

**Katusekattematerjalid. Taladega
rullplastplaadid valgusavadeks.
Klassifitseerimine, nõuded ja
katsemeetodid**

Roof coverings - Continuous rooflights of plastics
with or without upstands - Classification,
requirements and test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14963:2006 sisaldab Euroopa standardi EN 14963:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 24.11.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14963:2006 consists of the English text of the European standard EN 14963:2006.</p> <p>This document is endorsed on 24.11.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies requirements for continuous rooflights made of plastic materials (e.g. GF-UP, PC, PMMA, PVC) with or without bearing profiles to be used with upstands made of e.g. GF-UP, PVC, steel, aluminium, wood or concrete, for laying in roofs, which serve the purpose of lighting by means of daylight and, possibly, of ventilating interior spaces by means of opening devices.</p>	<p>Scope:</p> <p>This European Standard specifies requirements for continuous rooflights made of plastic materials (e.g. GF-UP, PC, PMMA, PVC) with or without bearing profiles to be used with upstands made of e.g. GF-UP, PVC, steel, aluminium, wood or concrete, for laying in roofs, which serve the purpose of lighting by means of daylight and, possibly, of ventilating interior spaces by means of opening devices.</p>
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ICS 91.060.20

Võtmesõnad: katusekatmine

English Version

Roof coverings - Continuous rooflights of plastics with or without
upstands - Classification, requirements and test methods

Éléments de couverture - Lanterneaux continus en matière
plastique avec et sans costière - Classification,
spécifications et méthodes d'essais

Dachdeckungen - Dachlichtbänder aus Kunststoff mit oder
ohne Aufsetzkränzen - Klassifizierung, Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 4 September 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	9
3 Terms and definitions	11
4 Symbols and abbreviations	12
5 Requirements	13
5.1 Radiation transmittance	13
5.2 Durability	13
5.3 Water tightness	15
5.4 Mechanical performances	15
5.5 Reaction to fire	18
5.6 Resistance to fire	18
5.7 External fire performance	18
5.8 Air permeability	19
5.9 Thermal resistance	19
5.10 Airborne sound insulation	20
6 Testing	20
6.1 Radiation transmittance	20
6.2 Durability	20
6.3 Water tightness	22
6.4 Mechanical performances	24
6.5 Number and dimensions of test specimens	32
6.6 Test report	33
7 Evaluation of conformity	33
7.1 General	33
7.2 Initial type testing	33
7.3 Factory production control (FPC)	34
8 Classification and designation	35
9 Marking	36
Annex A (informative) Guidelines for safety, application, use and maintenance	37
A.1 General	37
A.2 Guidelines for safety	37
A.3 Guidelines for application and use	37
A.4 Maintenance	38
Annex B (normative) Alternative test method for determination of light transmittance	39
B.1 General	39
B.2 Apparatus	39
B.3 Test pieces	39
B.4 Procedure	40
B.5 Expression of results	40
Annex C (informative) Information regarding light transmittance	41
C.1 General	41
C.2 Material characteristics	41
C.3 Transmission	42
C.4 Reflectance factor (according to CIE)	42
C.5 Absorptance	43

C.6	Solar gain	43
Annex ZA (informative) Clauses of this European Standard addressing the provisions of EU		
	Construction Products Directive	45
ZA.1	Scope and relevant characteristics	45
ZA.2	Procedures for attestation of conformity of continuous rooflights	47
ZA.3	CE marking and labelling.....	52
	Bibliography.....	56

Foreword

This document (EN 14963:2006) 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 IBN/BIN.

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 April 2007, and conflicting national standards shall be withdrawn at the latest by July 2008.

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 EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

1 Scope

This European Standard specifies requirements for continuous rooflights made of plastic materials (e.g. GF-UP, PC, PMMA, PVC) with or without bearing profiles to be used with upstands made of e.g. GF-UP, PVC, steel, aluminium, wood or concrete, for laying in roofs, which serve the purpose of lighting by means of daylight and, possibly, of ventilating interior spaces by means of opening devices.

This European Standard applies to continuous rooflights without upstand and to continuous rooflights, where a single manufacturer provides all components of the rooflight with upstand, which are bought in a single purchase. Products covered by this European Standard may be supplied as continuous rooflights with and without upstand and rooflights intended to be used with an upstand, for which the upstand is specified, but not supplied.

It applies to continuous rooflights when mounted with an inclination δ in the longitudinal direction not more than 10° to the horizontal and not more than 10° in the transversal direction (see Figure 1):

a) with bearing profiles:

- symmetrical, angled, curved (see Figure 2) or flat (see Figure 3);
- constructed with bearing profiles parallel to the span and with a rectangular ground plan;

b) without bearing profiles:

- symmetrical, angled or curved with an α angle not more than 45° (measured to the horizontal at the line of fixing, see Figure 4);
- constructed with a span (width) lower than or equal 2,5 m and with a rectangular ground plan.

This European Standard applies to continuous rooflights, including barrel vault rooflights, with a rectangular ground plan of plastic glazing laying in roofs having, in addition a minimum distance of $b/3$ (b = effective span of rooflights, corresponding to the light opening). The upstands may be self-supporting or non self-supporting.

The design of the upstand is not part of this European Standard. Upstands can be prefabricated or site fabricated. Prefabricated upstands are to be considered as part of the continuous rooflight. Site fabricated upstands are not covered by this European Standard.

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

The possible additional functions of smoke and heat ventilation in case of fire, and/or roof access are outside the scope of this European Standard.

NOTE 1 Continuous rooflights outside of the scope of this European Standard will be covered by European Technical Approvals based on EOTA ETA-Guideline 010 "Self supporting translucent roof kits". Individual rooflights are covered by EN 1873.

NOTE 2 Guidelines for safety, application, use and maintenance of continuous rooflights are presented in Annex A.

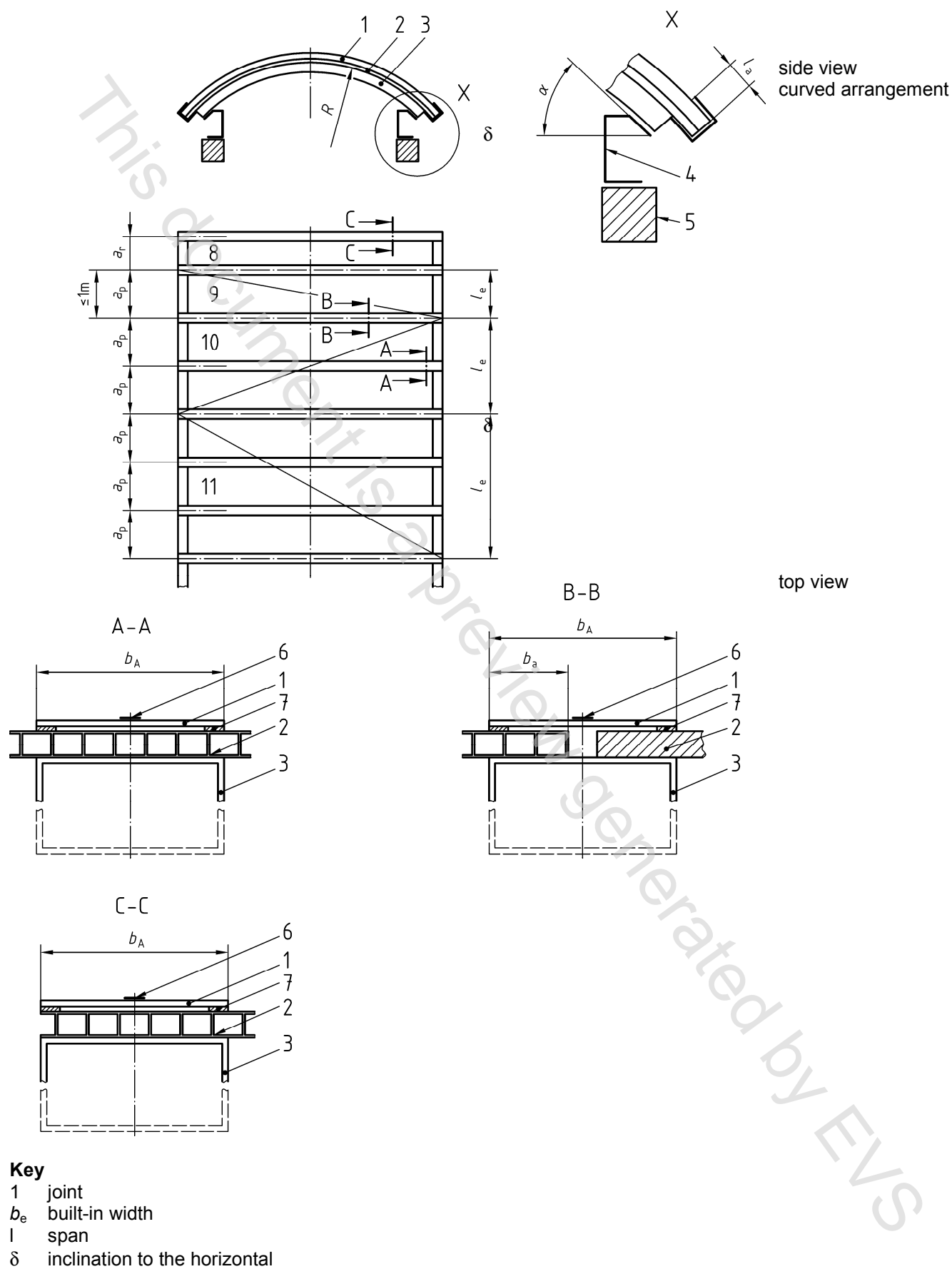
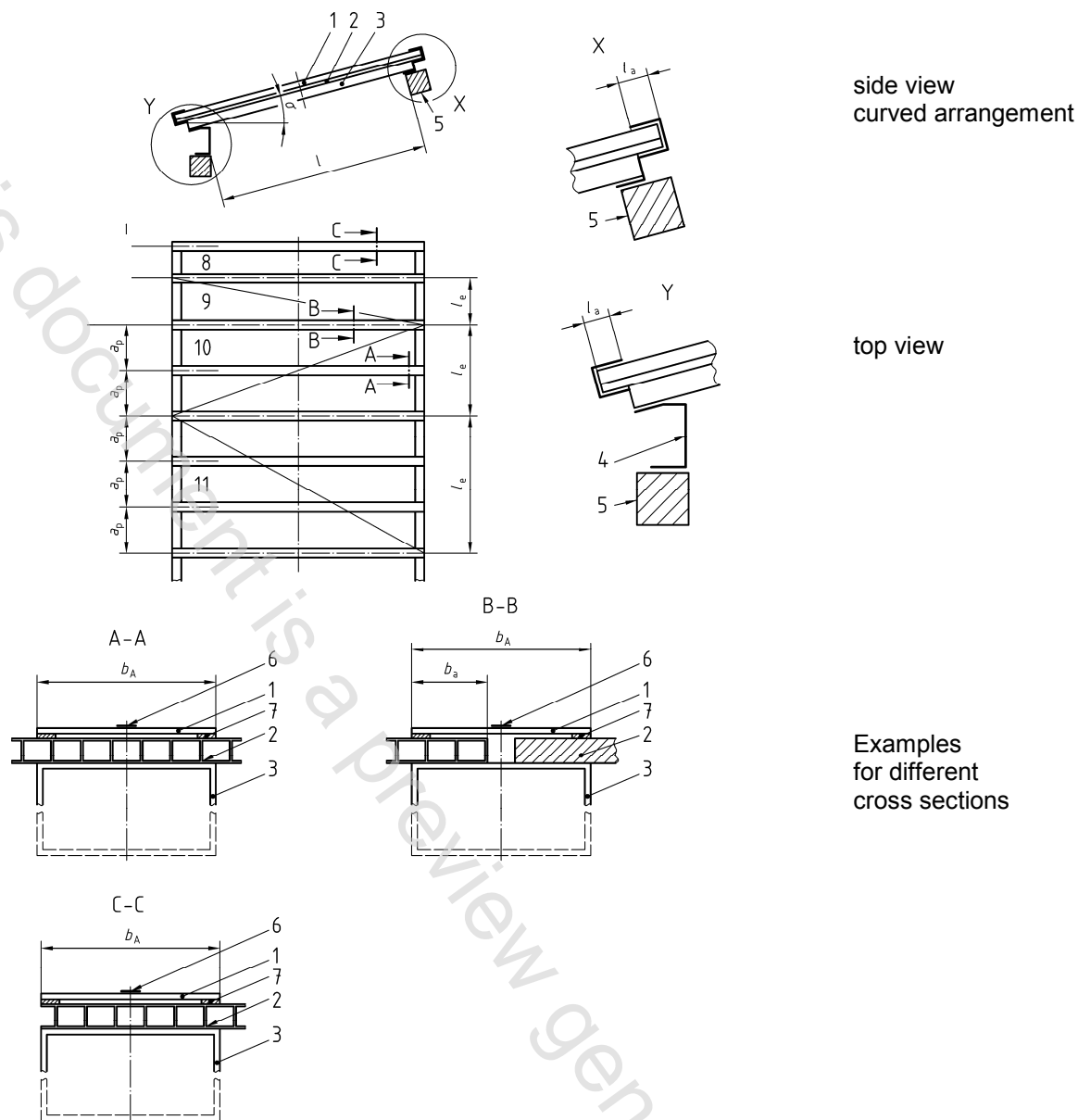


Figure 1 — Range of inclination of continuous rooflights without bearing profiles



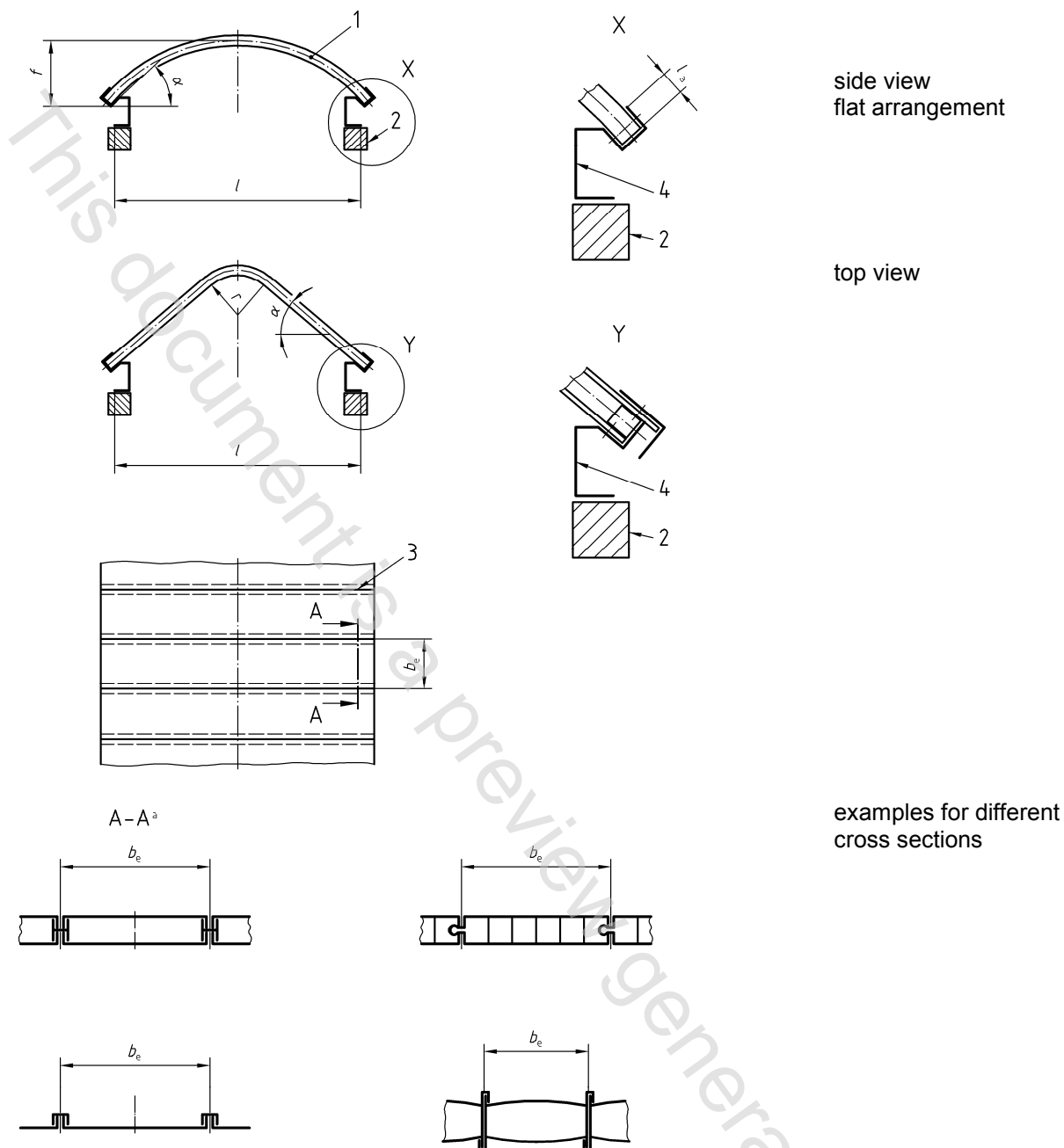
Key

- 1 covering profile
- 2 solid or multi-wall sheet
- 3 bearing profile
- 4 upstand
- 5 support
- 6 screw
- 7 sealing profile
- 8 marginal sheet
- 9 single span sheet
- 10 double span sheet
- 11 triple span sheet

- a inclination measured to the horizontal at the line of fixing
- a_p spacing of the bearing profiles
- a_r spacing of the bearing profiles for marginal sheets
- b_A width of the bearing profiles
- b_a supported width of the sheet
- l_a supported length of the sheet
- l_e sheet width
- R radius

NOTE If drilled profiles should be avoided, e.g. in PMMA-sheets, the covering profiles in curved systems can be alternatively fixed at their end (similar to a tie member).

Figure 2 — Example for curved continuous rooflights with bearing profiles, for single, double and triple span systems



Key

- 1 covering profile
- 2 solid or multi-wall sheet
- 3 bearing profile
- 4 upstand
- 5 support
- 6 screw
- 7 sealing profile
- 8 marginal sheet
- 9 single span sheet
- 10 double span sheet
- 11 triple span sheet

- a_p spacing of the bearing profiles
- a_r spacing of the bearing profiles for marginal sheet
- b_A width of the bearing profiles
- b_a supported width of the sheet
- l_a supported length of the sheet
- l_e sheet width
- σ inclination to the horizontal

Figure 3 — Example for flat continuous rooflights with bearing profiles, for single, double and triple span systems

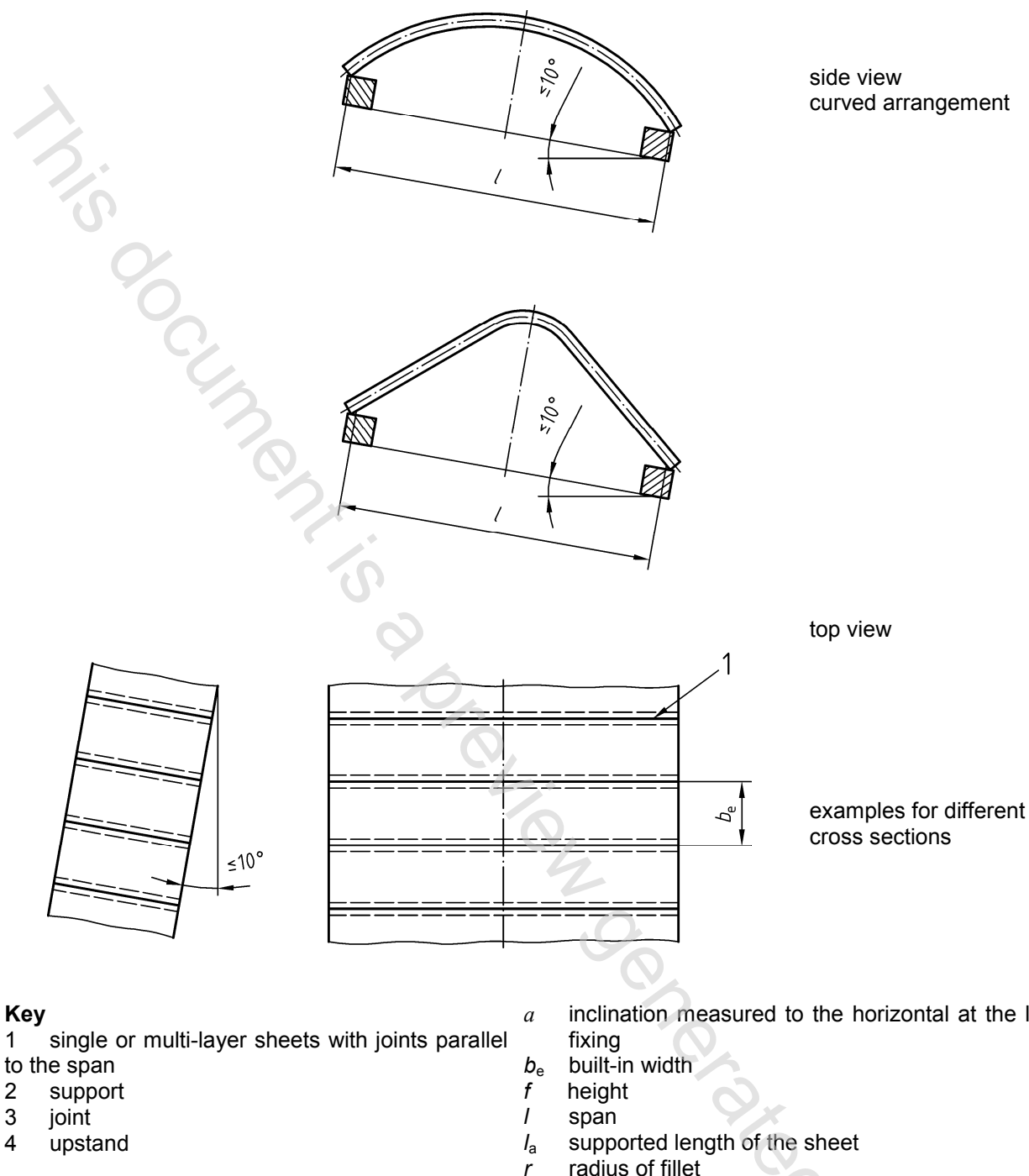


Figure 4 — Examples for curved continuous rooflights without bearing profiles

2 Normative references

The following referenced documents are indispensable for the application 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, *Glass in building — Determination of luminous and solar characteristics of glazing*

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

- EN 673, *Glass in building — Determination of thermal transmittance (U value) — Calculation method*
- EN 674, *Glass in building — Determination of thermal transmittance (U value) — Guarded hot plate method*
- EN 675, *Glass in building — Determination of thermal transmittance (U value) — Heat flow meter method*
- EN 1013-1, *Light transmitting profiled plastic sheeting for single skin roofing — Part 1: General requirements and test methods*
- EN 1013-3, *Light transmitting profiled plastic sheeting for single skin roofing — Part 3: Specific requirements and test methods for sheets of polyvinyl chloride (PVC)*
- EN 1013-5, *Light transmitting profiled plastic sheeting for single skin roofing — Part 5: Specific requirements, test methods and performance of polymethylmethacrylate (PMMA) sheets*
- EN 1026, *Windows and doors — Air permeability — Test method*
- EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*
- EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*
- EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roof tests*
- EN ISO 140-3, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements*
- EN ISO 178, *Plastics — Determination of flexural properties (ISO 178:2001)*
- EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1:1993 including Corr 1:1994)*
- EN ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:1993 including Corr 1:1994)*
- EN ISO 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:1996)*
- EN ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance (ISO 4892-1:1999)*
- EN ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps (ISO 4892-2:2006)*
- EN ISO 6946, *Building components and building elements — Thermal resistance and thermal transmittance - Calculation method (ISO 6946:1996)*
- EN ISO 10077-2, *Thermal performance of windows, doors and shutters — Calculation of thermal transmittance — Part 2: Numerical method for frames (ISO 10077-2:2003)*
- EN ISO 10211-1, *Thermal bridges in building construction — Heat flows and surface temperatures — Part 1: General calculation methods (ISO 10211-1:1995)*
- EN ISO 10211-2, *Thermal bridges in building construction — Calculation of heat flows and surface temperatures — Part 2: Linear thermal bridges (ISO 10211-2:2001)*

EN ISO 10456, *Building materials and products — Procedures for determining declared and design thermal values* (ISO 10456:1999)

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

EN ISO 12567-2, *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 13468-1, *Plastics — Determination of total luminous transmittance of transparent materials — Part 1: Single-beam instrument* (ISO 13468-1:1996)

EN ISO 13468-2, *Plastics — Determination of the total luminous transmittance of transparent materials — Part 2: Double-beam instrument* (ISO 13468-2:1999)

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

EN ISO 14683, *Thermal bridges in building construction — Linear thermal transmittance — Simplified methods and default values* (ISO 14683:1999)

ISO 10526, *CIE standard illuminants for colorimetry*

ISO 10527, *CIE standard colorimetric observers*

3 Terms and definitions

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

3.1

continuous plastic rooflight element

glazing element, coloured or not, which is manufactured to be self-supporting or non-self-supporting. It consists of one or several, translucent or transparent, flat or profiled skins made of solid or structured sheets, cold curved or not. It may require junction profiles for water tightness

3.2

self-supporting glazing element

element in accordance with 3.1 which does not require any bearing profile. It transmits the applied loads to the upstand

3.3

non-self-supporting glazing element

element in accordance with 3.1 which requires two or more bearing profiles

3.4

bearing profile

element which consists of single or several profiles on which the glazing elements are fitted and which transmits the applied loads to the upstand

3.5

gable end

end of a continuous rooflight, which can be vertical, curved or pitched

3.6

upstand

element which is single or multi-walled or composite with vertical and/or pitched walls; with or without thermal insulation, providing an area for the fastening of plastic rooflights and/or bearing profiles and for connection to