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**Predizdelani dodatki za prekrivanje streh - 1. del: Zvezni plastični svetlobniki -  
Specifikacija proizvoda in preskusne metode**

Prefabricated accessories for roofing - Part 1: Continuous plastic rooflights - Product specification and test methods

Dachdeckungen - Teil 1: Dachlichtbänder aus Kunststoff - Klassifizierung, Leistungen und Prüfverfahren

Éléments de couverture - Partie 1: Lanterneaux continus en matière plastique - Classification, spécifications et méthodes d'essais

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**Ta slovenski standard je istoveten z: prEN 14963-1**

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**ICS:**

83.140.99	Drugi izdelki iz gume in polimernih materialov	Other rubber and plastics products
91.060.20	Strehe	Roofs

**oSIST prEN 14963-1:2020****en,fr,de**

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NORME EUROPÉENNE  
EUROPÄISCHE NORM

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**prEN 14963-1**

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**Prefabricated accessories for roofing - Part 1: Continuous 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.

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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**

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## European foreword

This document (prEN 14963-1:2020) 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 14963:2006.

Significant technical changes between this document and the previous edition are as follows:

- Editorial revision;
- Number, title and scope revised;
- Normative references updated;
- Radiation properties updated;
- Watertightness of rooflight sheets (translucent parts) deleted;
- Air permeability updated and air permeability of rooflight sheets (translucent parts) deleted;
- Thermal resistance updated;
- Clause AVCP updated;
- Annex ZA updated. <https://standards.iteh.ai/catalog/standards/sist/700b6459-dbf9-4615-8d90-2bbb5178c6d5/osist-pren-14963-1-2020>

This document has been prepared under standardization request given to CEN and CENELEC by the European Commission and the European Free Trade Association.

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

EN 14963 consists of 2 parts:

- *Part 1: Continuous plastic rooflights*
- *Part 2: Continuous glass rooflights*

## Introduction

This document describes characteristics and assessment procedures for continuous 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, prEN 1873-3 for roof hatches and prEN 14963-1 and prEN 14963-2 for continuous rooflights.

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## 1 Scope

This document specifies characteristics for continuous plastic rooflights. These rooflights have translucent parts made of plastic materials (e.g. GF-UP, PC, PMMA, PVC) with and without filling material, with or without support elements, which serve the primary purpose of introducing daylight.

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

This document applies to continuous plastic rooflights when a single manufacturer provides all elements of the rooflight for assembly on the roof, which are bought in a single purchase.

This document deals with continuous plastic rooflights manufactured as follows:

- a) with support elements:
  - symmetrical, angled, curved or flat (see Figures 1 and 4);
  - constructed with support elements parallel to the span and with a rectangular ground plan;
- b) without support elements:
  - symmetrical, angled or curved (see Figures 2 and 5) with an angle  $\alpha$  not more than  $45^\circ$  (measured to the horizontal at the line of fixing, see Figure 3).

This document applies to continuous plastic rooflights, including barrel vault rooflights, with a rectangular ground plan of plastic translucent part installed in roofs, with a minimum distance of  $b/3$  ( $b$  = effective span of rooflights, corresponding to the light opening) between each other. The upstands may be self-supporting or non-self-supporting.

This document does not apply to:

- “Individual plastic rooflights” according to prEN 1873-1 and “Individual glass rooflights” according to prEN 1873-2;
- “Roof hatches” according to prEN 1873-3;
- “Continuous glass rooflights” according to prEN 14963-2;
- “Roof windows” according to EN 14351-1.

This document does not include calculation with regard to works, design requirements and installation techniques.

The possible additional functions of day to day ventilation, smoke and heat exhaust ventilation e.g. in case of fire in accordance to EN 12101-2, roof access, and/or slinging point e.g. in accordance to EN 795 are outside the scope of this document.

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

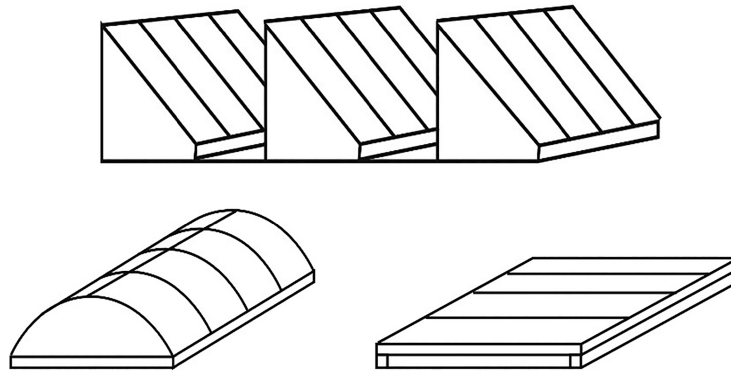


Figure 1 — Examples for symmetrical, angled, curved and flat continuous plastic rooflights with support elements

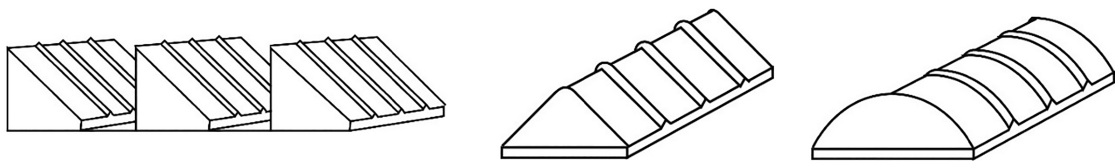
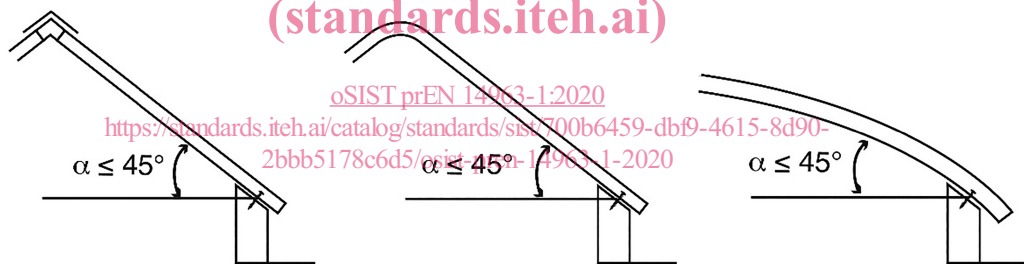


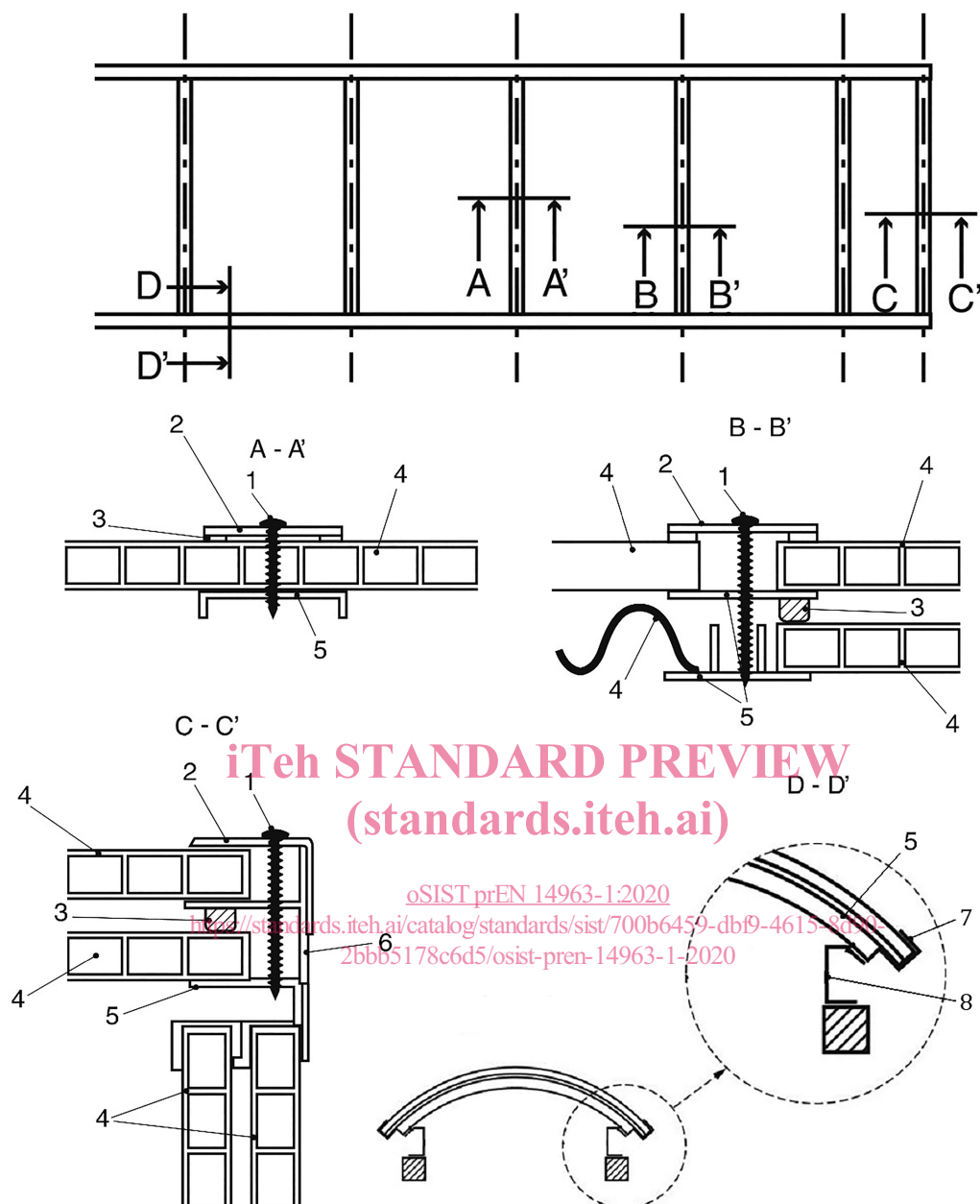
Figure 2 — Examples for symmetrical, angled and curved continuous plastic rooflights without support elements



**Key**

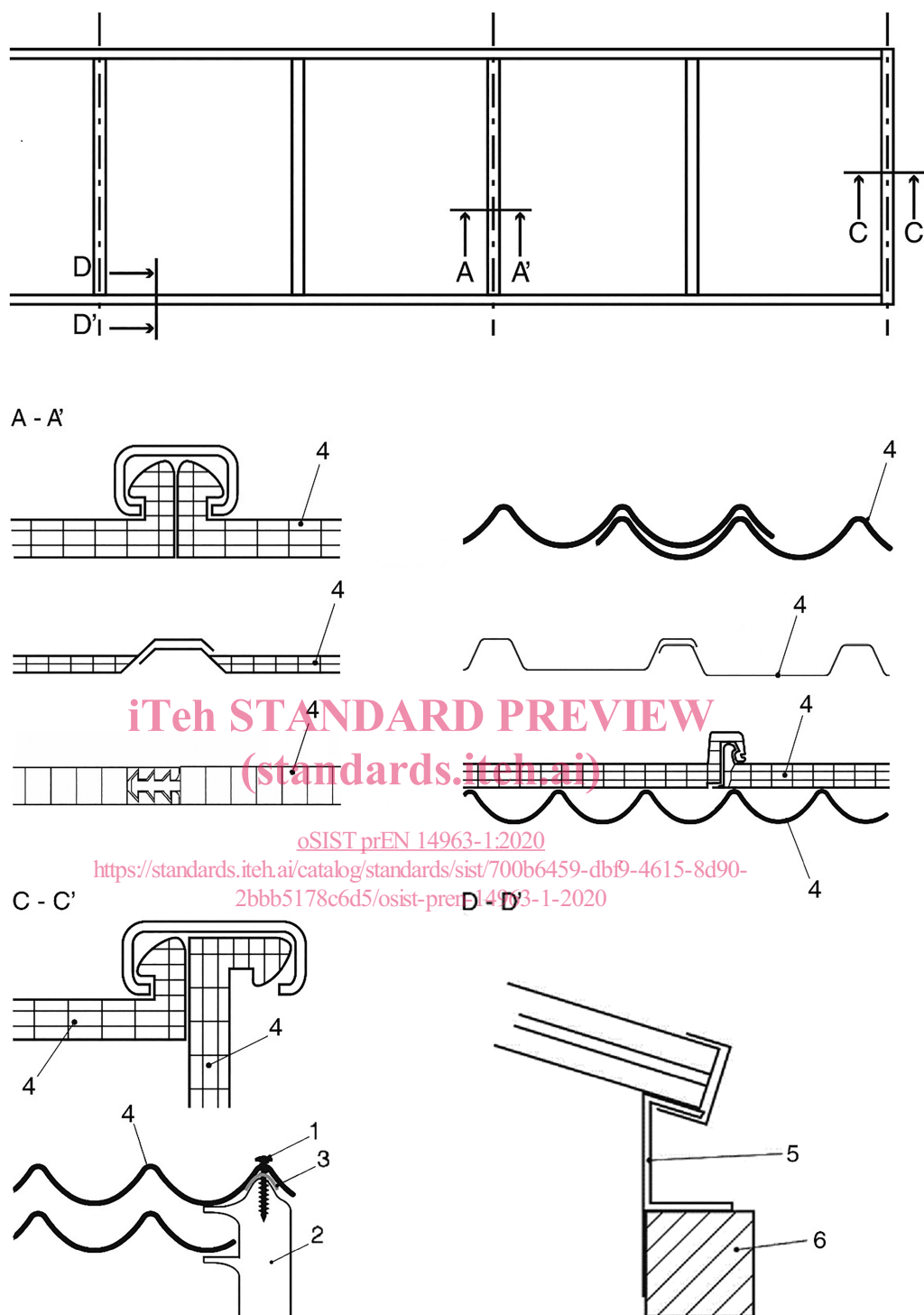
$\alpha$  inclination to the horizontal

Figure 3 — Examples for symmetrical, angled and curved continuous plastic rooflight without support elements (measured to the horizontal at the line of fixing)

**Key**

- 1 screw
- 2 junction part
- 3 sealing
- 4 solid or multi-walled sheet
- 5 support element
- 6 junction part at the gable end
- 7 edge profile
- 8 upstand

**Figure 4 — Example for continuous plastic rooflights with support elements, rectangular ground plan and sections**

**Key**

- |                            |                             |
|----------------------------|-----------------------------|
| 1 screw                    | 5 upstand                   |
| 2 gable end                | 6 structure of the building |
| 3 sealing                  |                             |
| 4 solid or multiwall sheet |                             |

**Figure 5 — Examples of rectangular ground plan and sections of continuous plastic rooflights without support elements**

## 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 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*

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

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

EN ISO 527-1:2019, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:2019)*

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

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

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<sup>1)</sup>, *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/CIE 11664-1:2019, *Colorimetry - Part 1: CIE standard colorimetric observers* (ISO/CIE 11664-1:2019)

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

EN ISO 11925-2:2020, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test* (ISO 11925-2:2020)

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<sup>2)</sup>, *Fibre-reinforced plastics 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/>

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.

## prEN 14963-1:2020 (E)

**3.1.1****continuous plastic rooflight without upstand**

building product used to introduce daylight consisting of one or several plastic rooflight elements and gable ends, if applicable, and is intended for the installation on an upstand

**3.1.2****continuous plastic rooflight with upstand**

building product used to introduce daylight consisting of one or several plastic rooflight elements, gable ends, if applicable, and upstand

**3.1.3****plastic rooflight element**

component of a continuous plastic rooflight consisting of one or several translucent parts with or without support elements

**3.1.4****support element**

element which consists of single or several profiles on which the translucent parts are fitted, and which transmits the applied loads to the upstand

**3.1.5****gable end**

end of a continuous rooflight

Note 1 to entry: Gable end can be assembled vertical, curved or pitched.

**3.1.6****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 plastic rooflight elements and gable ends if applicable and for connection to the substructure, the roof covering or the roof sealing. The upstand transmits the loads acting upon the plastic rooflight elements and gable ends if applicable into the substructure.

Note 1 to entry: Non-self-supporting upstands shall be continuously supported by the roof substructure.

**3.1.7****daylight size**

internal clear opening of the upstand

**3.1.8****openable part**

unit integrated into a continuous plastic rooflight which enables its opening for ventilation purposes

**3.1.9****accessories**

connections, opening and locking devices and seals for the assembly of the elements according to 3.1.1 to 3.1.6, 3.1.8 and 3.1.8 to 3.1.11

**3.1.10****filling material**

any material, or combinations thereof, in any physical state, which is filled into all or some of the hollow spaces of the translucent part as defined in 3.1.9 to modify certain performances

**3.1.11****translucent part**

consists of at least an outside plastic skin which ensures water run off by form or orientation and may also include additional translucent part(s)

Note 1 to entry: The additional skins can be profiled to follow or be integrated with the outer skin or be an additional flat skin.

Note 2 to entry: Translucent part includes transparent part as well.

**3.1.12****opaque panel**

composite structure made up of two major elements, the skin and the core. Panel skins are the outer and inner layers and are constructed from a variety of materials, wood, metal and plastics are commonly used. The core materials are often composed of wood, foam, or other types of thermal insulation material or various types of structural honeycomb. The core gives structure to the sandwich, and the skins protect the core.

Note 1 to entry: Panels with non-combustible skins are typically used to isolate flammable sections of the continuous plastic rooflight. The thickness of the panels at their perimeter usually matches the thickness of the transparent parts of the continuous rooflight to facilitate the connection of both parts at the joints. For aesthetic reasons the panels may often have the same module size as the transparent parts

**3.1.13****edge profile**

any additional element (e.g. frame and/or profile) used to assemble the plastic rooflight on the upstand

**3.1.14****junction part**

any additional element (e.g. frame and/or profile) used to assemble the plastic rooflight elements

Note 1 to entry: Usually junction parts are also support elements.

**3.2 Symbols and abbreviations**

$A_e$	Area of the outer exposed surface of the edge profiles, in $m^2$
$A_{ge}$	Area of the outer exposed surface of the gable ends, in $m^2$
$A_j$	Area of the outer exposed surface of the junction parts, in $m^2$
$A_{j,b}$	Total area of longitudinal junction parts, in $m^2$
$A_{j,r}$	Area of junction parts at gable ends, in $m^2$
$a_p$	Width of translucent part (standard sheet), measured between two junction parts, in m
$a_r$	Width of translucent part (marginal sheet) measured between the longitudinal limit of the daylight size and the first junction part, in m
$A_r$	Area of the surface of the rooflight without upstand, in $m^2$
$A_{rc}$	Area of the surface of the rooflight with upstand, in $m^2$
$A_t$	Area of the outer exposed surface of the translucent parts, in $m^2$
$A_{tb}$	Area of translucent parts (standard sheet), in $m^2$