part 1: General test method (ISO 2507-1)*

EN ISO 2507-2, *Thermoplastics pipes and fittings — Vicat softening temperature — Part 2: Test conditions for unplasticized poly(vinyl chloride) (PVC-U) or chlorinated poly(vinyl chloride) (PVC-C) pipes and fittings and for high impact resistance poly(vinyl chloride) (PVC-Hi) pipes (ISO 2507-2)*

EN ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions (ISO 3126)*

EN ISO 3451-5, *Plastics — Determination of ash — Part 5: Poly(vinyl chloride)(ISO 3451-5)*

EN ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon arc sources (ISO 4892-2)*

EN ISO 4892-3, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps (ISO 4892-3)*

EN ISO 8256, *Plastics — Determination of tensile-impact strength (ISO 8256)*

EN ISO 11664-4, *Colorimetry — Part 4: CIE 1976 L\*a\*b\* Colour space (ISO 11664-4)*

ISO 6259-2, *Thermoplastics pipes — Determination of tensile properties — Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI)*

**EN 607:2023 (E)****3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

**3.1 eaves gutter**  
channel for collecting and draining rainwater from a roof, intended to be located outside the building structure under the eaves

Note 1 to entry: “Eaves gutter” is referred to as “gutter” in this document.

**3.2 downpipe**  
pipe fitted to a gutter to lead rainwater from the gutter to the drainage system or sewer

Note 1 to entry: PVC-U downpipes intended for above-ground external use are specified in EN 12200-1.

**3.3 union-clip gutter-union**  
fitting for joining two gutters and supported only by those gutters

**3.4 joint bracket union-bracket**  
fitting for joining two gutters which is supported by the building structure

**3.5 gutter adaptor**  
fitting for joining two different shaped gutters

**3.6 angle**  
fitting for joining two gutters installed in two different directions

**3.7 stop end**  
fitting for stopping the flow, fixed at the end of a gutter or an outlet

**3.8 outlet**  
fitting for draining off the rainwater from the gutter into the downpipe

**3.9 effective length**  
length of a gutter measured at 20 °C



### 3.10 upper opening width

**w**

overall width of a gutter when laid flat

Note 1 to entry: It is expressed in millimetres.

### 3.11 solid wall gutter

gutter which is made from the same formulation throughout the wall

Note 1 to entry: Solid wall PVC does not contain numerous small gas cells distributed throughout the mass (also known as “foamed PVC”).

### 3.12 solid wall multilayer gutter

gutter with smooth internal and external surface, having co-extruded layers on either or both the outside and/or inside of the gutter

Note 1 to entry: The formulation may be different for each layer.

### 3.13 external layer

layer which is subject to direct UV exposure, and not supporting the rainwater flow

Note 1 to entry: The external layer is generally visible from the ground level.

### 3.14 internal layer

layer which is subject to direct UV exposure and supporting the rainwater flow

### 3.15 intermediate layer

any layer which is between internal and external layers

Note 1 to entry: The intermediate layer is not subjected to direct UV exposure and water flow.

### 3.16 virgin material

plastics material in the form of pellets, granules, powder, floc, etc. that has not been subjected to use or processing other than that required for its initial manufacture

Note 1 to entry: Does not contain any reworked plastics material and/or plastics recycle.

Note 2 to entry: Sometimes also referred to as “primary material” or “primary plastics feedstock”.

Note 3 to entry: It is understood that the addition of additives such as stabilizers and pigments is still resulting into a virgin (plastics) material.

[SOURCE: FprEN 14541-1:2021, 3.1]

**EN 607:2023 (E)****3.17****reworked material**

plastics material from rejected unused products or trimmings capable of being reclaimed within the same process that generated it

Note 1 to entry: Reworked material does not change the status of the feedstock.

Note 2 to entry: This definition does not cover the conditions for the use of reworked material, which can be found in the applicable product standard.

Note 3 to entry: Previously referred to as “own reprocessed material”.

[SOURCE: FprEN 14541-1:2021, 3.2]

**3.18****pre-consumer material**

plastics material diverted from the waste stream during a manufacturing process, excluding reworked (plastics) material

Note 1 to entry: Previously referred to as “post-industrial material”.

Note 2 to entry: Different categories of pre-consumer material may be considered in the applicable product standard.

[SOURCE: FprEN 14541-1:2021, 3.3]

**3.19****post-consumer material**

plastics material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose

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Note 1 to entry: This includes returns of material from the distribution chain.

Note 2 to entry: Different categories of post-consumer material may be considered in the applicable product standard.

[SOURCE: FprEN 14541-1:2021, 3.4]

**3.20****recyclate**

plastics material resulting from the recycling of pre-consumer and post-consumer plastics products

Note 1 to entry: Also referred to as “secondary raw material” or “recycled plastics” or “regenerate”.

Note 2 to entry: Recycling can be chemical, physical or mechanical.

[SOURCE: FprEN 14541-1:2021, 3.5]

### 3.21

#### agreed specification

specification of the relevant material characteristics agreed between the supplier of the recyclate and the gutter and/or fitting manufacturer

Note 1 to entry: The agreed specification is often considered in the context of certification by a third party organization.

[SOURCE: FprEN 14541-1:2021, 3.15, modified — “pipe” changed into “gutter”]

## 4 Symbols

$w$  upper opening width

## 5 Material

### 5.1 PVC material

The material shall be a mixture of PVC to which are added additives and if applicable reworked material and recyclate that shall allow the final product to comply with the requirements of this document.

Reworked material and recyclate may be used in the conditions given in Clause 5.3.

The material (including reworked material and recyclate if applicable) shall comply with the requirements given in Table 1 for PVC.

**Table 1 — Requirements applicable for the PVC material**

Characteristics	Requirements	Test method
PVC content:		
— for gutters	$\geq 80$ % by mass	Calculation or EN ISO 1158 <sup>a</sup>
— for fittings	$\geq 85$ % by mass <sup>b</sup>	Calculation or EN ISO 3451-5, Method A <sup>a</sup>
<sup>a</sup> The measurement of filler content by ash rest is an alternative to the measurement of PVC content and is recommended when recyclate is used.		
<sup>b</sup> Not applicable to fittings produced in accordance with 5.2.		

### 5.2 Other materials

The fittings and the external layer of a solid wall multilayer gutter may be made from acrylic polymers provided the products meet the requirements in Table 5.

### 5.3 Utilization of reworked material and recyclate

Conditions for the utilization of reworked material and recyclate are given in Annex A. The maximum allowed amount of reworked material and recyclate is given in Table 2. Products incorporating reworked material and recyclate shall comply with all requirements of this document.