SLOVENSKI STANDARD
oSIST prEN 1873-1:2020

01-oktober-2020

Predizdelani dodatki za ostrešja - Plastični svetlobniki - Specifikacija proizvoda in preskusne metode

Prefabricated accessories for roofing - Individual plastic rooflights - Product specification and test methods

Vorgefertigte Zubehörteile für Dacheindeckungen - Teil 1: Lichtkuppeln aus Kunststoff - Produktfestlegungen und Prüfverfahren

Accessoires préfabriqués pour couverture - Partie 1 : Lanterneaux ponctuels en matière plastique - Spécifications des produits et méthodes d'essais

Ta slovenski standard je istoveten z: **prEN 1873-1**

ICS:

91.060.20	Strehe	Roofs

oSIST prEN 1873-1:2020 **en,fr,de**

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English Version

Prefabricated accessories for roofing - Individual plastic rooflights - Product specification and test methods

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 128.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. prEN 1873-1:2020 E

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European foreword

This document (prEN 1873-1:2020) has been prepared by Technical Committee CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1873:2014+A1:2016.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with the Regulation (EU) 305/2011, see informative Annex ZA, which is an integral part of this document.

Significant technical changes between this document and the previous edition include:

— Editorial revision;

— Number, title and scope revised;

— Normative references updated;

— Radiation properties updated;

— Watertightness of the translucent sheet (translucent parts) deleted;

— Air permeability updated;

— Thermal resistance updated;

— Clause AVCP updated;

— Annex ZA updated.

EN 1873 consists of 3 parts:

— Part 1: Product specification and test methods

— Part 2: Product specification and test methods for rooflights of glass

Introduction

This document describes characteristics and assessment procedures for individual rooflights consisting of light transmitting sheets made of plastic materials.

This document belongs to a series of standards for rooflights which is consisting of prEN 1873-1 and prEN 1873-2 for individual rooflights, and prEN 14963-1 and prEN 1873-2 for continuous rooflights.

1 Scope

This document specifies characteristics for individual plastic rooflights. These rooflights have translucent parts made of plastic materials (e.g. GF-UP, PC, PMMA, PVC) which serve the primary purpose of introducing daylight.

This document applies to individual plastic rooflights with upstands made of e.g. GF-UP, PVC, steel, aluminium or wood and to individual plastic rooflights without upstand, intended for use on upstands. These individual plastic rooflights are intended for installation in flat and slightly inclined roofs.

This document applies to individual plastic rooflights with a rectangular or circular ground plan (see Figures 1 and 2), with an opening span (width) or diameter not larger than 2,5 m and an opening length not larger than 3,0 m. This document does not cover rooflights which contribute to the load-bearing or stiffness of the roof itself.

This document applies to individual plastic rooflights without upstand, where a single manufacturer provides all components of the rooflight and individual plastic rooflights with upstand, where a single manufacturer provides all components of the rooflight with upstand, which are bought in a single purchase.

This document applies to rooflights with one or several translucent parts.

Individual plastic rooflights can be opened by means of opening devices in one or more parts for ventilation.

The possible additional functions of day to day ventilation, smoke and heat ventilation e.g. in case of fire in accordance with EN 12101-2 and roof access, are outside the scope of this document.

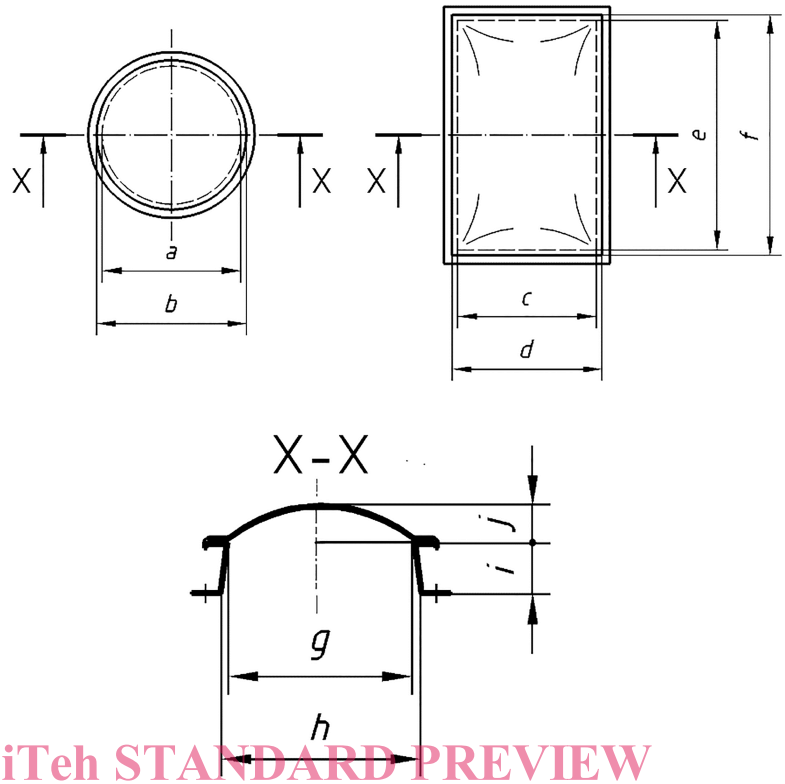
This document does not apply to:

— “Individual glass rooflights” acc. to prEN 1873-2

— “Continuous plastic rooflights” according to prEN 14963-1 and “Continuous glass rooflights” according to prEN 14963-2

— “Roof windows” according to EN 14351-1

NOTE An indicative list of provisions for a proper application, use and maintenance of individual plastic rooflights is presented in Annex A.



Section X –X with and without additional horizontal skin

Key

a	daylight diameter	f	roof opening length
b	roof opening diameter	g	daylight size
c	daylight width	h	roof opening size
d	roof opening width	i	upstand height
e	daylight length	j	rooflight height

Figure 1 — Typical individual plastic rooflights

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 410:2011, *Glass in building - Determination of luminous and solar characteristics of glazing*

EN 596:1995, *Timber structures - Test methods - Soft body impact test of timber framed walls*

EN 673:2011, *Glass in building - Determination of thermal transmittance (U value) - Calculation method*

EN 674:2011, *Glass in building - Determination of thermal transmittance (U value) - Guarded hot plate method*

EN 1013:2012+A1:2014, *Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings - Requirements and test methods*

CEN/TS 1187:2012, *Test methods for external fire exposure to roofs*

EN 12412-2:2003, *Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 2: Frames*

EN 13501-1:2018, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 13501-2:2016, *Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13501-5:2016, *Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests*

EN 13823:2020, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 16153:2013+A1:2015, *Light transmitting flat multiwall polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods*

EN 16240:2013, *Light transmitting flat solid polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods*

EN ISO 178:2019, *Plastics - Determination of flexural properties (ISO 178:2019)*

EN ISO 527-1:2012, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:2012)*

EN ISO 527-2:2012, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:2012)*

EN ISO 1716:2018, *Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value) (ISO 1716:2018)*

EN ISO 1182:2010, *Reaction to fire tests for products - Non-combustibility test (ISO 1182:2010)*

EN ISO 4892-1:2016, *Plastics - Methods of exposure to laboratory light sources - Part 1: General guidance (ISO 4892-1:2016)*

EN ISO 4892-2:2013, *Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 4892-2:2013)*

EN ISO 6946:2017, *Building components and building elements - Thermal resistance and thermal transmittance - Calculation methods (ISO 6946:2017)*

EN ISO 10077-2:2017, *Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: Numerical method for frames (ISO 10077-2:2017)*

EN ISO 10140-1:2016, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products (ISO 10140-1:2016)*

EN ISO 10140-2:2010, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation (ISO 10140-2:2010)*

EN ISO 10140-4:2010, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 4: Measurement procedures and requirements (ISO 10140-4:2010)*

EN ISO 10140-5:2010,[1] *Acoustics - Laboratory measurement of sound insulation of building elements - Part 5: Requirements for test facilities and equipment (ISO 10140-5:2010)*

EN ISO 10211:2017, *Thermal bridges in building construction - Heat flows and surface temperatures - Detailed calculations (ISO 10211:2017)*

EN ISO 11664-1:2011, *Colorimetry - Part 1: CIE standard colorimetric observers (ISO 11664-1:2007)*

EN ISO 11664-2:2011, *Colorimetry - Part 2: CIE standard illuminants (ISO 11664-2:2007)*

EN ISO 11925-2:2010, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2010)*

EN ISO 12017:1996, *Plastics - Poly(methyl methacrylate) double- and triple-skin sheets - Test methods (ISO 12017:1995)*

EN ISO 12567-2:2005, *Thermal performance of windows and doors - Determination of thermal transmittance by hot box method - Part 2: Roof windows and other projecting windows (ISO 12567-2:2005)*

EN ISO 14125:1998, [2] *Fibre-reinforced plastic composites - Determination of flexural properties (ISO 14125:1998)*

3 Terms, definitions, symbols, units and abbreviated terms

3.1 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

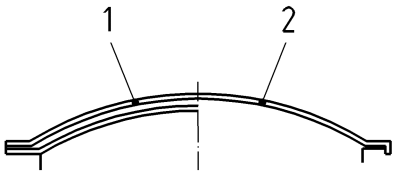
— IEC Electropedia: available at http://www.electropedia.org/

3.1.1
individual plastic rooflight without upstand
building component used to introduce daylight and intended for the installation on an upstand which consists of one or several translucent part(s) and associated edge profiles, if applicable

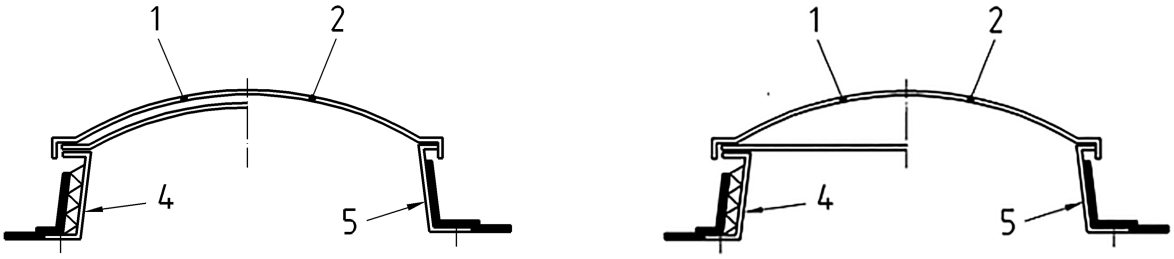
Note 1 to entry: See Figure 2.

[1] As impacted by EN ISO 10140-5:2010/A1:2014.

[2] As impacted by EN ISO 14125:1998/AC:2002 and EN ISO 14125:1998/A1:2011.

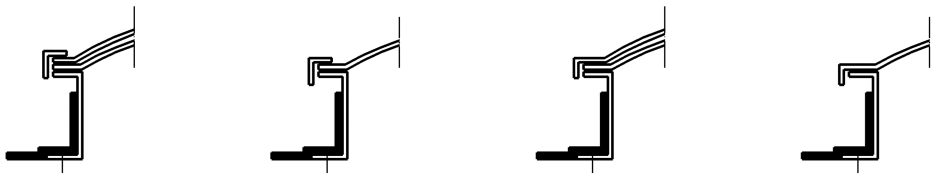


2a) Individual plastic rooflight without upstand



2b) Individual plastic rooflight with upstand

2c) Individual plastic rooflight with upstand and edge profile



with edge profile without edge profile

2d) Vertical upstands

Key

1	multi skin	4	insulated upstand	7	roof finish
2	single skin	5	non insulated upstand		
3	edge profile	6	splayed upstand		

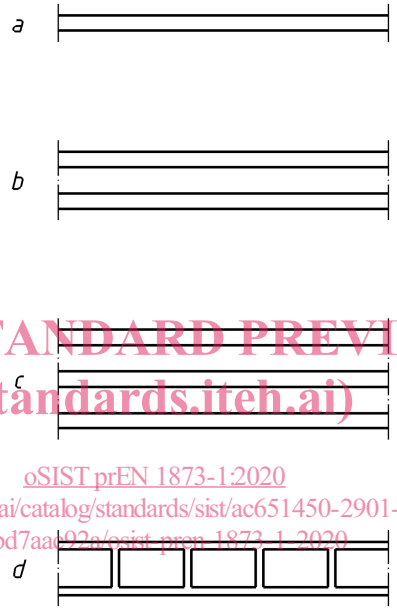
Figure 2 — Cross sections of typical individual plastic rooflights and upstands

3.1.2
translucent part
consists of at least an outside plastic skin which ensures water run off by form or orientation and can include several additional translucent skins below

Note 1 to entry: See Figure 3.

Note 2 to entry: The additional skins can follow or be integrated with the outer skin or be an additional flat skin.

Note 3 to entry: Additional flat skin may not be in plastic.



Key
a single skin, solid sheet
b double skin, solid sheet
c triple skin, solid sheet
d multiwalled sheet
NOTE In case of more than one skin, thicknesses of the sheets can be different.

Figure 3 — Cross sections of typical plastic translucent parts

3.1.3
upstand
element which is single or multi-walled or composite with vertical and/or pitched walls; with or without thermal insulation and having the two-fold purpose of providing an area for the fixture of individual plastic rooflights and for connection to the substructure, the roof covering or the roof sealing

Note 1 to entry: The upstand transmits the loads acting upon the individual plastic rooflight into the substructure.

Note 2 to entry: Upstands may include ventilation devices.