

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-09/0347
of 13 April 2023

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

LAMILUX Lichtband B

Product family
to which the construction product belongs

Self supporting translucent roof kit

Manufacturer

LAMILUX
Heinrich Strunz GmbH
Zehstraße 2
95111 Rehau
DEUTSCHLAND

Manufacturing plant

LAMILUX
Heinrich Strunz GmbH
Zehstraße 2
95111 Rehau
DEUTSCHLAND

This European Technical Assessment
contains

117 pages including 106 annexes which form an integral
part of this assessment

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

EAD 220089-00-0401

This version replaces

ETA-09/0347 issued on 15 November 2018

European Technical Assessment

ETA-09/0347

English translation prepared by DIBt

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Specific part

1 Technical description of the product

1.1 Kit description and setup

The "LAMILUX Lichtband B" roof kit is made up of components which are factory-made and assembled on site as a self-supporting translucent roof kit.

The structural system of the roof system "LAMILUX Lichtband B" complies with the category "Curved roof systems with bearing profiles" as listed in section 2.2.5.1 a) of the EAD 22089-00-0401¹.

The roof kit comprises 2.1 m wide arched translucent PC multi-wall sheets which are positioned on curved bearing profiles and clamped against wind loads with covering profiles. The sheets are mounted on the eaves side in a eaves profile consisting of a connecting profile made of PVC and an aluminium profile on the outside. The multi-wall sheets are connected along their longitudinal edges via a bearing profile 60 mm and a covering profile 60 mm. Additional intermediate supports, consisting of a bearing profile 38 mm and a covering profile 38 mm are arranged in parallel to the end arches at equidistant intervals: one for double-span systems (distance of 1.054 m); two for triple-span systems (distance of 0.703 m), three for four-span systems (distance of 0.527 m) or four for five-span systems (distance of 0.422 m).

The self-supporting curved translucent roof kit "LAMILUX Lichtband B" consists of the following components:

- translucent polycarbonate (PC)-multi-wall sheets with thicknesses of 6 mm, 10 mm and 16 mm, including combinations of sheets as described in 1.1.8,
- glass fibre-reinforced unsaturated polyester resin (GRP) sheets ("LAMILUXplan GFUP") with a thickness of 0.7 to 1.4 mm (optionally arranged),
- 4 mm ("M4") or 6 mm ("M6") solid sheets made of copolyester (PETG) (optionally arranged),
- 4 mm solid sheet made from polycarbonate (optionally arranged),
- 5 mm ("tc5") and 16 mm ("tc16") spacer strips made of PE foam for the air gap (optionally in case of thermal composite configuration),
- arched bearing and covering profiles made of aluminium (width of 60 mm in case of a connection of the covering and ≥ 38 mm for intermediate supports),
- covering profile sealings fixed in a shear-resistant manner within the covering profiles 60 mm,
- spacing profiles (mounted on bearing profiles 60 mm when the covering ends),
- on eaves a connecting profile made of PVC-U ("FP24"), one of the aluminium-profiles "GL-PC10", "GL-PC16", "GL-PC20", "GL-PC32", "GL-PC32-PH", "GL-PC36" or "GL-PC36-PH" depending on the coverings thickness and configuration of the eaves and an eaves sealing,
- impost consisting of a load converter ("LK24°-TS35") and one of the fixing brackets made of aluminium ("SK-Stoß 10-20" or "SK-Stoß 26-36" in case of a connection of the covering and "SK-Feld 10-20" or "SK-Feld 26-36" for intermediate supports depending on the coverings thickness),
- supplementary eaves insulation (optionally arranged),
- connecting devices.

¹ EAD 22089 00-0401

Self supporting translucent roof kits with covering made of plastic sheets; edition march 2019

The components and the system setup of the product are given in Annexes A 1 to A 4.

The material values, dimensions and tolerances of the roof kit not indicated in the annexes shall correspond to the values laid down in the technical documentation² of this European technical assessment.

1.1.1 Multi-wall sheets

The following multi-wall sheets made from polycarbonate (PC) in accordance with the harmonised European standard EN 16153³ may be used.

Tabelle 1: Multi-wall sheets

Manufacturer	Trade name	Sheet height [mm]	Annex
Exolon Group S.p.A. IT – Nera Montoro	Exolon multi UV 4/6-6	6	A 4.1.1
dott.gallina s.r.l. IT – La Loggia	PC SHEET 6 P 04w NO UV	6	A 4.1.2
	PC SHEET 6 P 05w NO UV	6	A 4.1.3
Exolon Group S.p.A. IT – Nera Montoro	Exolon multi UV 4/10-6	10	A 4.2.1
dott.gallina s.r.l. IT – La Loggia	Polcarb 10 P 04w	10	A 4.2.2
	Polcarb 10 P 05w	10	A 4.2.3
CORPLEX, Kayserberg F – Kayserberg	AKYVER SUN TYPE 10-4W	10	A 4.2.4
Polycasa Nischwitz GmbH D – Thallwitz	IMPEX Multiwall 10/4w	10	A 4.2.5
Exolon Group S.p.A. IT – Nera Montoro	Exolon multi UV 7/16-14	16	A 4.3.1
dott.gallina s.r.l. IT – La Loggia	Polcarb 16 P 06w	16	A 4.3.2
	Polcarb 16 P 07w	16	A 4.3.3
CORPLEX, Kayserberg F – Kayserberg	AKYVER SUN TYPE 16-7W	16	A 4.3.4

The multi-wall sheets have unfilled hollow chambers and a UV-protection layer on the outer surfaces which is unambiguously marked. The open ends of the multi-wall sheets shall be sealed for dirt protection with a dust proof masking.

1.1.2 Optional (full-surface) covering supplements

1.1.2.1 GRP sheet "LAMILUXplan GFUP"

Sheet made from glass fibre-reinforced unsaturated polyester resin with a thickness of 0.7 to 1.4 mm and with a glass content of at least 20 % by mass. It corresponds to the specifications deposited with Deutsches Institut für Bautechnik.

² The technical documentation comprises all information of the holder of this ETA necessary for the production, installation and maintenance of the roof kit; these are in particular the structural analysis, design drawings and the manufacturer's installation instructions. The part to be treated confidentially is deposited with Deutsches Institut für Bautechnik.

³ DIN EN 16153:2015-05 Light transmitting flat multiwall polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods; German version EN 16153:2013+A1:2015

1.1.2.2 Solid sheet PETG

The 4 mm-thick ("M4") or 6 mm-thick ("M6") solid Polyethylenterephthalat Glycol (PETG) sheets possessing a density of 1270 kg/m³ may be used. They have a surface UV protective layer on both sides to increase durability. When arranging the sheets on the inside below multi-wall sheets, sheets without UV protection may also be used.

1.1.2.3 Solid sheet PC

The 4 mm-thick ("M4") solid polycarbonate (PC) sheets possessing a density of 1200 kg/m³ in accordance with the harmonised European standard EN 16240⁴ may also be used.

They have a surface UV protective layer on both sides to increase durability. When arranging the sheets on the inside under multi-wall sheets, sheets without UV protection may also be used.

1.1.3 Spacer strips for coverings with air gap tc5 and tc16

The spacer strips are used to realise the air gap for the "Thermal Composite" coverings, types "PC10 + PC6 tc16"; "PC10 + PC10 tc16" and "PC10 + PC6 +PC10 tc5".

1.1.3.1 Spacer strips 5 x 28 and 5 x 52

The spacer strips are made of PE foam according to EN ISO 7214⁵; with a density of 24 kg/m³. The dimensions are given in Annex A 3.6 of the ETA.

1.1.3.2 Spacer strips 16 x 28 and 16 x 52

The spacer strips consist of a core of PE foam according to EN ISO 7214 with a density of 60 kg/m³, which is laminated on the upper and lower side with PE foam according to EN ISO 7214 with a density of 24 kg/m³. The dimensions are given in Annex A 3.6.

1.1.4 Arched profiles

The arched profiles are shown in Annex A 2 at sections A-A to C-C for each covering type.

1.1.4.1 Bearing and covering profiles (38 mm and 60 mm)

The extruded precision profiles in accordance with EN 15088⁶ are made from the aluminium alloy EN AW-6060 T66 in accordance with EN 755-2⁷ and the dimensions are given in Annex A 3.1 of the ETA.

The bearing profiles become bent for the required radius by the manufacturer.

1.1.4.2 Covering profile sealing

The sealing consists of a supportive structure made of polypropylene (PP) and a sealing lip made of EPDM and has the dimensions given in Annex A 3.9 of the ETA.

The shore A hardness of the supportive structure made of PP shall be 98° +/-5° according to EN ISO 868⁸. The shore A hardness of the sealing lip made of EPDM shall be 60° +/-5° according to EN ISO 868.

4	EN 16240:2014-03	Light transmitting flat solid polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods
5	DIN EN ISO 7214:2012-07	Cellular plastics - Polyethylene - Methods of test (ISO 7214:2012); German version EN ISO 7214:2012
6	DIN EN 15088:2006-03	Aluminium and aluminium alloys - Structural products for construction works - Technical conditions for inspection and delivery; German version EN 15088:2005
7	EN 755-2:2016-10	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2: Mechanical properties
8	DIN EN ISO 868:2003-10	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003); German version EN ISO 868:2003

1.1.4.3 Spacing profiles

The extruded spacing profiles 10mm, 16mm, 20mm, TSD-16 and TSD-20 are made of polyvinyl chloride PVC-U, EGL, 078-25-T33 according to EN ISO 21306-1⁹ and the dimensions are given in Annex A 3.4.

1.1.5 Eaves profiles

The eaves-side connection is shown in Annex A 2 at section D-D for each covering type. Optionally, additional eaves insulation can be inserted to reduce the heat transfer coefficient

1.1.5.1 Connecting profile

The extruded profiles are made from polyvinylchloride PVC-U, EGL, 078-25-T33, in accordance with EN ISO 21306-1 and have the dimensions given in Annex A 3.3.

The connecting profile will be machined by the manufacturer for the required positioning of the other components.

1.1.5.2 Aluminium profiles "GL-PC10", "GL-PC16", "GL-PC20", "GL-PC32", "GL-PC32-PH", "GL-PC36" and "GL-PC36-PH"

The extruded precision profiles in accordance with EN 15088 profiles are made from the aluminium alloy EN AW-6060 T66 in accordance with EN 755-2 and the dimensions are given in Annexes A 3.2 of the ETA.

1.1.5.3 Eaves sealing

The sealing profile consists of ethylene-propylene terpolymer (EPDM) and the dimensions are given in Annex A 3.9 of the ETA. The shore A-hardness is 80° +/-5° according to EN ISO 868.

1.1.5.4 Eaves insulation (optionally arranged)

The eaves insulation is made of expanded polystyrene (EPS rigid foam) according to EN 13163¹⁰ with a nominal value of thermal conductivity of $\lambda_D \leq 0.031 \text{ W/(mK)}$ according to EN 12667¹¹. The dimensions are given in Annex A 3.5.

1.1.6 Impost

The connection at the impost is shown in Annex A 2 at sections E-E and F-F for each covering type.

1.1.6.1 Load converter "LK24°-TS35"

The load converter is a casting in accordance with EN 15088 made of aluminium alloy EN AC-44200 in accordance with EN 1706¹² and the dimensions are given in Annex A 3.7 of the ETA.

1.1.6.2 Fixing brackets "SK-Stoß 10-20", "SK-Stoß 26-36", "SK-Feld 10-20" and "SK-Feld 26-36"

The fixing brackets are castings in accordance with EN 15088 made of aluminium alloy EN AC-44200 in accordance with EN 1706 and the dimensions are given in Annexes A 3.8 of the ETA.

9	DIN EN ISO 21306-1:2019-7	Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 1: Designation system and basis for specifications (ISO 21306-1:2019); German version EN ISO 21306-1:2019
10	DIN EN 13163:2017-02	Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products - Specification; German version EN 13163:2012+A2:2016
11	DIN EN 12667:2001-05	Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance; German version EN 12667:2001
12	DIN EN 1706:2020-06+A1:2021	Aluminium and aluminium alloys - Castings - Chemical composition and mechanical properties; German version EN 1706:2020

1.1.7 Fasteners

The following screws have to be used according to the Annex A 3.10 of the ETA:

- self-tapping screw "EJOT JZ3-8.0x38"
connection between covering profile 38 mm and fixing bracket "SK-Feld", "SK-Feld 26-36"
- self-tapping screw "EJOT JZ3-8.0x64"
connection between covering profile 60 mm and fixing bracket "SK-Stoß", "SK-Stoß 26-36"
- self-drilling screw "EJOT JT4-6-6.3x30"
connection between fixing bracket "SK-Feld 10-20" or "SK-Feld 26-36" and load converter "LK24°-TS35" and connection between fixing bracket "SK-Stoß 10-20" or "SK-Stoß 26-36" and load converter "LK24°-TS35"
- self-drilling screw "EJOT JT4-STS-3-5.5x48"
connection between bearing profile and load converter "LK24°-TS35"

The screws shall be made of stainless steel material number 1.4301 according to EN 10088-3¹³ and they shall comply with the information deposited in the technical documentation of this ETA.

The characteristic load-bearing capacity of screws type "EJOT JZ3-8.0x38", "EJOT JZ3-8.0x64" and "EJOT JT4-6-6.3x30" is listed in Annex B 3 of the ETA. The self-drilling screw "EJOT JT4-STS-3-5,5x48" is used for the securing of the bearing profile position only.

1.1.8 "LAMILUX Lichtband B" roof kit

The roof kit consists of the factory-made components as described in Clauses 1.1.1 to 1.1.7. The following configurations are possible:

Table 2: Combinations of coverings of the roof kit

Type of the covering	Multi-wall sheet(s) configuration/ options as per Annex	Bearing profile as per Annex	Eaves profile as per Annex	R _k / C _k as per Annex
PC10	A 4.2/ A2.1.5	A 2.1.1	A 2.1.2-4	B 2.1
PC10 + PC6 ^(a,b)	A 4.2 + A 4.1/ A 2.2.5	A 2.2.1	A 2.2.2-4	B 2.2
PC16 ^(a)	A 4.3/ A 2.3.5	A 2.3.1	A 2.3.2-4	B 2.3
PC10 + PC10	A 4.2 + A 4.2/ A 2.4.5	A 2.4.1	A 2.4.2-4	B 2.4
PC10 + PC6 tc16 ^(a,b,c)	A 4.2 + A 4.1/ A 2.5.8	A 2.5.1	A 2.5.2-7	B 2.5
PC10 + PC10 tc16 ^(b)	A 4.2 + A 4.2/ A 2.6.8	A 2.6.1	A 2.6.2-7	B 2.6
PC10 + PC6 + PC10 tc5 ^(b,c)	A 4.2+A 4.1+A 4.2/A 2.7.8	A 2.7.1	A 2.7.2-7	

(a) The coverings may optionally be completed with an externally installed 4 mm thick solid sheet made of copolyester (PET) or polycarbonate (PC) and the name changes accordingly to "M4 - PC10 + PC6", "M4 - PC16" and "M4 - PC10 + PC6 tc16". Profiles for the next thicker covering are used in this case.

(b) For the coverings, the 6 mm thick PC multiwall sheets may optionally be replaced by 6 mm thick solid sheets made of copolyester (PET), whereat the "PC6" is replaced by "M6" in the type name.

(c) For thermal composite sheet combinations, the value after "tc" defines the thickness of the air gap between the multi-wall sheets (e. g. tc 16 = 16 mm).

¹³

DIN EN 10088-3:2014-12

Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes; German version EN 10088-3:2014

Depending on the type of covering, the roof kit may be used in the following support systems:

Table 3: Support system

Type of the covering (including options (a), (b), (c) from table 2)	Support system			
	2-span	3-span	4-span	5-span
	$a_p \leq 1054 \text{ mm}$	$a_p \leq 703 \text{ mm}$	$a_p \leq 527 \text{ mm}$	$a_p \leq 422 \text{ mm}$
PC10	x	x	x	x
PC10 + PC6	x	x	—	x
PC16	x	x	—	—
PC10 + PC10	x	x	x	x
PC10 + PC6 tc16	x	x	—	x
PC10 + PC10 tc16	x	x	—	x
PC10 + PC6 + PC10 tc5	x	x	—	x

In case of multi-layer configuration of the PC sheets, they can be arranged according to the annexes in the following tables.

Table 4.1: Combinations for the covering of type: "PC10 + PC6" and "PC10 + PC6 tc16" (including options (a), (b), (c) from table 2)

top bottom	A 4.2.1	A 4.2.2	A 4.2.3	A 4.2.4	A 4.2.5
A 4.1.1	x	—	x	x	x
A 4.1.2	x	x	—	—	—
A 4.1.3	x	—	x	x	x

Table 4.2: Combinations for the covering of type: "PC10 + PC10", "PC10 + PC10 tc16" and "PC10 + PC6 + PC10 tc5" (including options (c) from table 2)

top bottom	A 4.2.1	A 4.2.2	A 4.2.3	A 4.2.4	A 4.2.5
A 4.2.1	x	—	x	x	x
A 4.2.2	—	x	—	—	—
A 4.2.3	x	—	x	x	x
A 4.2.4	x	—	x	x	x
A 4.2.5	x	—	x	x	x

Table 5: Reaction to fire of the components

Components	Performance
PC Multi-wall sheets	Declaration of performance as per EN 16153/ at least class E as per EN 13501-1 ¹⁴
GRP sheet "LAMILUXplan GFUP"	Class E as per EN 13501-1
Solid sheets "M4" and "M6"	Class B-s2 d0 as per EN 13501-1
Spacer strips / Spacing profiles	Class E as per EN 13501-1
Connecting profile	
Eaves insulation (EPS rigid foam)	
Covering profile sealing	No contribution to fire spread in accordance with EOTA TR 021 (Version June 2005)
Eaves sealing	
Bearing and covering profiles	Class A1 as per EN 13501-1
Aluminium profiles "GL-PC10", "GL-PC16", "GL-PC20", "GL-PC32", "GL-PC32-PH", "GL-PC36" and "GL-PC36-PH"	
Load converter "LK24°-TS35"	
Fixing brackets "SK-Stoß 10-20", "SK-Stoß 26-36", "SK-Feld 10-20" and "SK-Feld 26-36"	
Fasteners	

2 Specification of the intended use in accordance with the applicable European Assessment Document

The self-supporting translucent roof kit may be used in the roof area for open or closed building structures. The multi-wall sheets may be combined to form continuous rooflights of any length with rectangular plane view.

The roof kit is applicable within a temperature range from -30 °C to +70 °C.

When installed, the roof kit is not walkable and it may not be used for bracing of the roof support structure.

The performance data given in Section 3 are only valid if the roof kit is used in compliance with the specifications and the conditions given in Annexes A, B, C, D and E and the rooflight is installed according to the manufacturers guidance.

The verifications and assessment methods on which this European Technical Assessment (hereinafter referred to as 'ETA') is based, lead to the assumption of a working life of the roof kit of at least ten years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as means for choosing the right products in relation to the expected economically reasonable working life of the structure.

¹⁴

DIN EN 13501-1:2010-01

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

3 Performance of the product and methods for assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class E in accordance with EN 13501-1 ⁹
Fire performance in case of external fire exposure	No performance assessed in accordance with EN 13501-5 ¹⁵

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Watertightness	Category 1 (no leaks with no differential air pressure) up to inclination of the substructure from the horizontal: 30° perpendicular to the curve direction

3.3 Safety and accessibility (BWR 4)

Essential characteristic	Performance
Characteristic load bearing capacity of the covering to downward loads from snow and wind	See Annex B 2 for downward loads
Characteristic load bearing capacity of the covering to uplift loads resulting from wind	See Annex B 2 for uplift loads
Characteristic load bearing capacity of the fasteners	See Annex B 3
Consideration of the influence of load duration	See Annex B 1.2
Consideration of ageing and environmental effects	See Annex B 1.3
Consideration of temperature influences	See Annex B 1.3
Values for characteristic load bearing capacity of aluminium bearing and covering profiles	European harmonized specifications apply.
Resistance to damage by impact of loads with a large soft object (50 kg)	SB 0 (no requirement)
Resistance to impact loads from a hard object (250 g)	Passed (declaration of performance in accordance with EN 16153)

3.4 Protection against noise (BWR 5)

No performance assessed

¹⁵

DIN EN 13501-5:2016-12

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

3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal transmittance	See Annex C
Air permeability	See Annex D
Radiation Properties * ➤ Light transmission ➤ Total solar energy transmittance	No performance assessed for the PC-sheets (Declaration of performance as per EN 16153) Design details as per information deposited with DIBt

* Note: Depending on the environmental conditions (rapid change of temperature, humidity) condensate in the form of fine droplets can form in the hollow chambers of the multi-wall sheets. The droplets scatter the light and make the fogged areas appear white. Hereby the light transmission reduces; all other properties of the covering are not affected.

3.6 Other essential characteristics

Essential characteristic	Performance
Aspects of durability	See Annex A 4

4 Assessment and verification of constancy of performance (AVCP) system applied with reference to its legal basis

According to the European Assessment Document (EAD) 220072-00-0401, the legal basis is as follows: 98/600/EC

The system to be applied is: 3

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

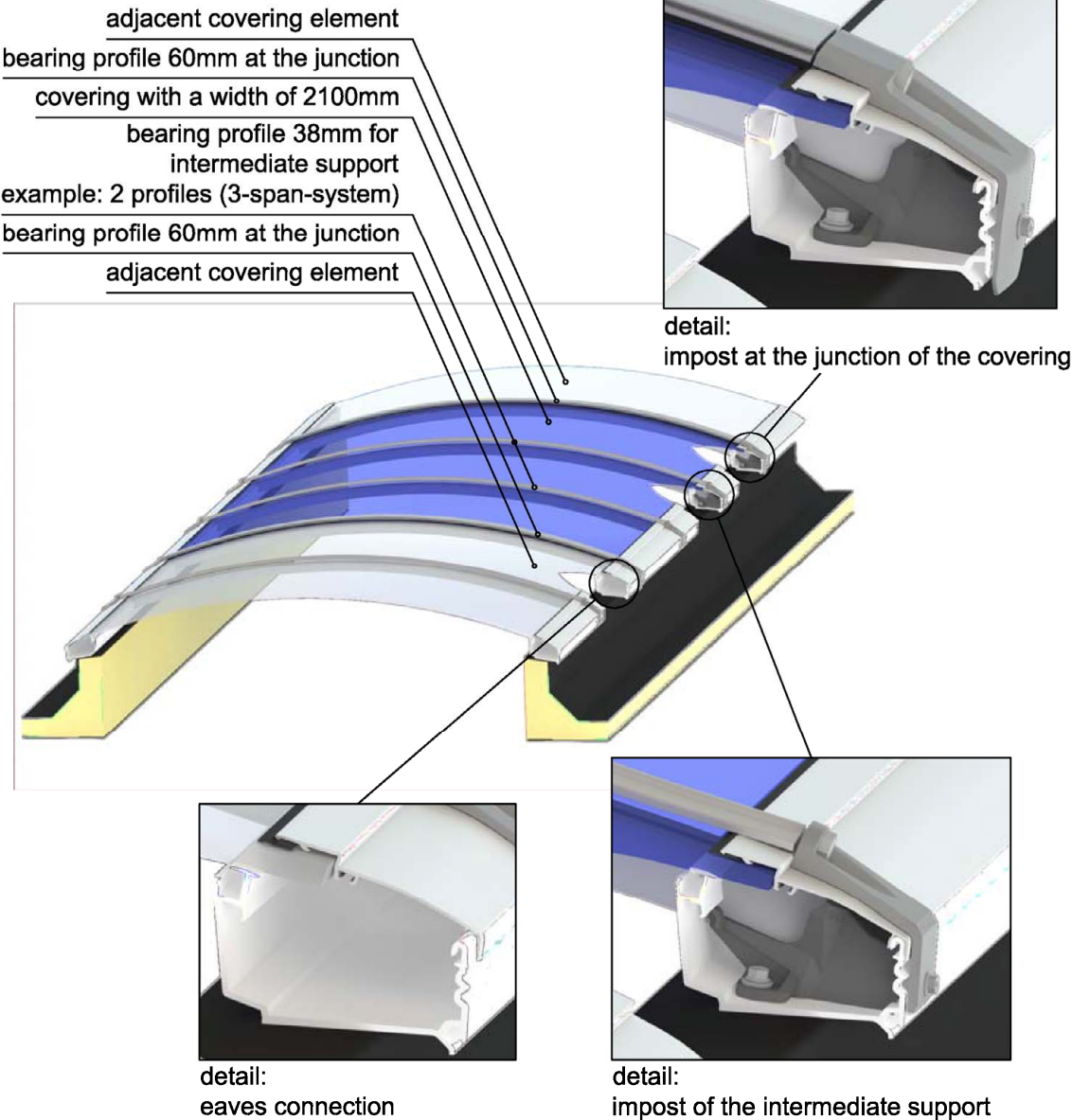
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 13 April 2023 by Deutsches Institut für Bautechnik

Renée Kamanzi-Fechner
Head of Section

beglaubigt:
Wachner

system overview - essential design characteristics

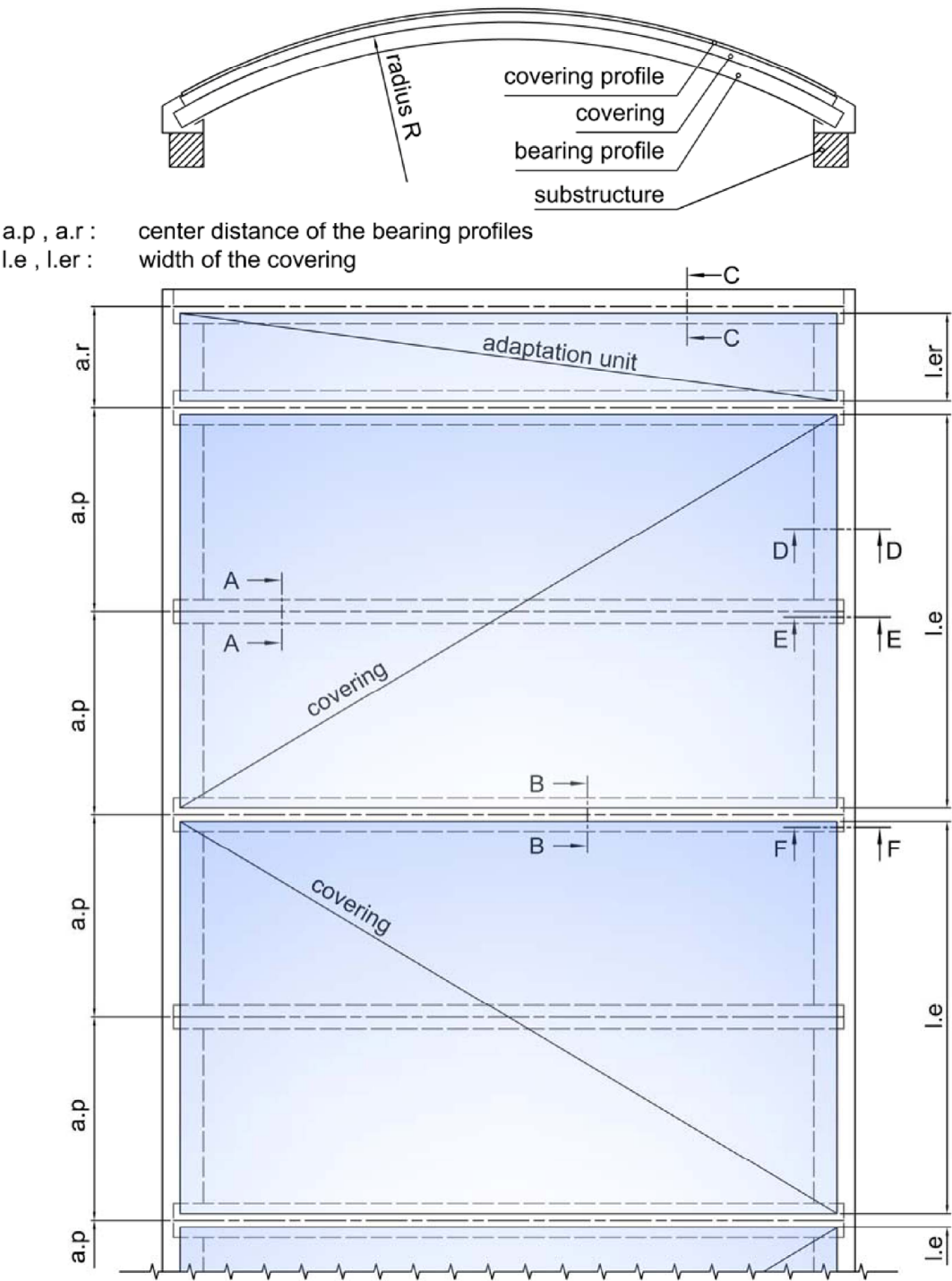


Adjacent building products and accessories, which are not part of this assessment, may affect the performance characteristics of the fully assembled continuous rooflight. Their influence on the performance characteristics of the continuous rooflight must therefore also be assessed. This includes, for example:

- the substructure (upstand)
- the gable ends and connections to adjacent components
- openable elements for ventilation and smoke extraction
- safety features to increase impact resistance

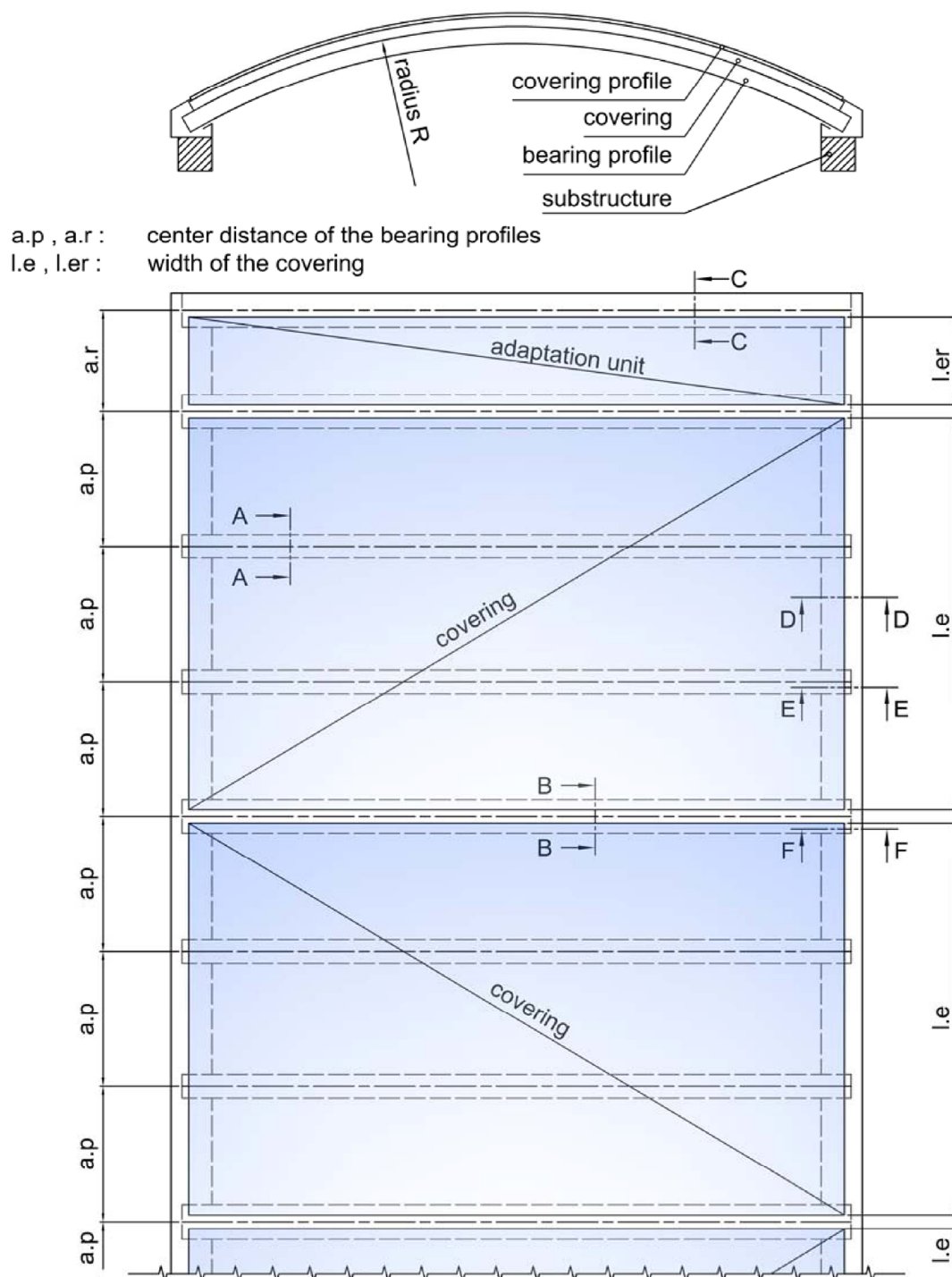
LAMILUX Lichtband B	Annex A 1.1
system overview-essential design characteristics and system limitation to other construction parts	

schematic system overview, 2-span system



LAMILUX Lichtband B	Annex A 1.2.1
System overview 2-span system	

schematic system overview, 3-span system



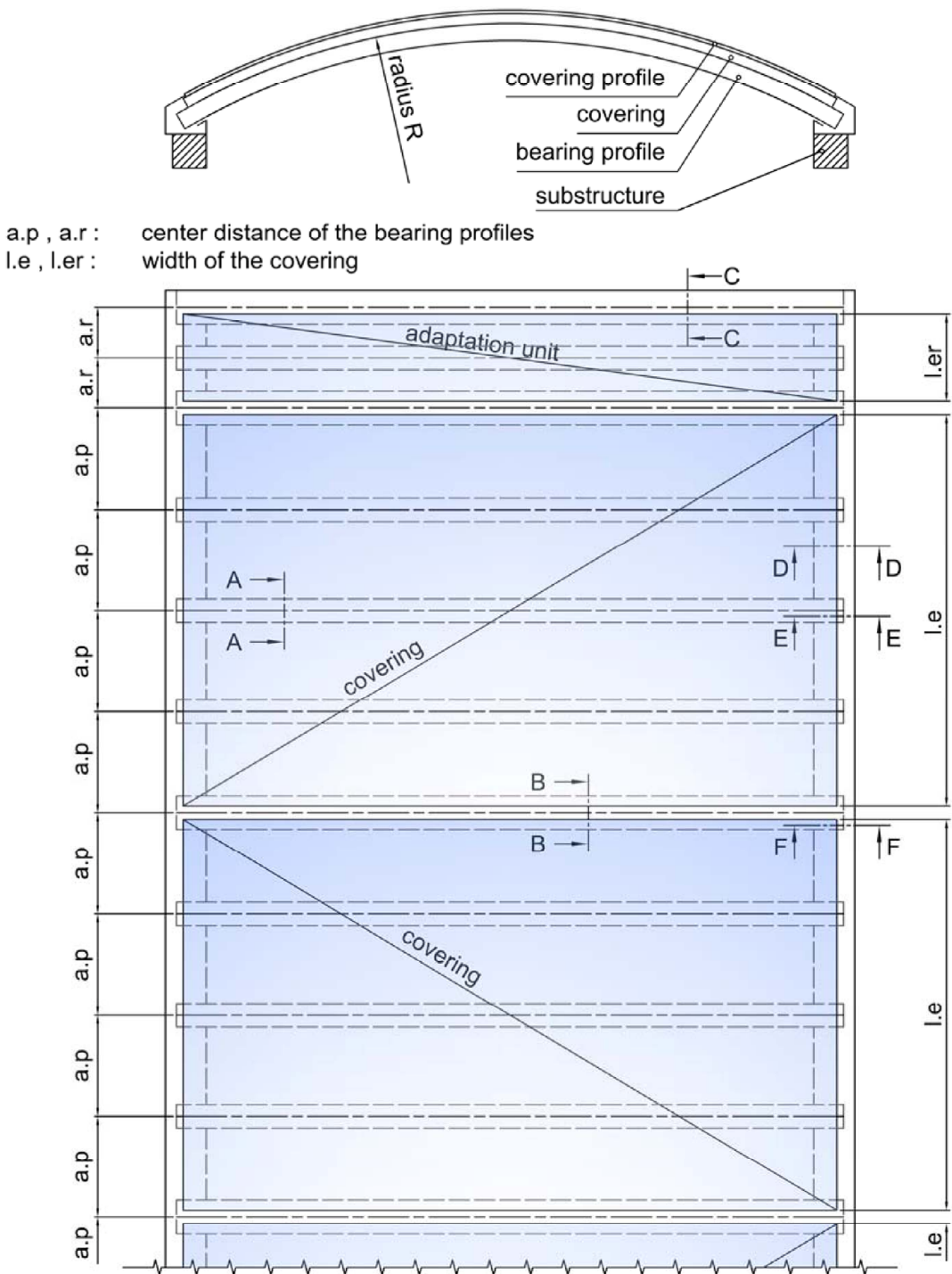
Electronic copy of the ETA by DIBt: ETA-09/0347

LAMILUX Lichtband B

System overview
3-span system

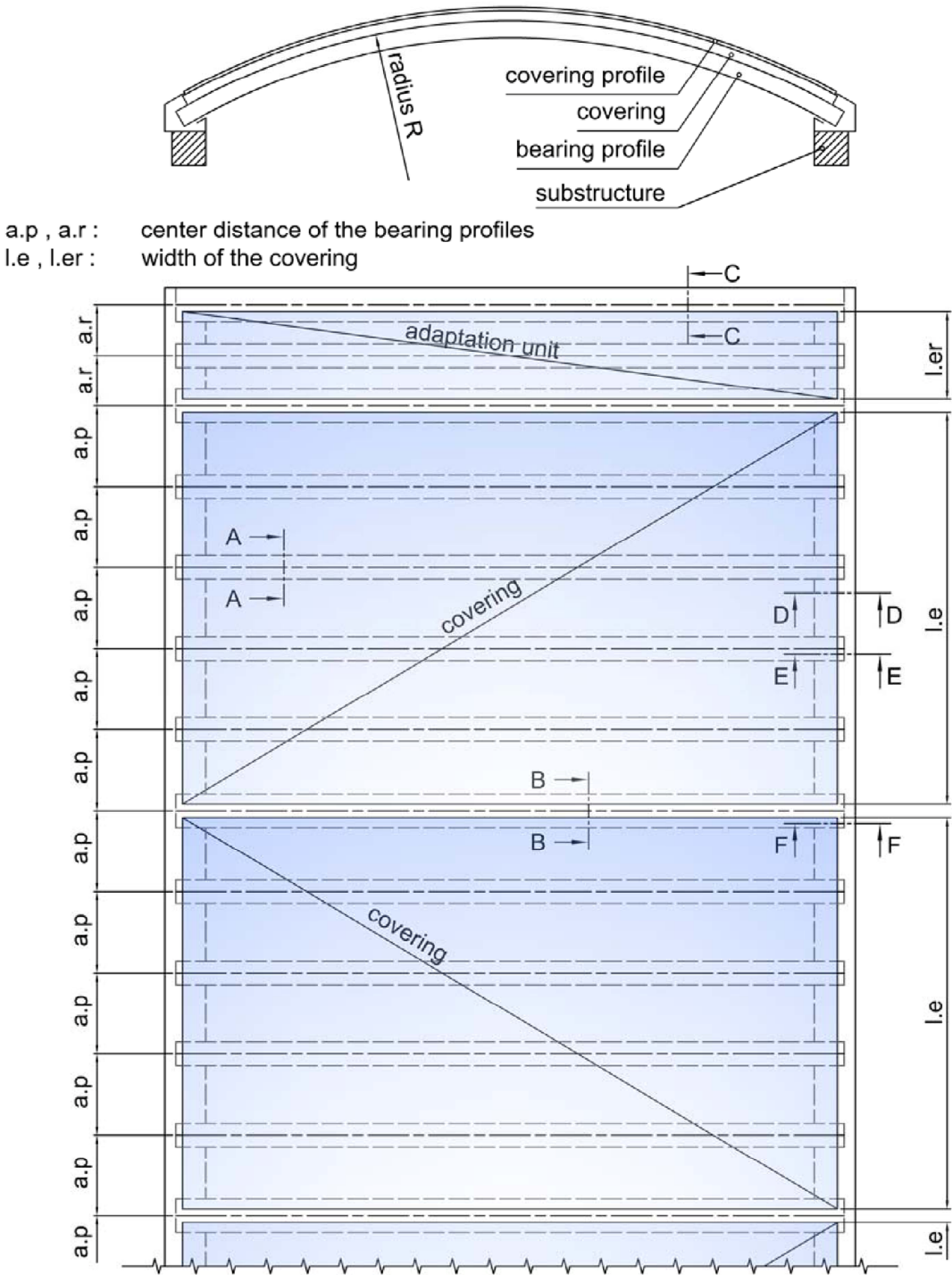
Annex A 1.2.2

schematic system overview, 4-span system



LAMILUX Lichtband B	Annex A 1.2.3
System overview 4-span system	

schematic system overview, 5-span system



LAMILUX Lichtband B	Annex A 1.2.4
System overview 5-span system	

covering type "PC10"

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.1.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.1.2	minimum fixing distance $e_{\text{impost}} \geq 17\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.1.3	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.1.4	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.1.5	-

covering type "PC10 + PC6"

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.2.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.2.2	minimum fixing distance $e_{\text{impost}} \geq 17\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.2.3	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.2.4	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.2.5	-

covering type "PC16"

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.3.1	minimum fixing distance $e_{\text{curve}} \geq 20\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.3.2	minimum fixing distance $e_{\text{impost}} \geq 17\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.3.3	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.3.4	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.3.5	-

covering type "PC10 + PC10"

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	siehe Anhang A 2.4.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	siehe Anhang A 2.4.2	minimum fixing distance $e_{\text{impost}} \geq 15\text{mm}$
impost execution on intermediate support profiles section E - E	siehe Anhang A 2.4.3	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	siehe Anhang A 2.4.4	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	siehe Anhang A 2.4.5	-

The minimum bending radii specified in annex A 4 for the multi-wall sheets and the maximum installation radii according to planning and dimensioning in accordance with annex B must be observed

LAMILUX Lichtband B

system overview installation requirements
covering without an air gap

Annex A 1.3.1

covering type "PC10 + PC6 tc 16" with an air gap of 16mm

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.5.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.5.2 and A 2.5.5 (type "PH")	minimum fixing distance $e_{\text{impost}} \geq 17\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.5.3 and A 2.5.6 (type "PH")	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.5.4 and A 2.5.7 (type "PH")	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.5.8	-

covering type "PC10 + PC10 tc 16" with an air gap of 16mm

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.6.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.6.2 and A 2.6.5 (type "PH")	minimum fixing distance $e_{\text{impost}} \geq 15\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.6.3 and A 2.6.6 (type "PH")	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.6.4 and A 2.6.7 (type "PH")	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.6.8	-

covering type "PC10 + PC6 + PC10 tc 5" with two air gaps of 5mm

installation details	reference annex	installation requirements
bearing covering in the curved bearing profiles section A - A , B - B and C - C	see annex A 2.7.1	minimum fixing distance $e_{\text{curve}} \geq 21\text{mm}$
bearing covering at the impost profile section D - D	see annex A 2.7.2 and A 2.7.5 (type "PH")	minimum fixing distance $e_{\text{impost}} \geq 15\text{mm}$
impost execution on intermediate support profiles section E - E	see annex A 2.7.3 and A 2.7.6 (type "PH")	minimum screw-in depth $h_{38} \geq 29\text{mm}$ into covering profile 38mm
impost execution at covering junction section F - F	see annex A 2.7.4 and A 2.7.7 (type "PH")	minimum screw-in depth $h_{60} \geq 28\text{mm}$ into covering profile 60mm
optional execution variants of the covering	see annex A 2.7.8	-

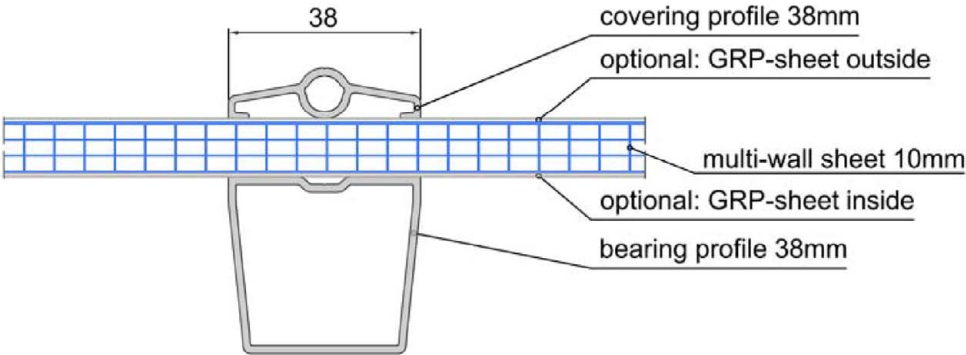
The minimum bending radii specified in annex A 4 for the multi-wall sheets and the maximum installation radii according to planning and dimensioning in accordance with annex B must be observed.

LAMILUX Lichtband B

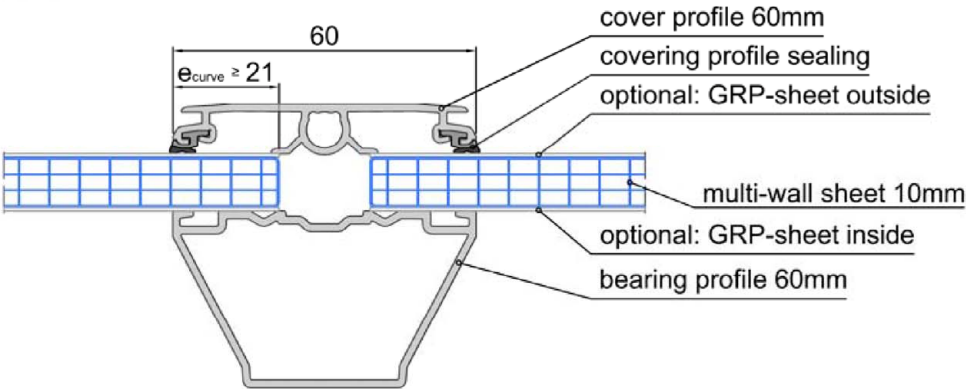
system overview installation requirements
covering with an air gap "tc"

Annex A 1.3.2

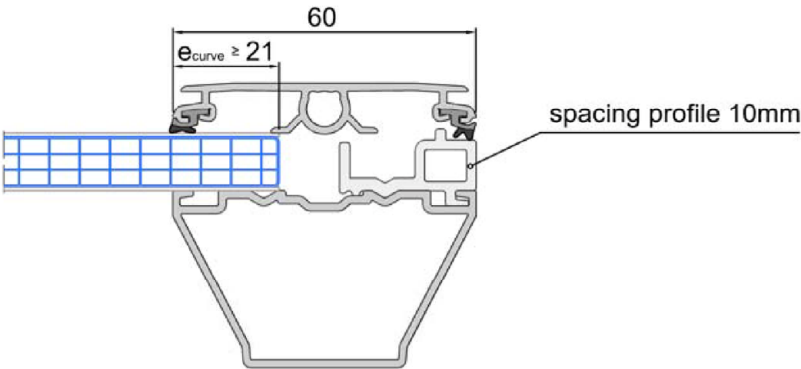
section A-A



section B-B



section C-C

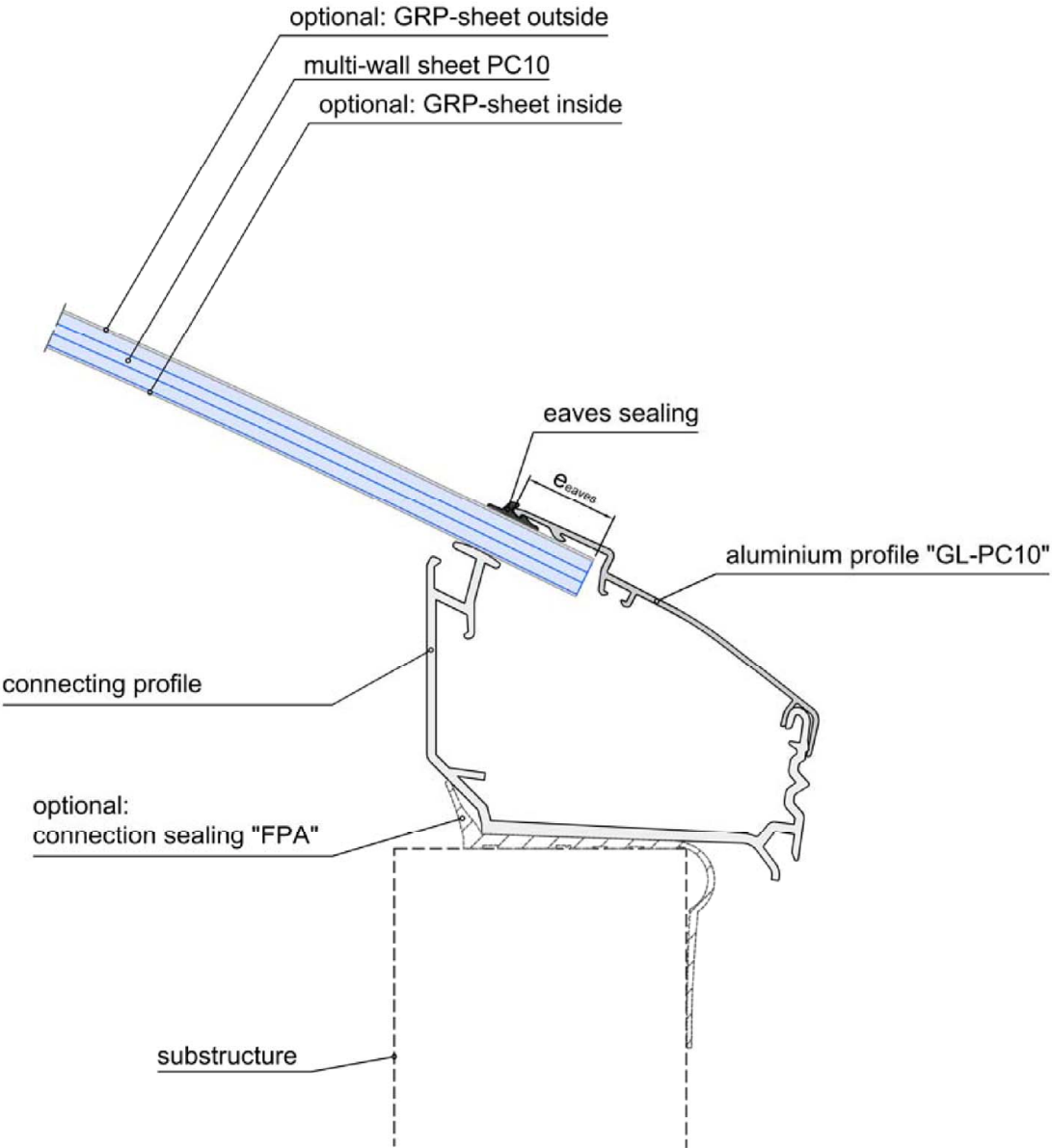


LAMILUX Lichtband B

sectional views arched bearing and covering profiles
covering type "PC10"
section A-A; section B-B; section C-C

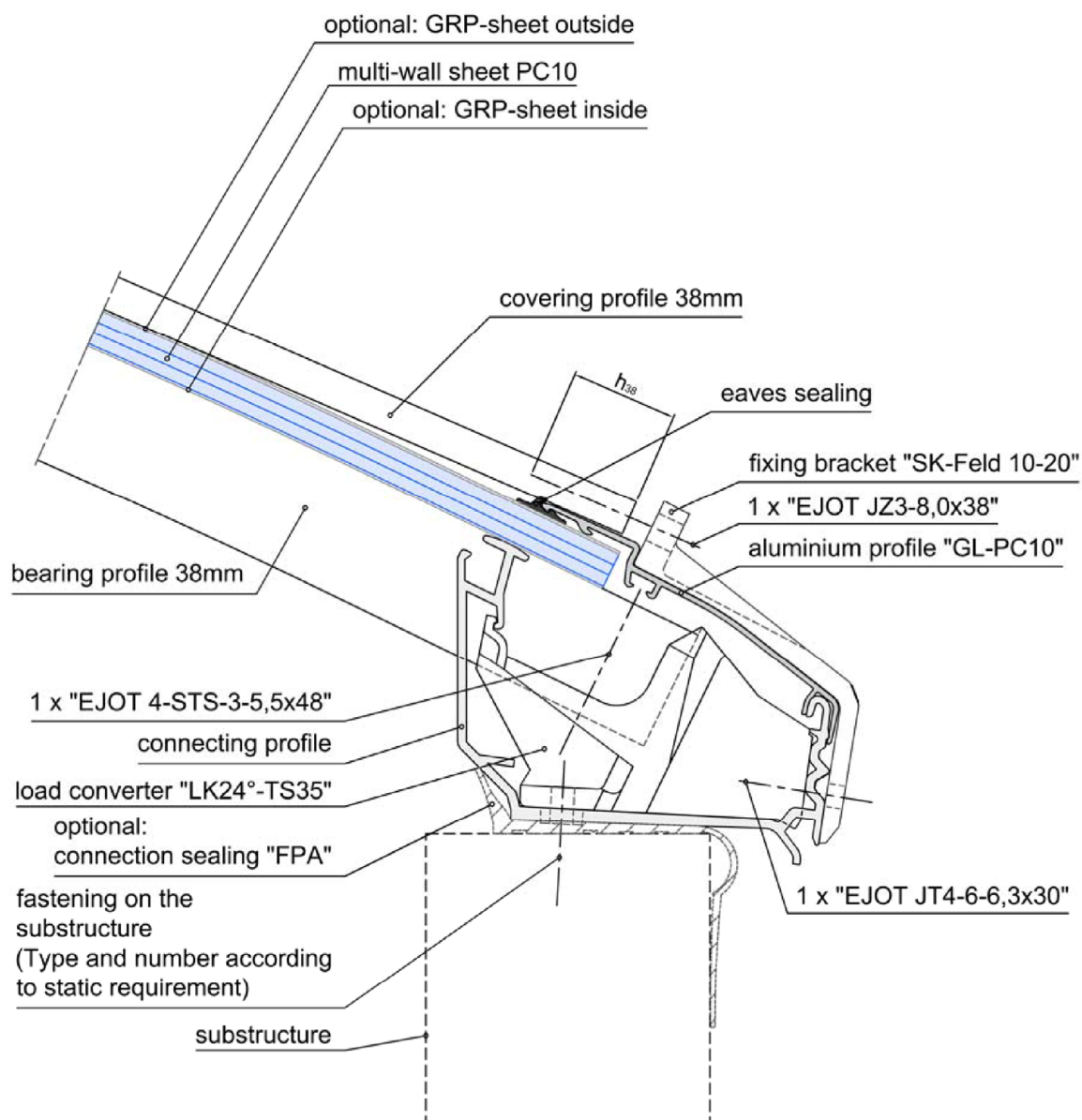
Annex A 2.1.1

section D-D



LAMILUX Lichtband B	Annex A 2.1.2
sectional view connection to the substructure on the eaves side	
covering type "PC10"	
section D-D	

section E-E

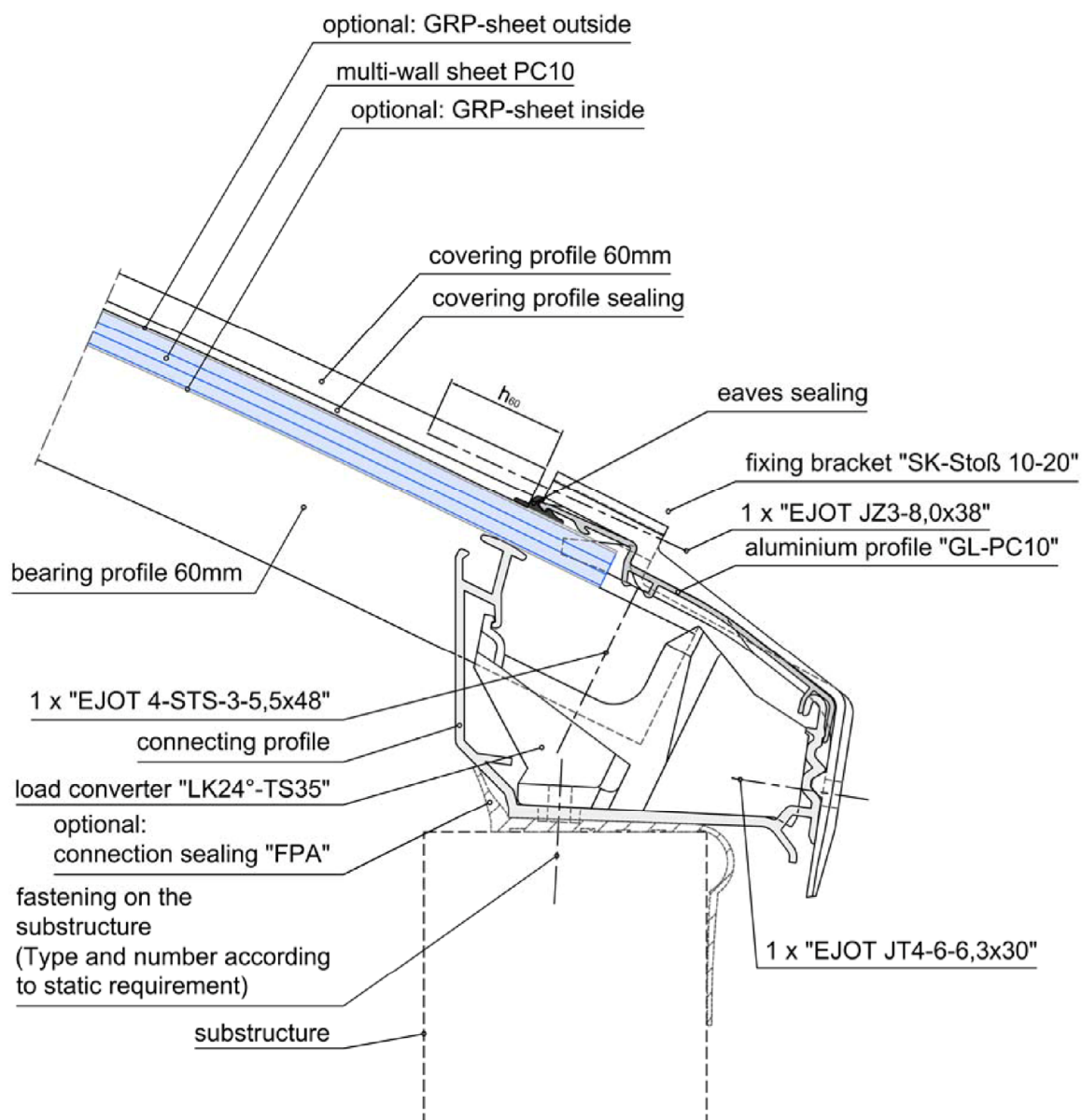


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10"
section E-E

Annex A 2.1.3

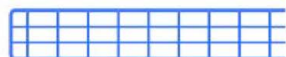
section F-F



LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10"
section F-F

Annex A 2.1.4



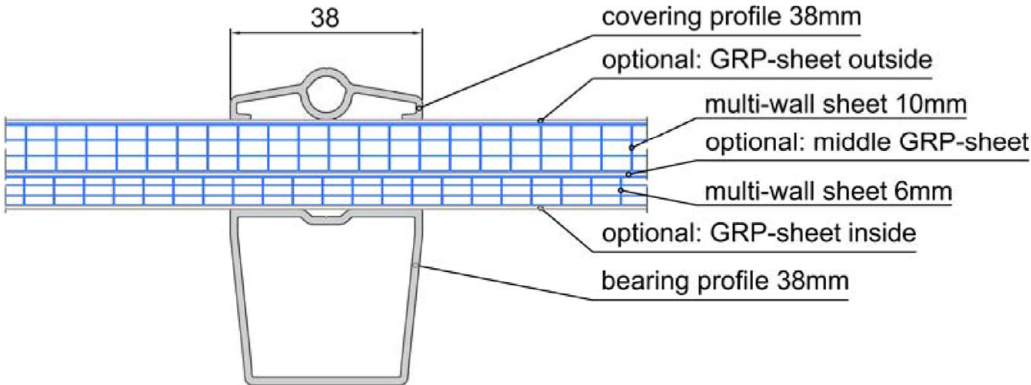
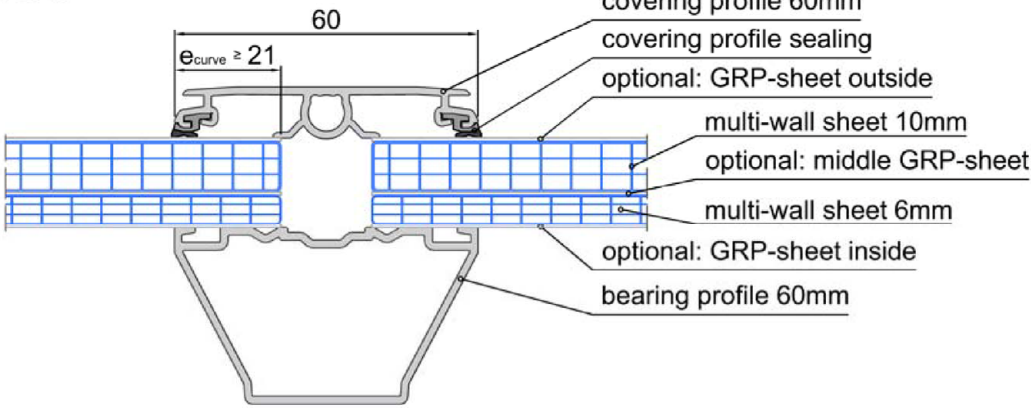
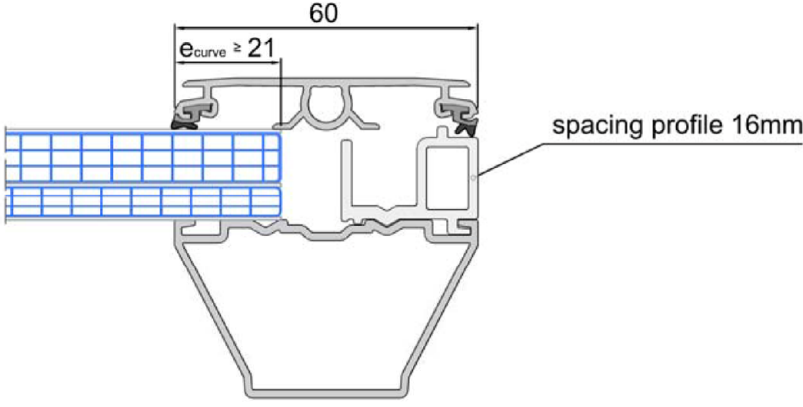
10mm multi-wall sheet



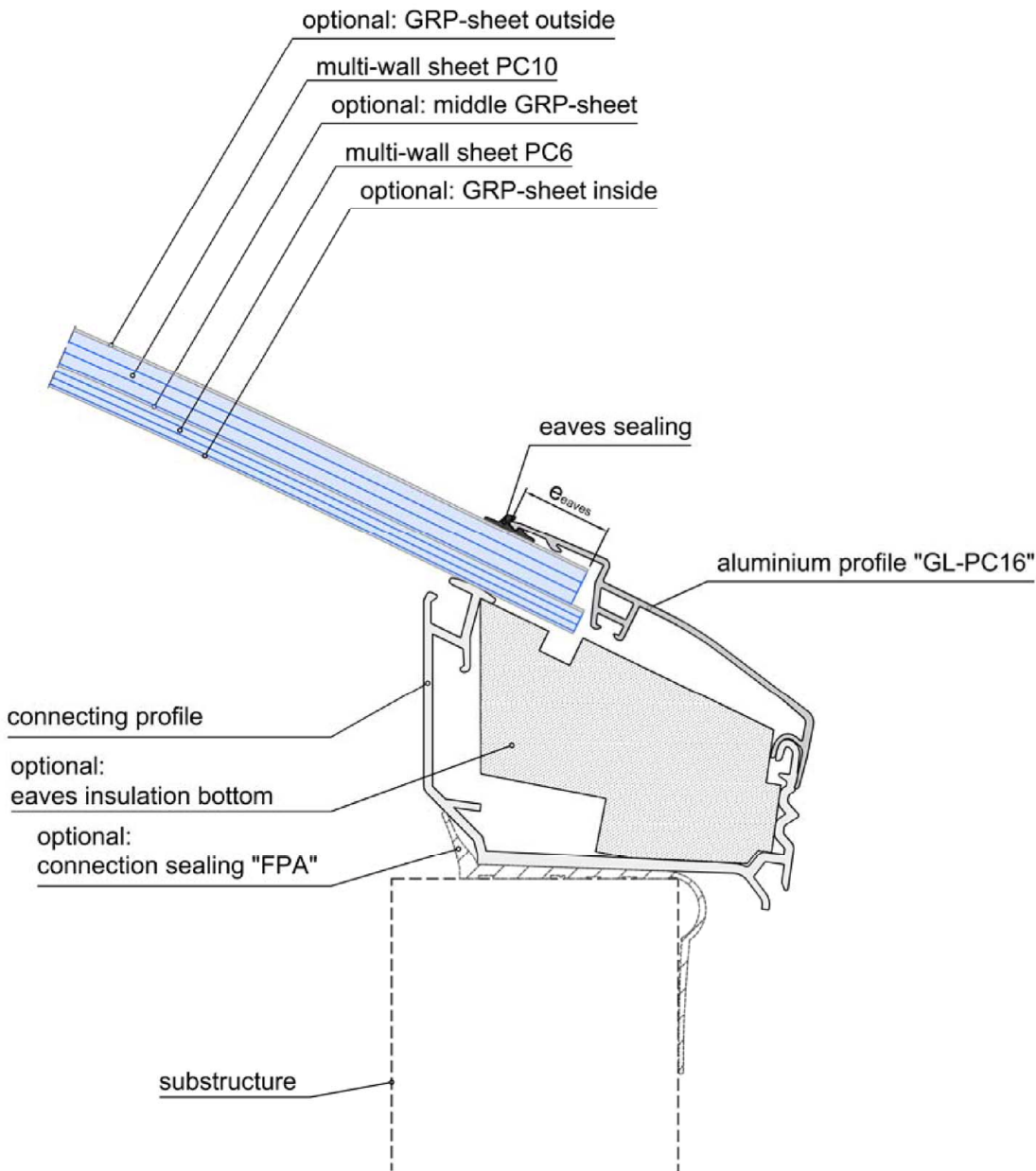
GRP solid sheet
10mm multi-wall sheet



10mm multi-wall sheet
GRP solid sheet

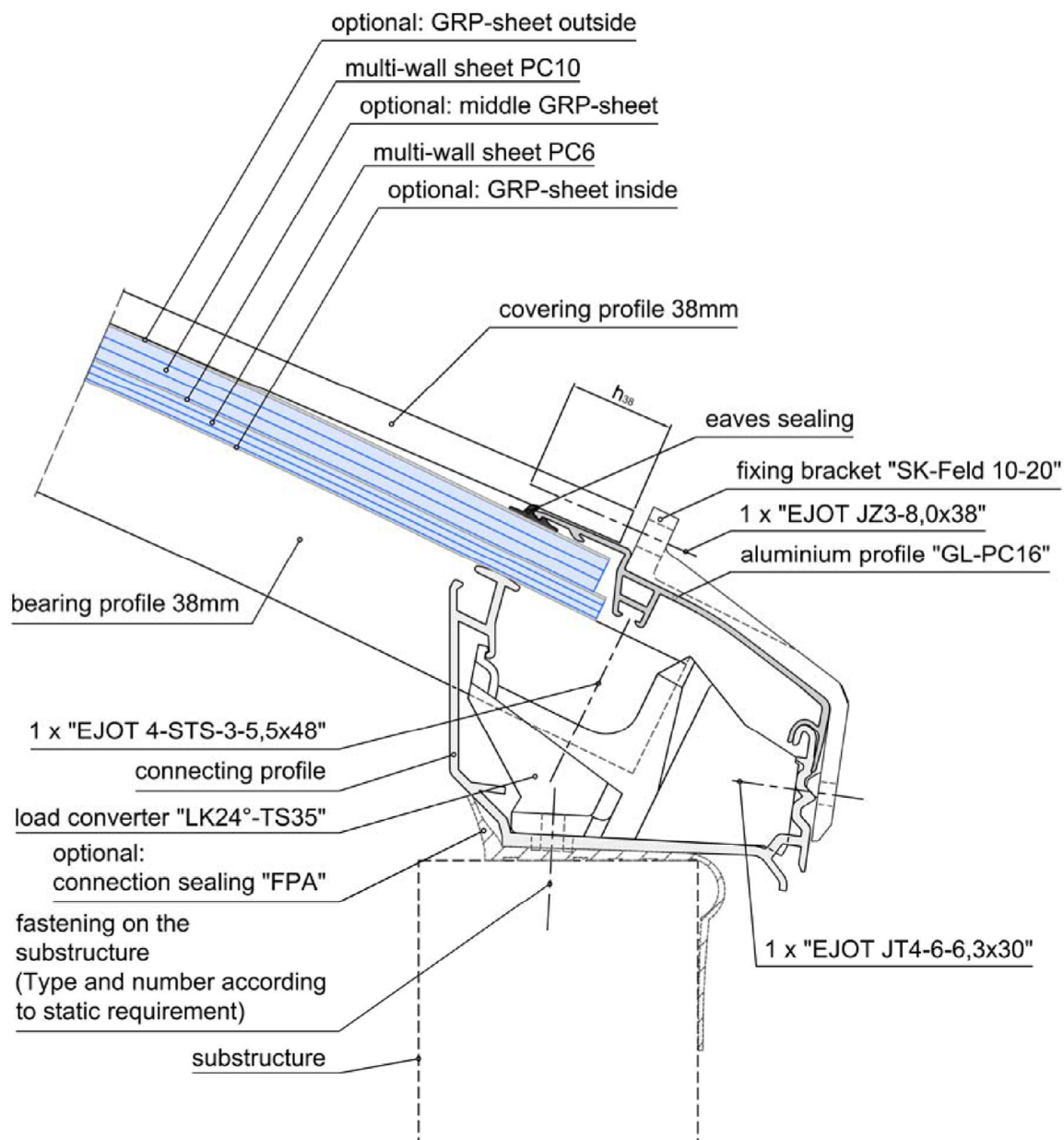
section A-A  38 covering profile 38mm optional: GRP-sheet outside multi-wall sheet 10mm optional: middle GRP-sheet multi-wall sheet 6mm optional: GRP-sheet inside bearing profile 38mm section B-B  60 $e_{\text{curve}} \geq 21$ covering profile 60mm covering profile sealing optional: GRP-sheet outside multi-wall sheet 10mm optional: middle GRP-sheet multi-wall sheet 6mm optional: GRP-sheet inside bearing profile 60mm section C-C  60 $e_{\text{curve}} \geq 21$ spacing profile 16mm	
LAMILUX Lichtband B	Annex A 2.2.1
sectional views arched bearing and covering profiles covering type "PC10+PC6" section A-A; section B-B; section C-C	

section D-D



LAMILUX Lichtband B	Annex A 2.2.2
sectional view connection to the substructure on the eaves side	
covering type "PC10+PC6"	
section D-D	

section E-E

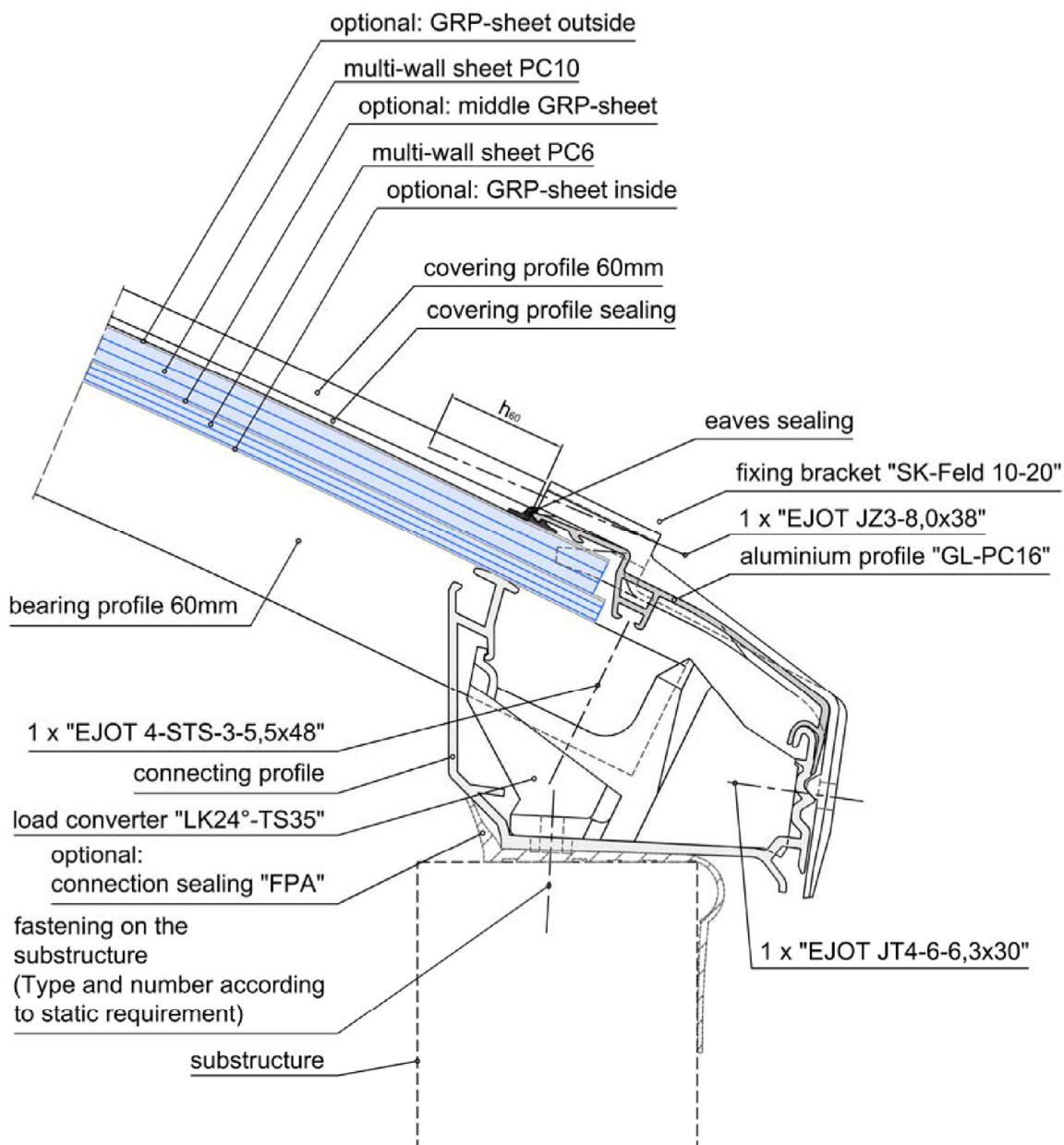


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10+PC6"
section E-E

Annex A 2.2.3

section F-F



LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10+PC6"
section F-F

Annex A 2.2.4



10mm multi-wall sheet
6mm multi-wall sheet or solid sheet



GRP solid sheet
10mm multi-wall sheet
6mm multi-wall sheet or solid sheet



GRP solid sheet
10mm multi-wall sheet
6mm multi-wall sheet or solid sheet
GRP solid sheet

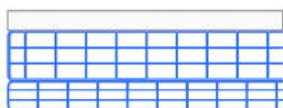


10mm multi-wall sheet
GRP solid sheet
6mm multi-wall sheet or solid sheet



10mm multi-wall sheet
6mm multi-wall sheet or solid sheet
GRP solid sheet

Typ M4 - PC10 + PC6



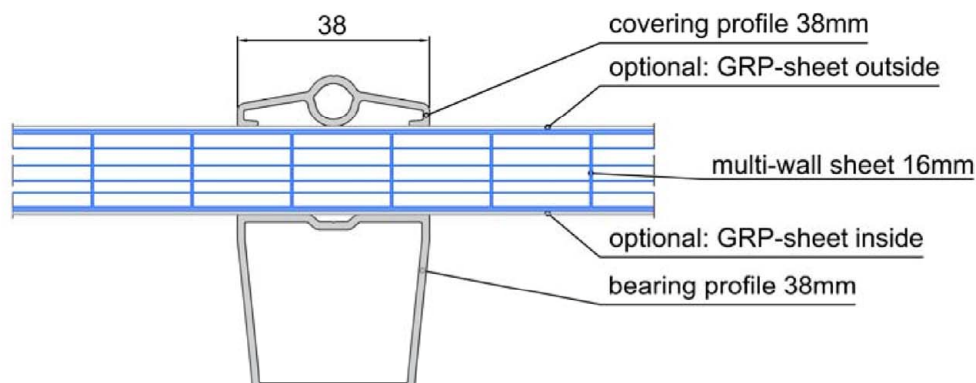
4mm solid sheet
10mm multi-wall sheet
6mm multi-wall sheet

LAMILUX Lichtband B

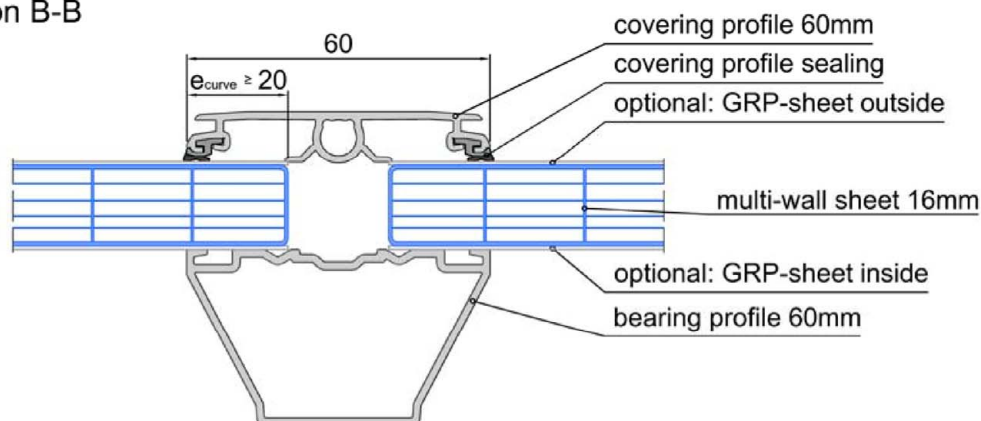
optional execution variants
covering type "PC10+PC6"

Annex A 2.2.5

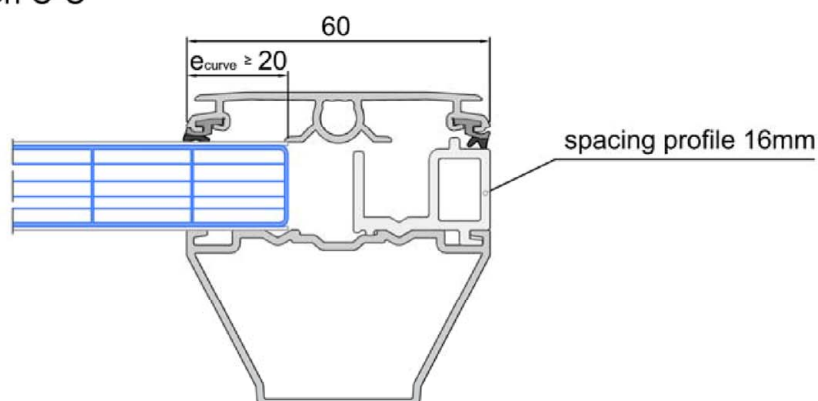
section A-A



section B-B



section C-C

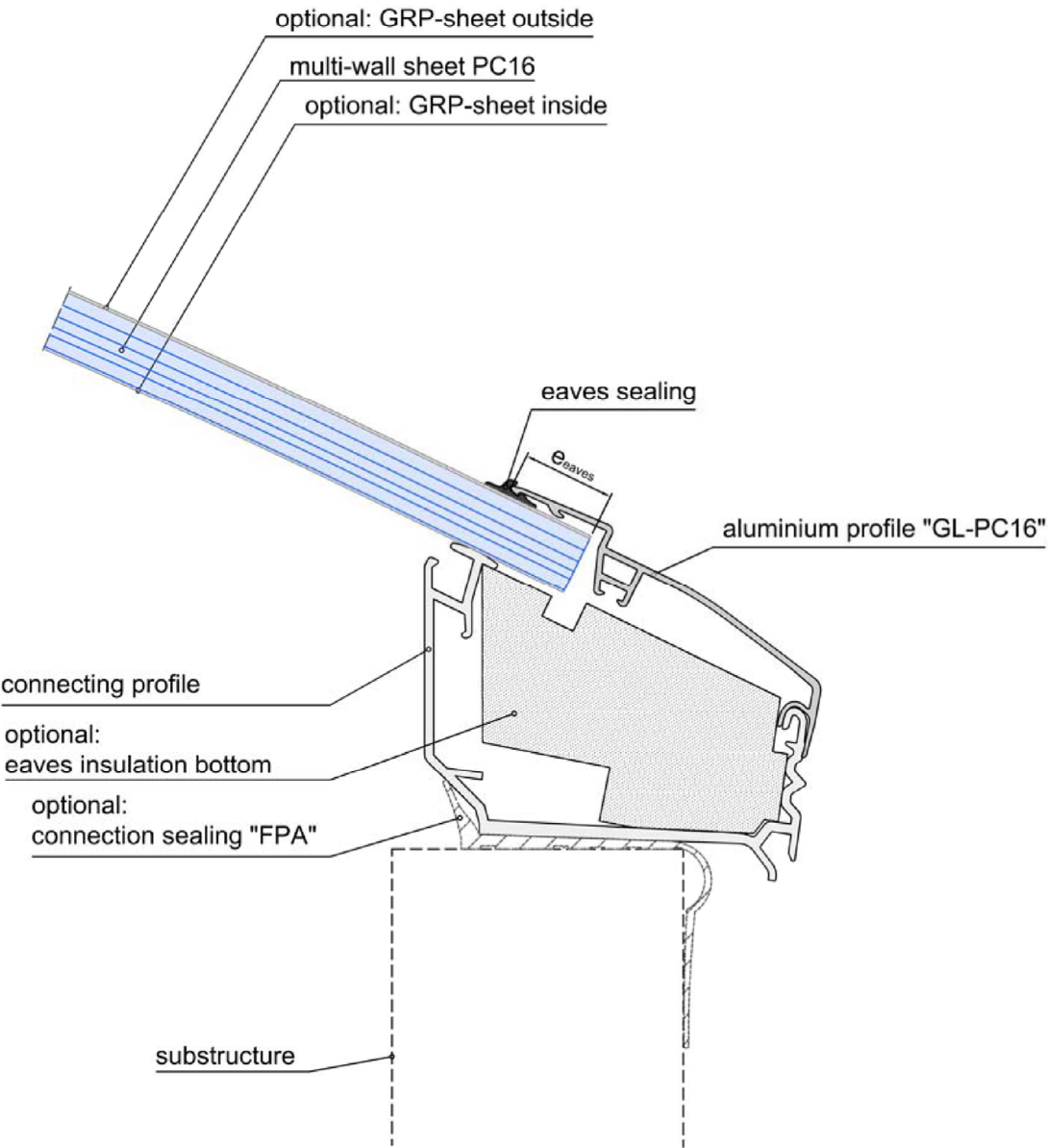


LAMILUX Lichtband B

sectional views arched bearing and covering profiles
covering type "PC16"
section A-A; section B-B; section C-C

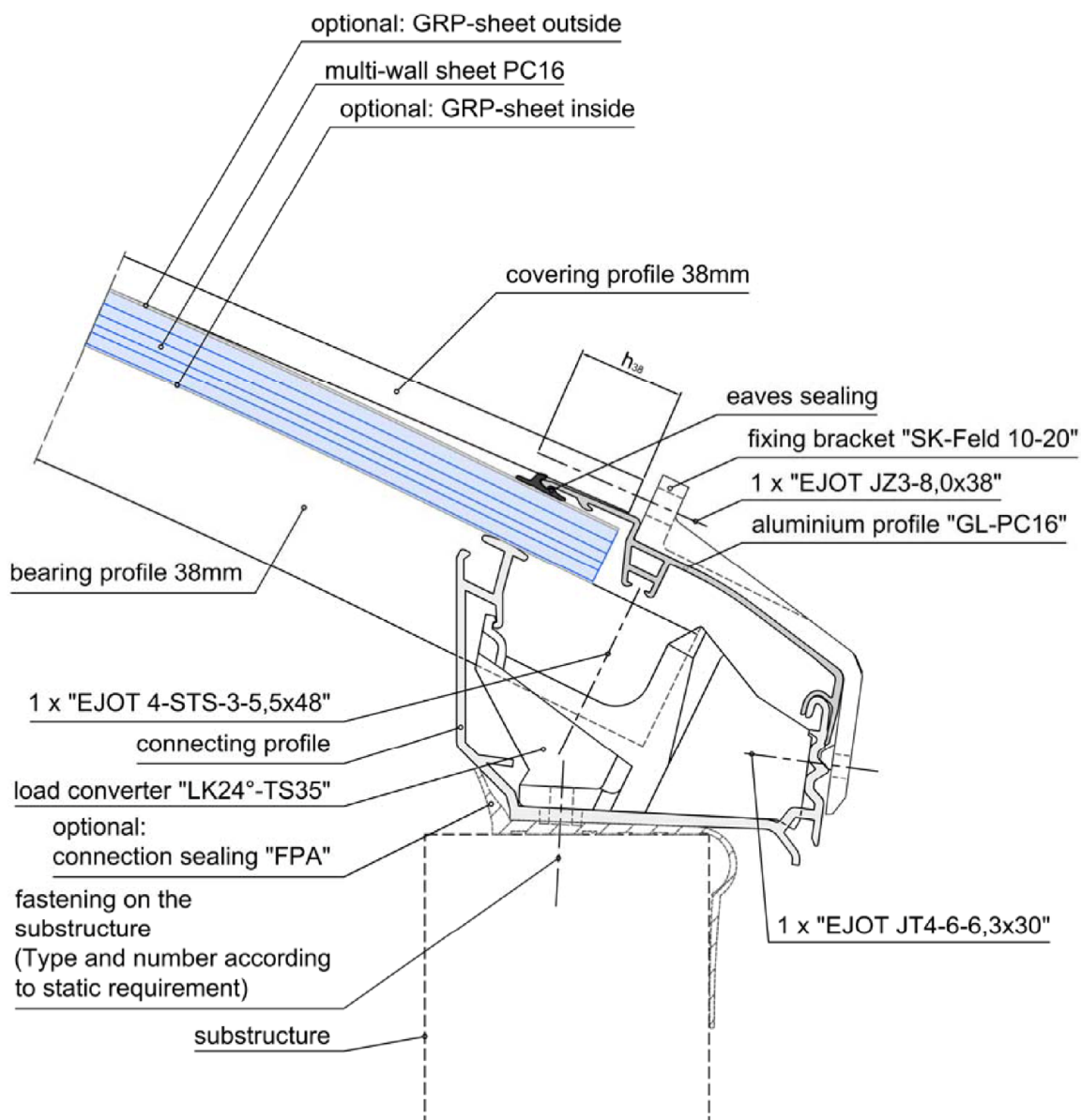
Annex A 2.3.1

section D-D



LAMILUX Lichtband B	Annex A 2.3.2
sectional view connection to the substructure on the eaves side covering type "PC16" section D-D	

section E-E

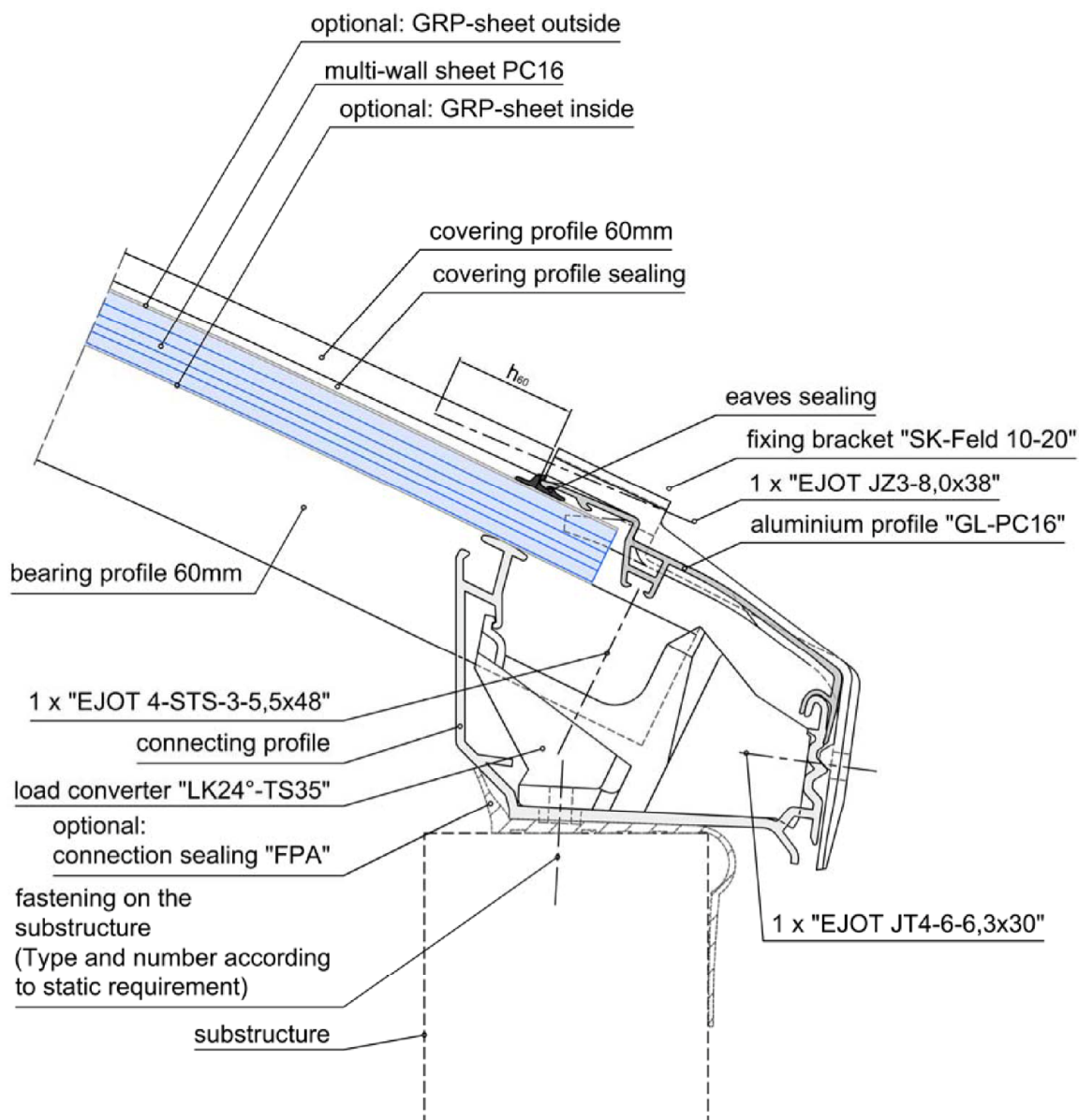


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC16"
section E-E

Annex A 2.3.3

section F-F



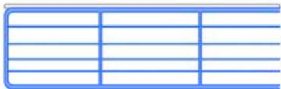
LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC16"
section F-F

Annex A 2.3.4



16mm multi-wall sheet

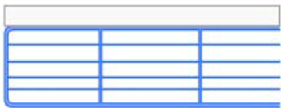


GRP solid sheet
16mm multi-wall sheet



16mm multi-wall sheet
GRP solid sheet

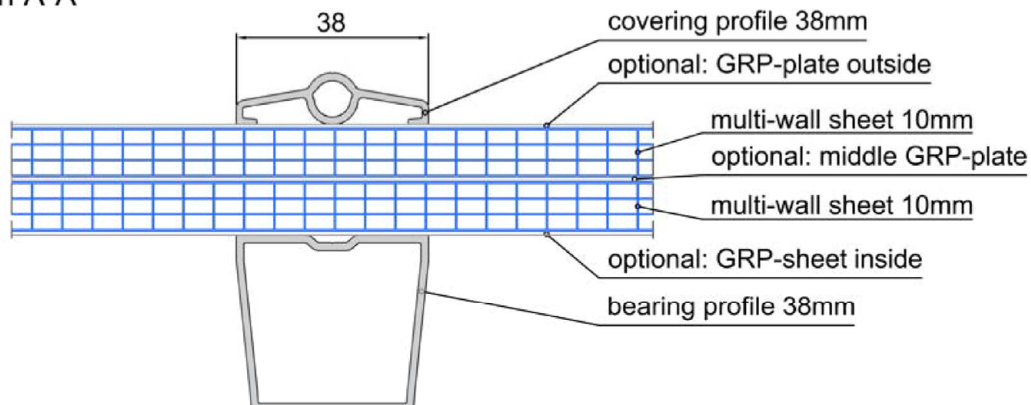
Typ M4 - PC16



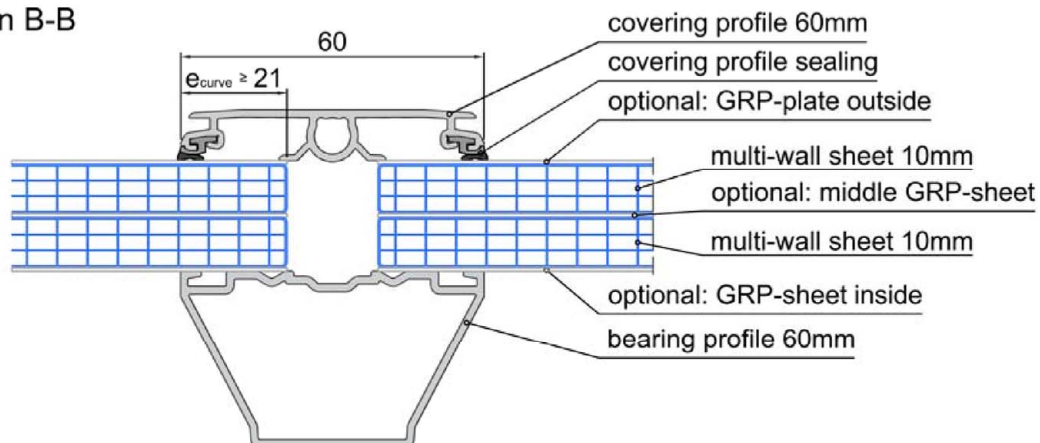
4mm solid sheet
16mm multi-wall sheet

LAMILUX Lichtband B	Annex A 2.3.5
optional execution variants covering type "PC16"	

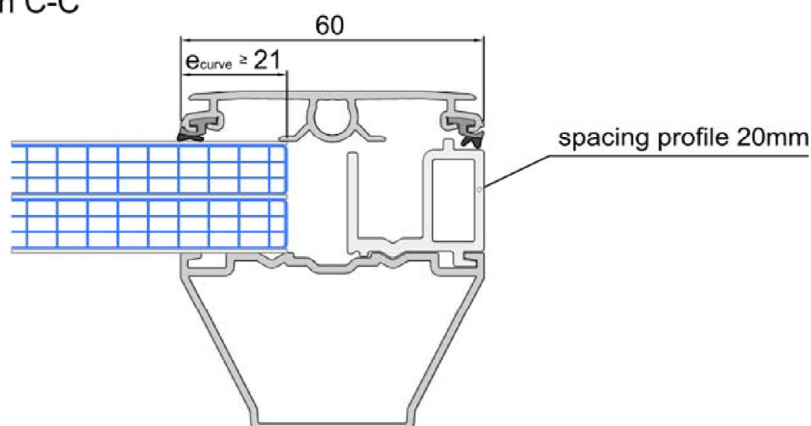
section A-A



section B-B



section C-C

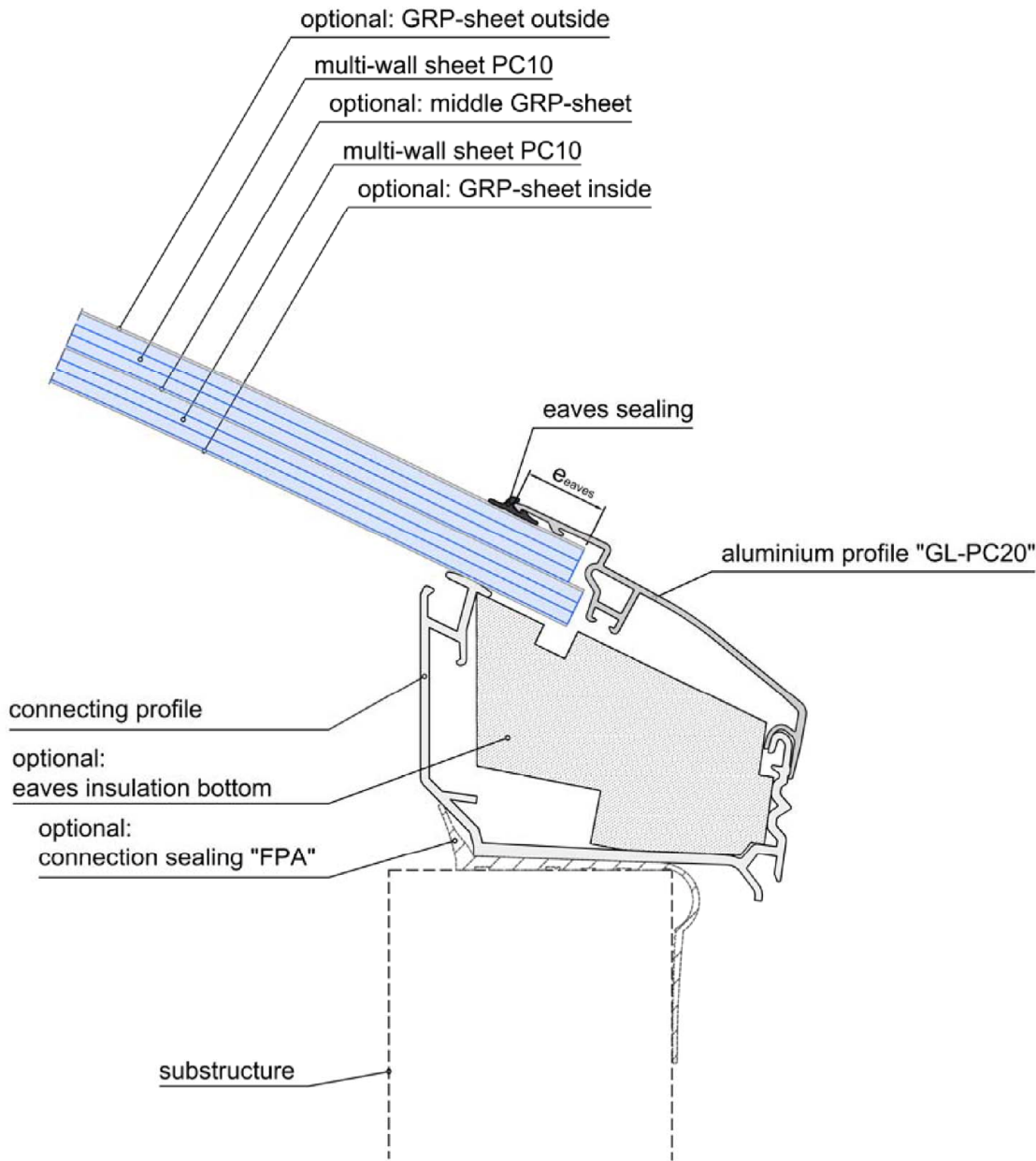


LAMILUX Lichtband B

sectional views arched bearing and covering profiles
covering type "PC10+PC10"
section A-A; section B-B; section C-C

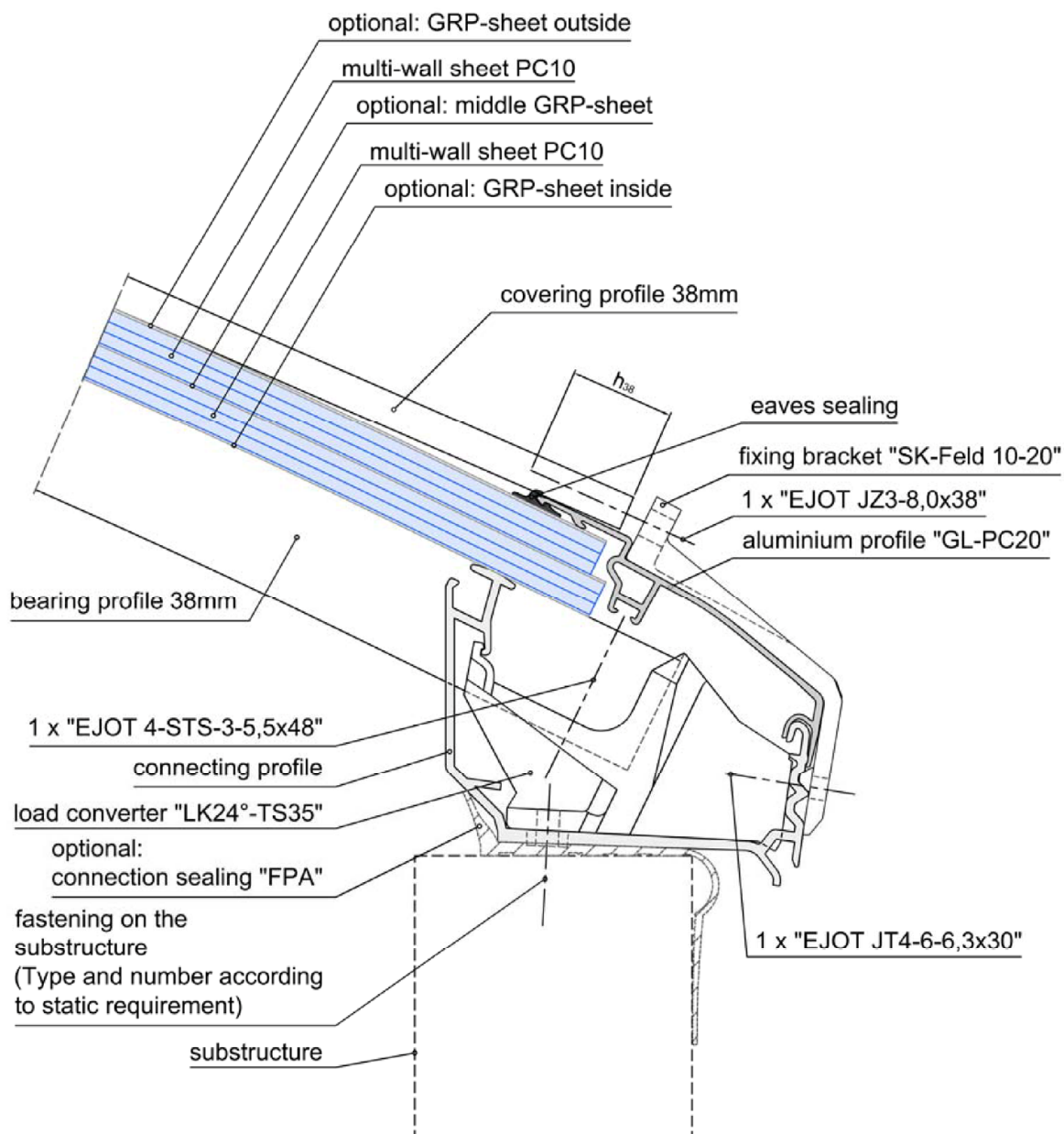
Annex A 2.4.1

section D-D



LAMILUX Lichtband B	Annex A 2.4.2
sectional view connection to the substructure on the eaves side	
covering type "PC10+PC10"	
section D-D	

section E-E

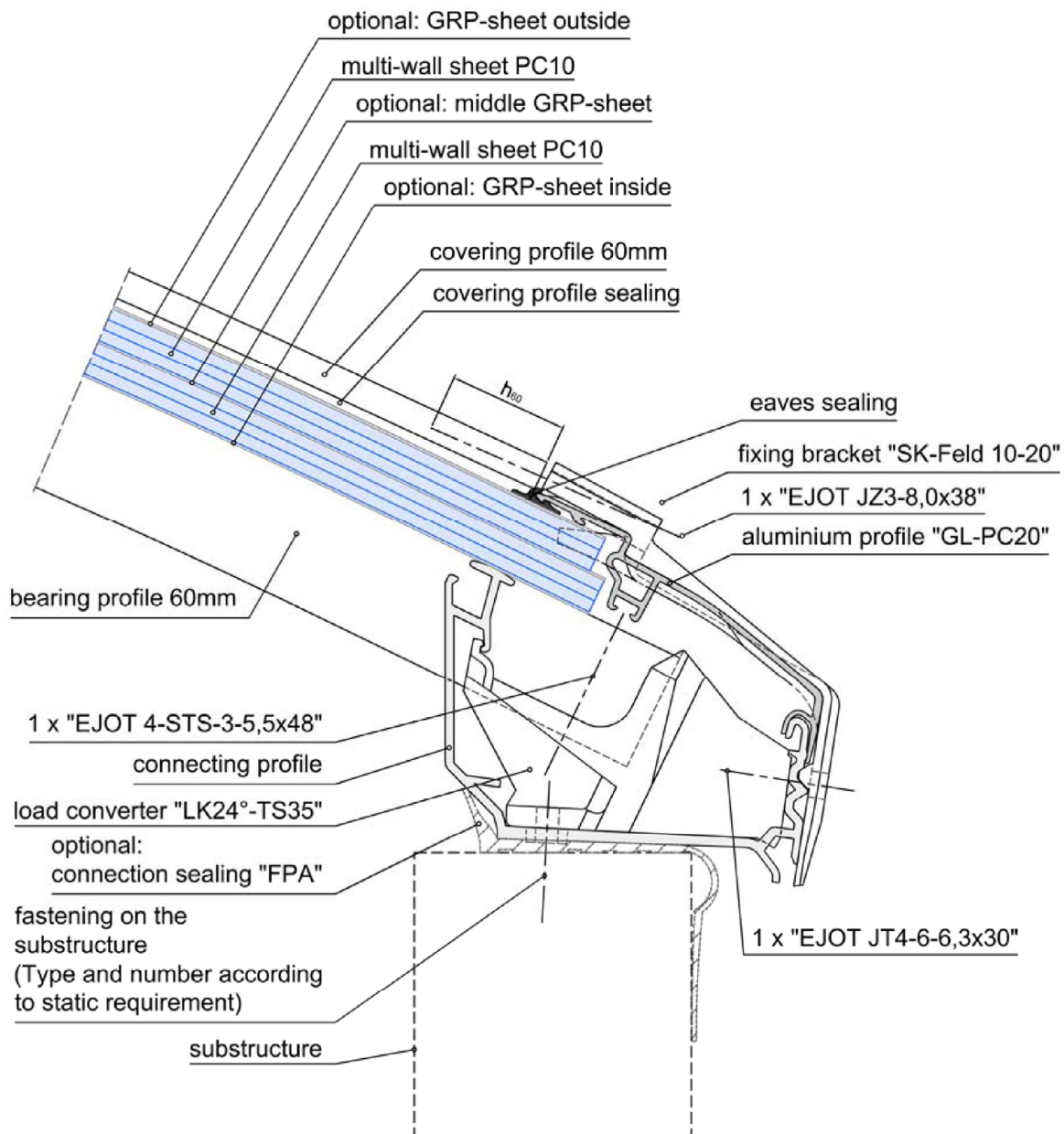


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10+PC10"
section E-E

Annex A 2.4.3

section F-F



LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10+PC10"
section F-F

Annex A 2.4.4



10mm multi-wall sheet

10mm multi-wall sheet



GRP solid sheet

10mm multi-wall sheet

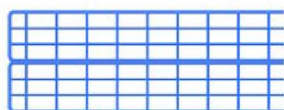
10mm multi-wall sheet



10mm multi-wall sheet

GRP solid sheet

10mm multi-wall sheet



10mm multi-wall sheet

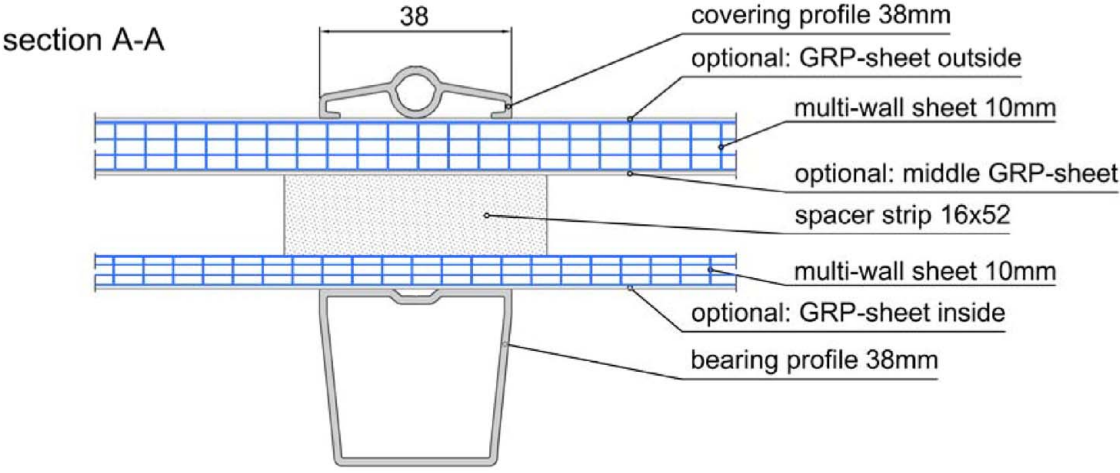
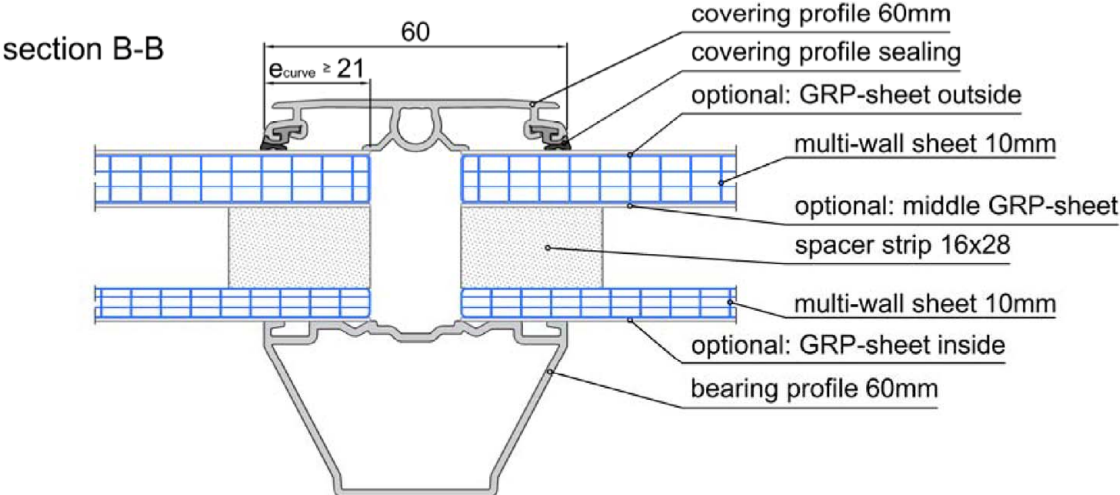
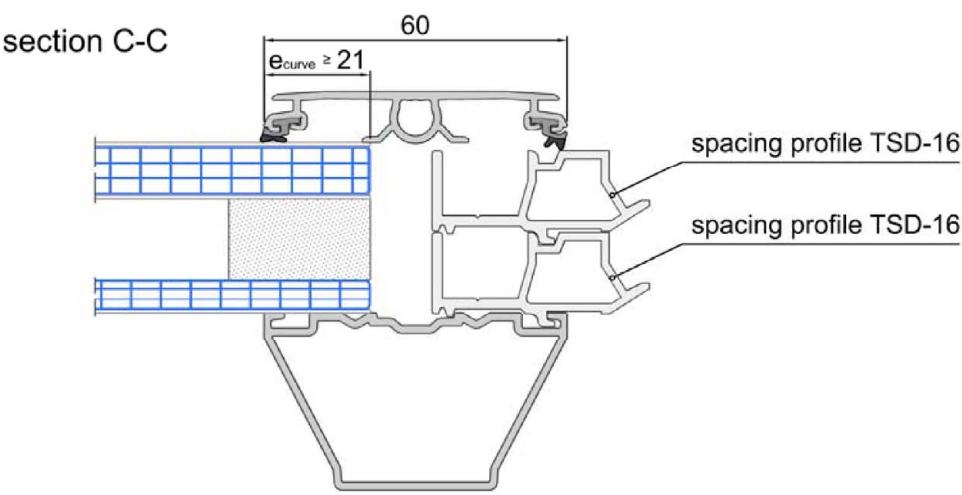
10mm multi-wall sheet

GRP solid sheet

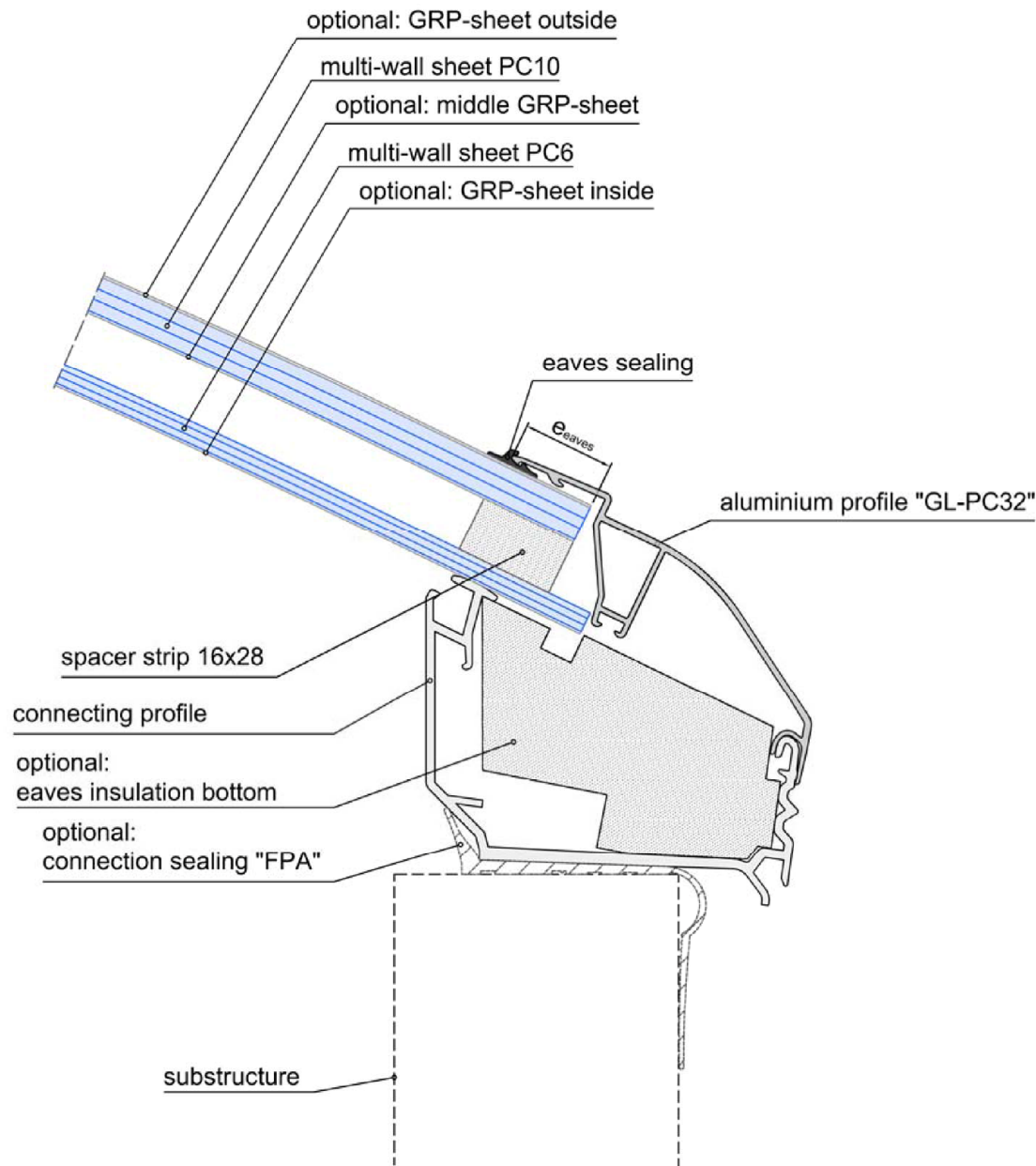
LAMILUX Lichtband B

optional execution variants
covering type "PC10+PC10"

Annex A 2.4.5

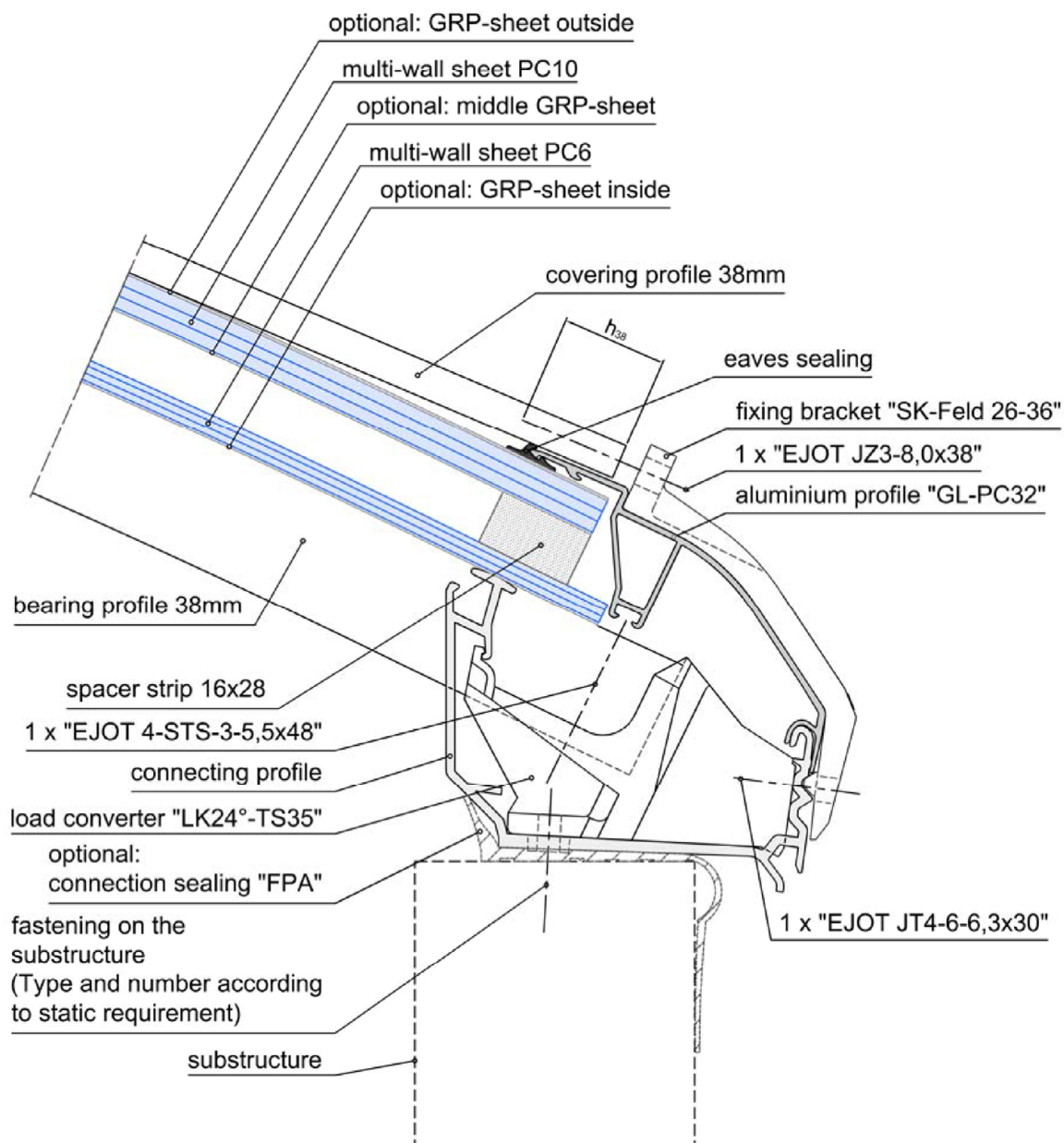
section A-A  38 covering profile 38mm optional: GRP-sheet outside multi-wall sheet 10mm optional: middle GRP-sheet spacer strip 16x52 multi-wall sheet 10mm optional: GRP-sheet inside bearing profile 38mm section B-B  60 covering profile 60mm covering profile sealing optional: GRP-sheet outside multi-wall sheet 10mm optional: middle GRP-sheet spacer strip 16x28 multi-wall sheet 10mm optional: GRP-sheet inside bearing profile 60mm $e_{curve} \geq 21$ section C-C  60 spacing profile TSD-16 spacing profile TSD-16 $e_{curve} \geq 21$	
LAMILUX Lichtband B	Annex A 2.5.1
sectional views arched bearing and covering profiles covering type "PC10+PC6 tc16" section A-A; section B-B; section C-C	

section D-D



LAMILUX Lichtband B	Annex A 2.5.2
sectional view connection to the substructure on the eaves side covering type "PC10+PC6 tc16" section D-D	

section E-E

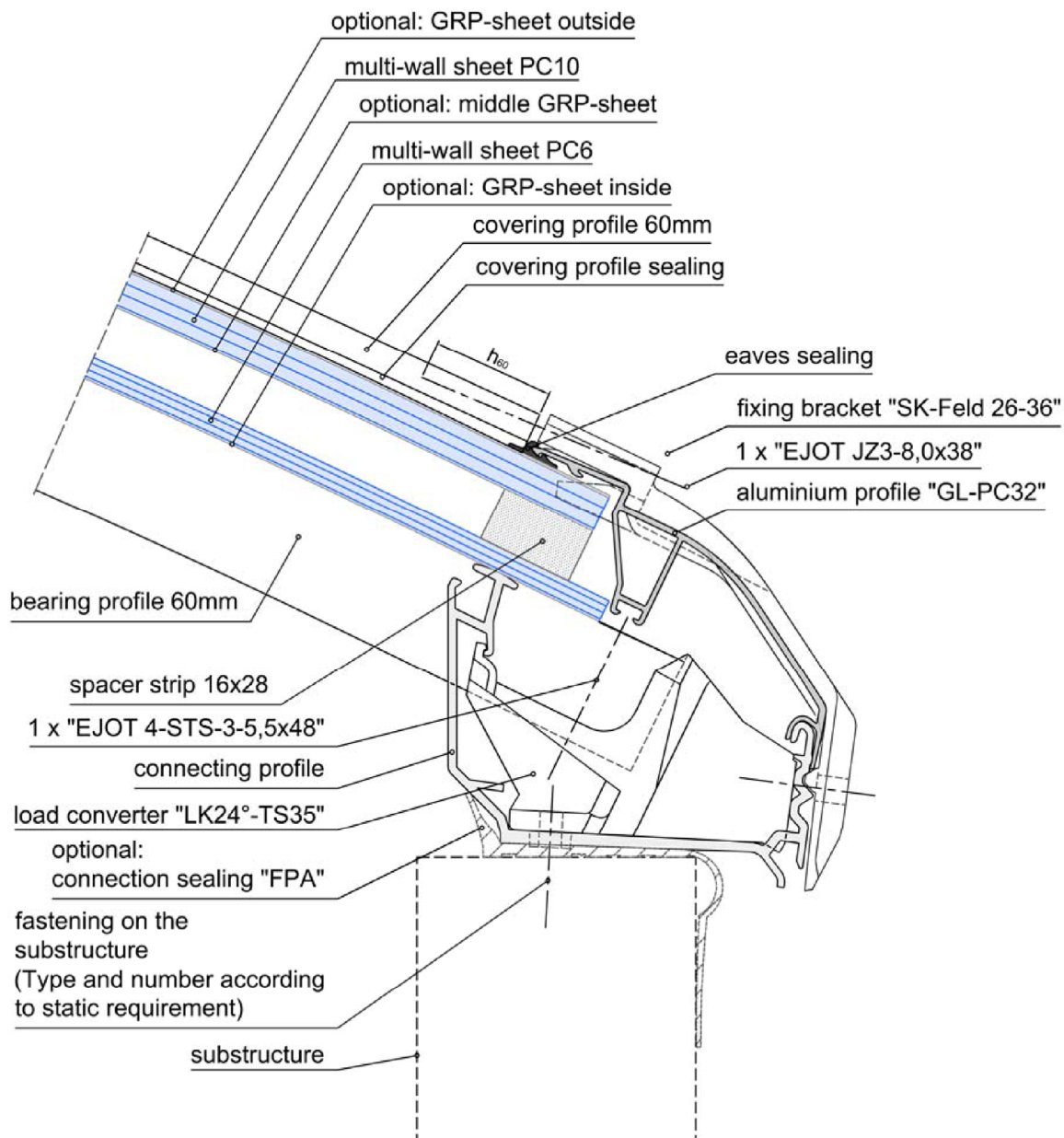


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10+PC6 tc16"
section E-E

Annex A 2.5.3

section F-F

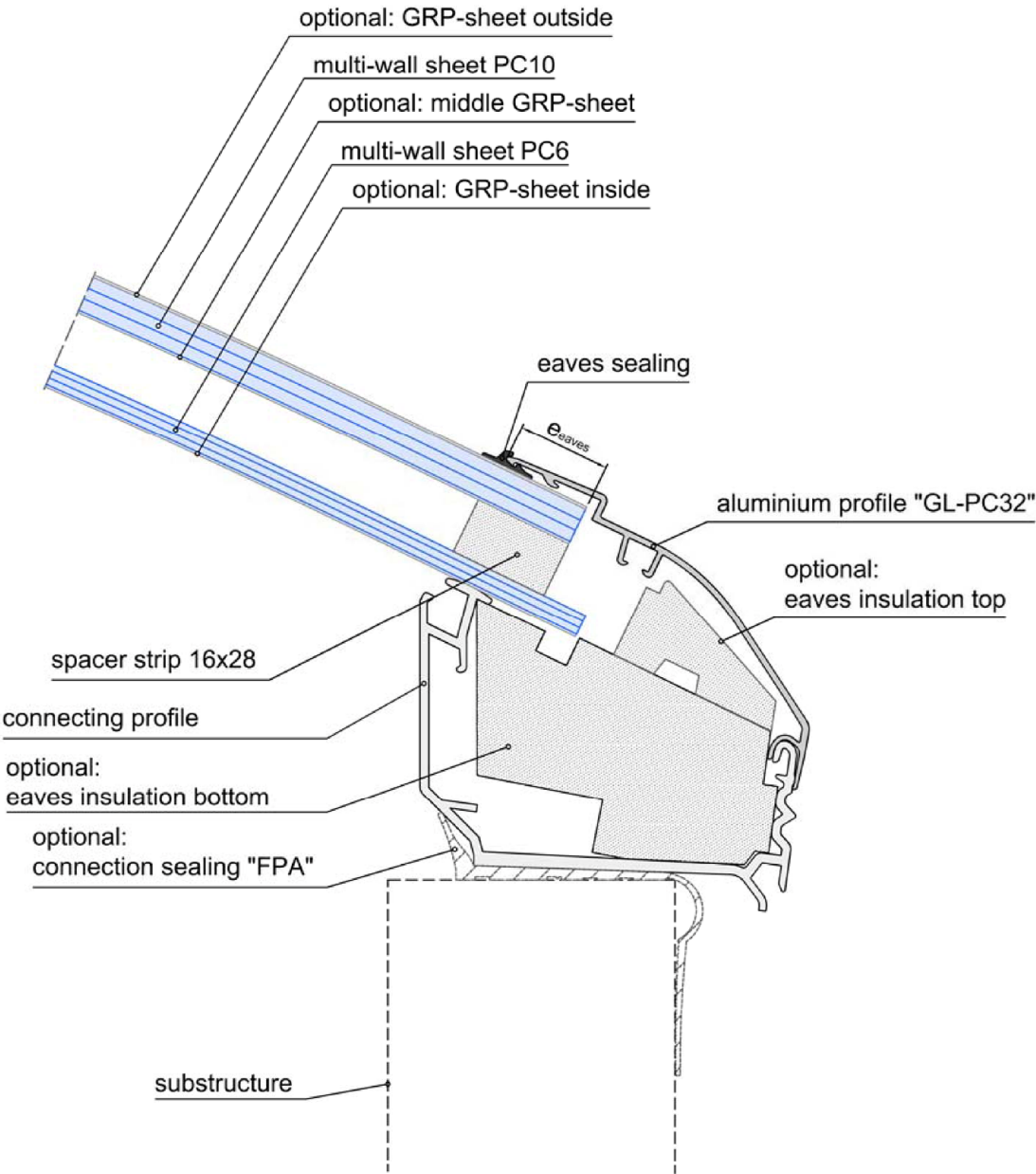


LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10+PC6 tc16"
section F-F

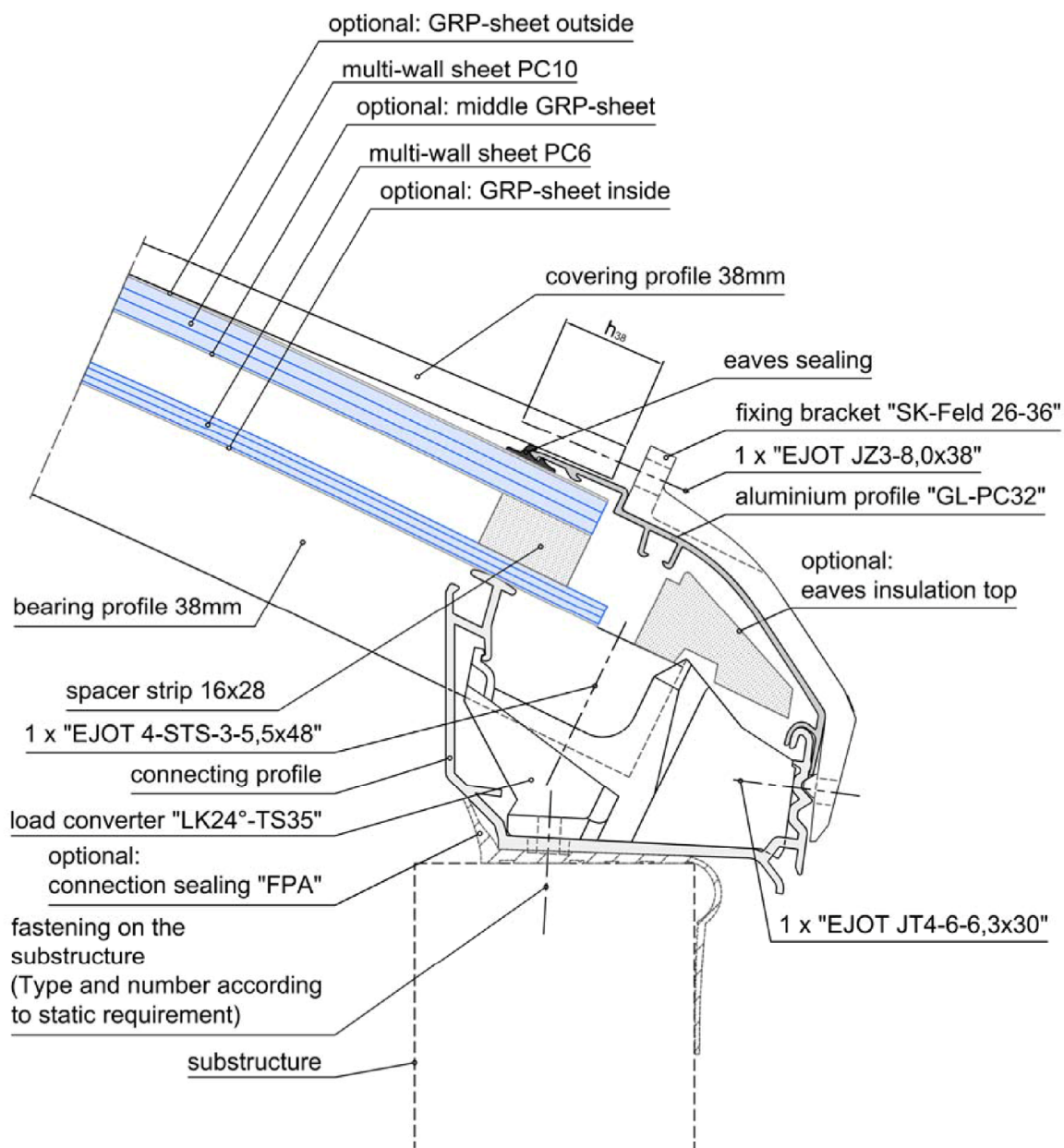
Annex A 2.5.4

section D-D



LAMILUX Lichtband B	Annex A 2.5.5
sectional view connection to the substructure "PH" on the eaves side covering type "PC10+PC6 tc16" section D-D	

section E-E

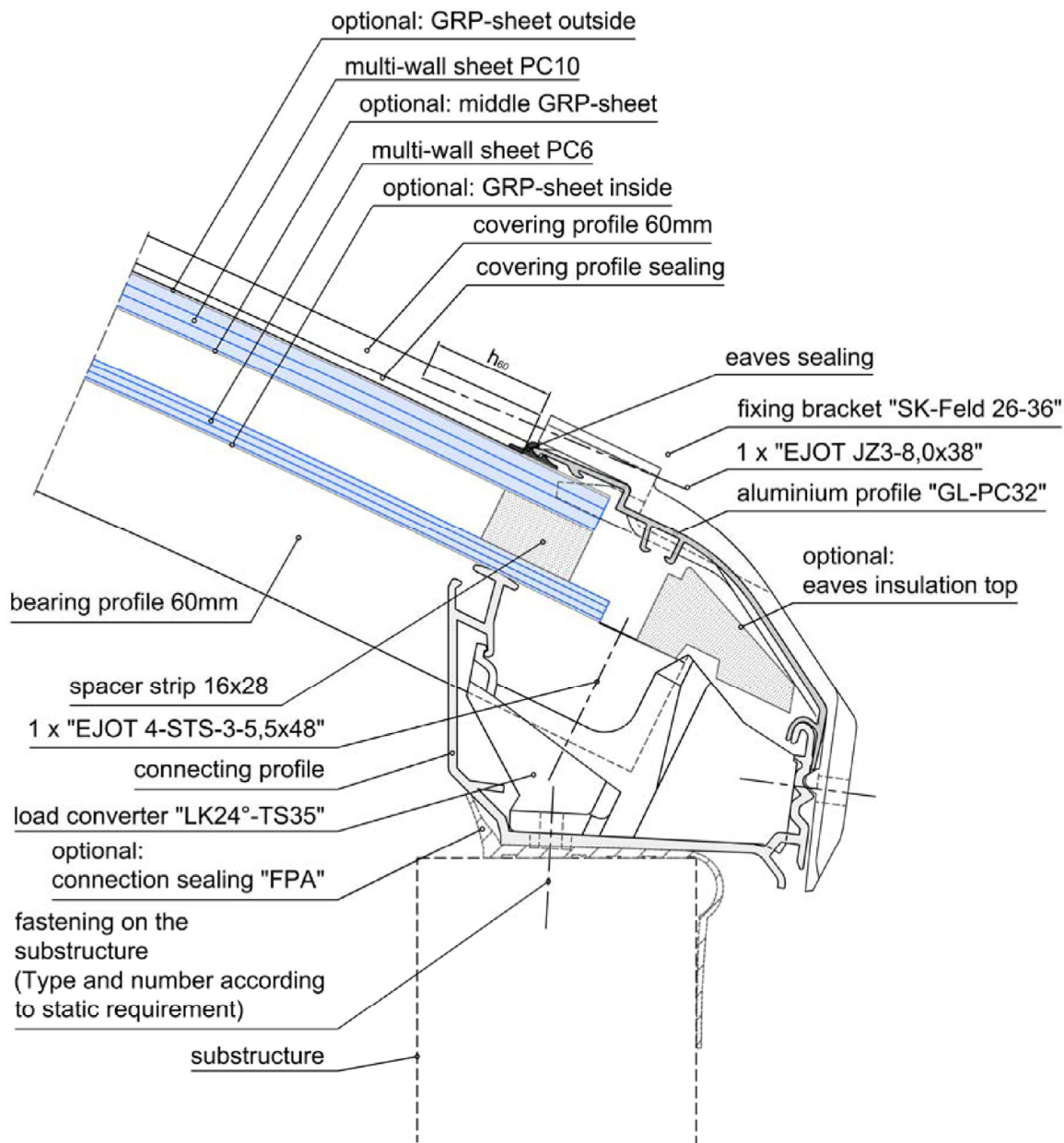


LAMILUX Lichtband B

sectional view impost execution "PH" for intermediate support
covering type "PC10+PC6 tc16"
section E-E

Annex A 2.5.6

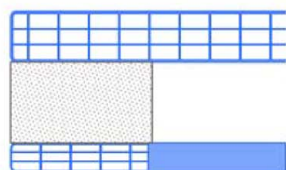
section F-F



LAMILUX Lichtband B

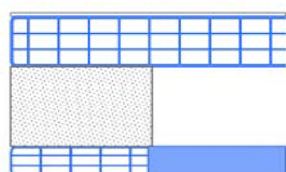
sectional view impost execution "PH" at the junction of the
covering type "PC10+PC6 tc16"
section F-F

Annex A 2.5.7



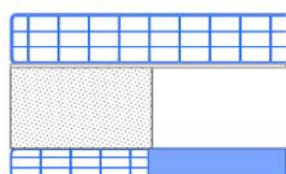
10mm multi-wall sheet

6mm multi-wall sheet or solid sheet



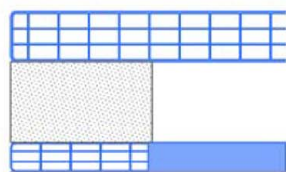
GRP solid sheet
10mm multi-wall sheet

6mm multi-wall sheet or solid sheet



10mm multi-wall sheet
GRP solid sheet

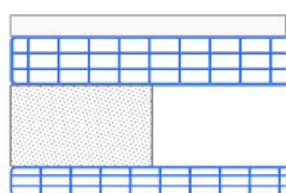
6mm multi-wall sheet or solid sheet



10mm multi-wall sheet

6mm multi-wall sheet or solid sheet
GRP solid sheet

Typ M4 - PC10 + PC6 tc16



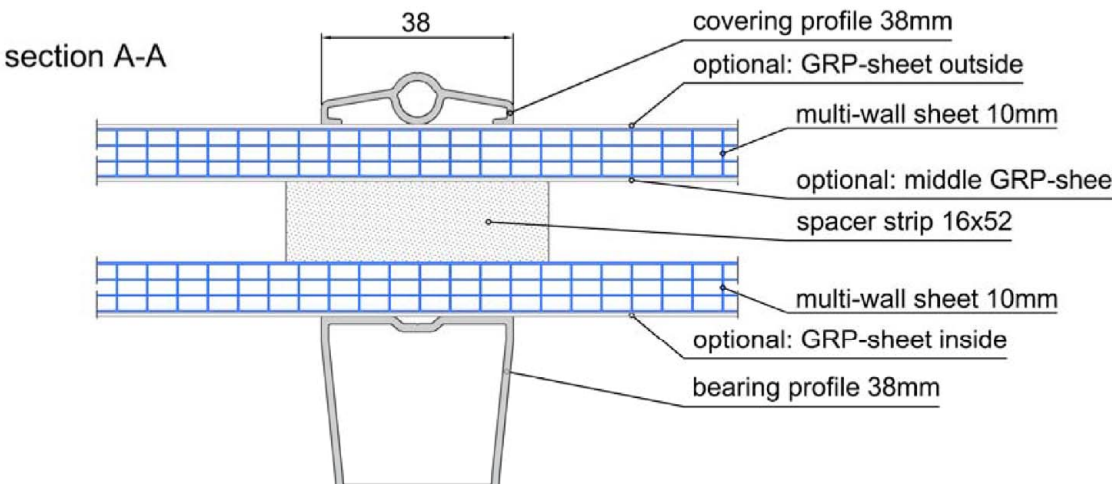
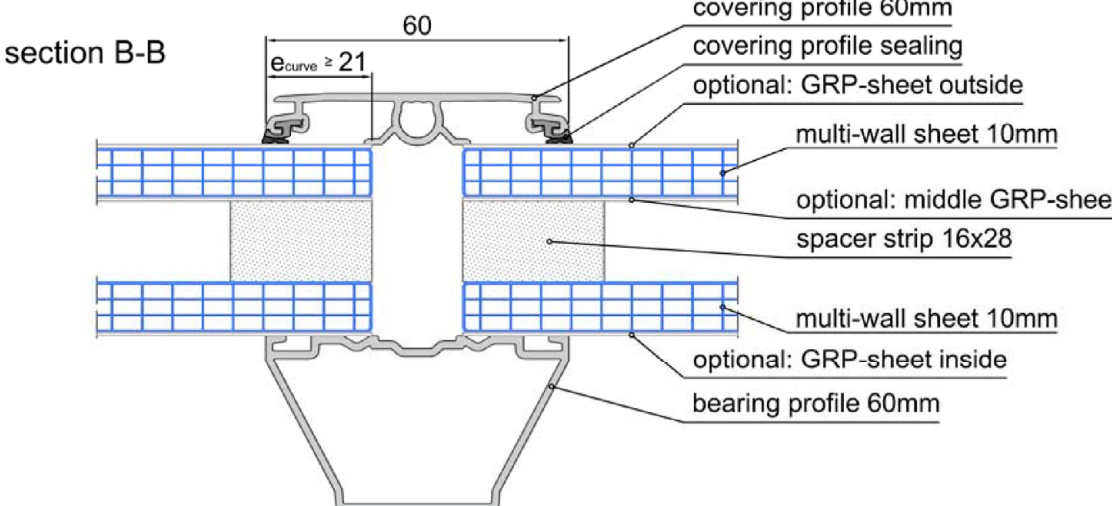
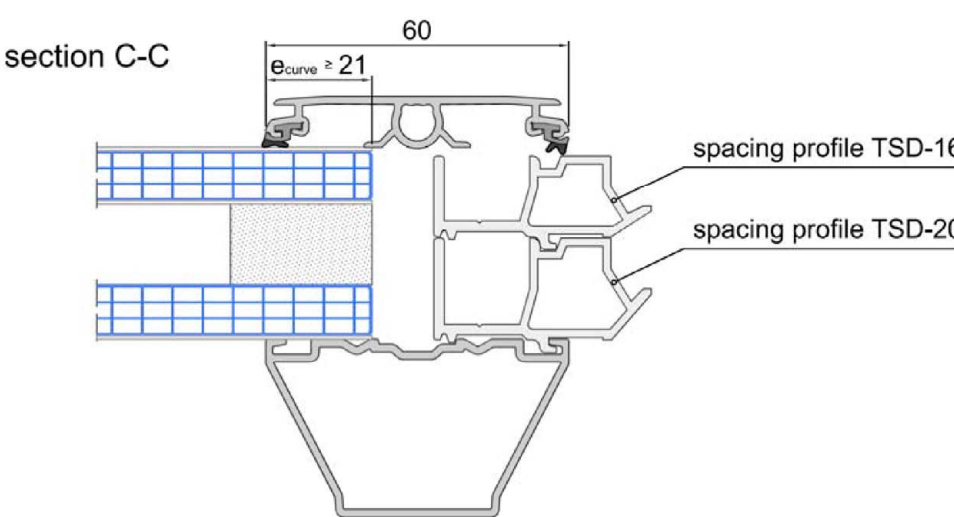
4mm solid sheet
10mm multi-wall sheet

6mm multi-wall sheet

LAMILUX Lichtband B

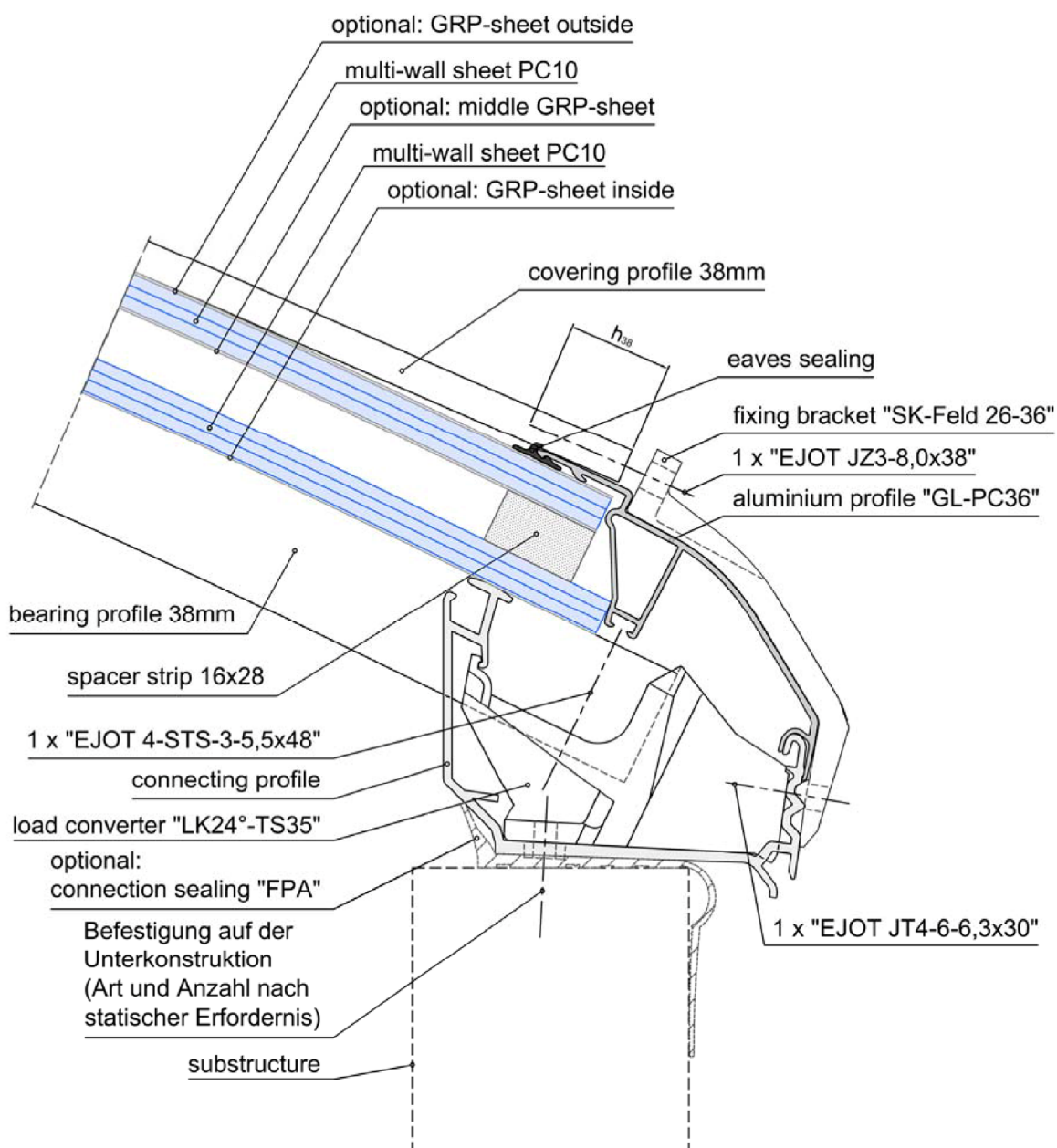
optional execution variants
covering type "PC10+PC6 tc16"

Annex A 2.5.8

section A-A  section B-B  section C-C 	
LAMILUX Lichtband B	Annex A 2.6.1
sectional views arched bearing and covering profiles covering type "PC10+PC10 tc16" section A-A; section B-B; section C-C	

section D-D optional: GRP-sheet outside multi-wall sheet PC10 optional: middle GRP-sheet multi-wall sheet PC10 optional: GRP-sheet inside eaves sealing eaves aluminium profile "GL-PC36" spacer strip 16x28 connecting profile optional: eaves insulation bottom optional: connection sealing "FPA" substructure	
LAMILUX Lichtband B	Annex A 2.6.2
sectional view connection to the substructure on the eaves side covering type "PC10+PC10 tc16" section D-D	

section E-E

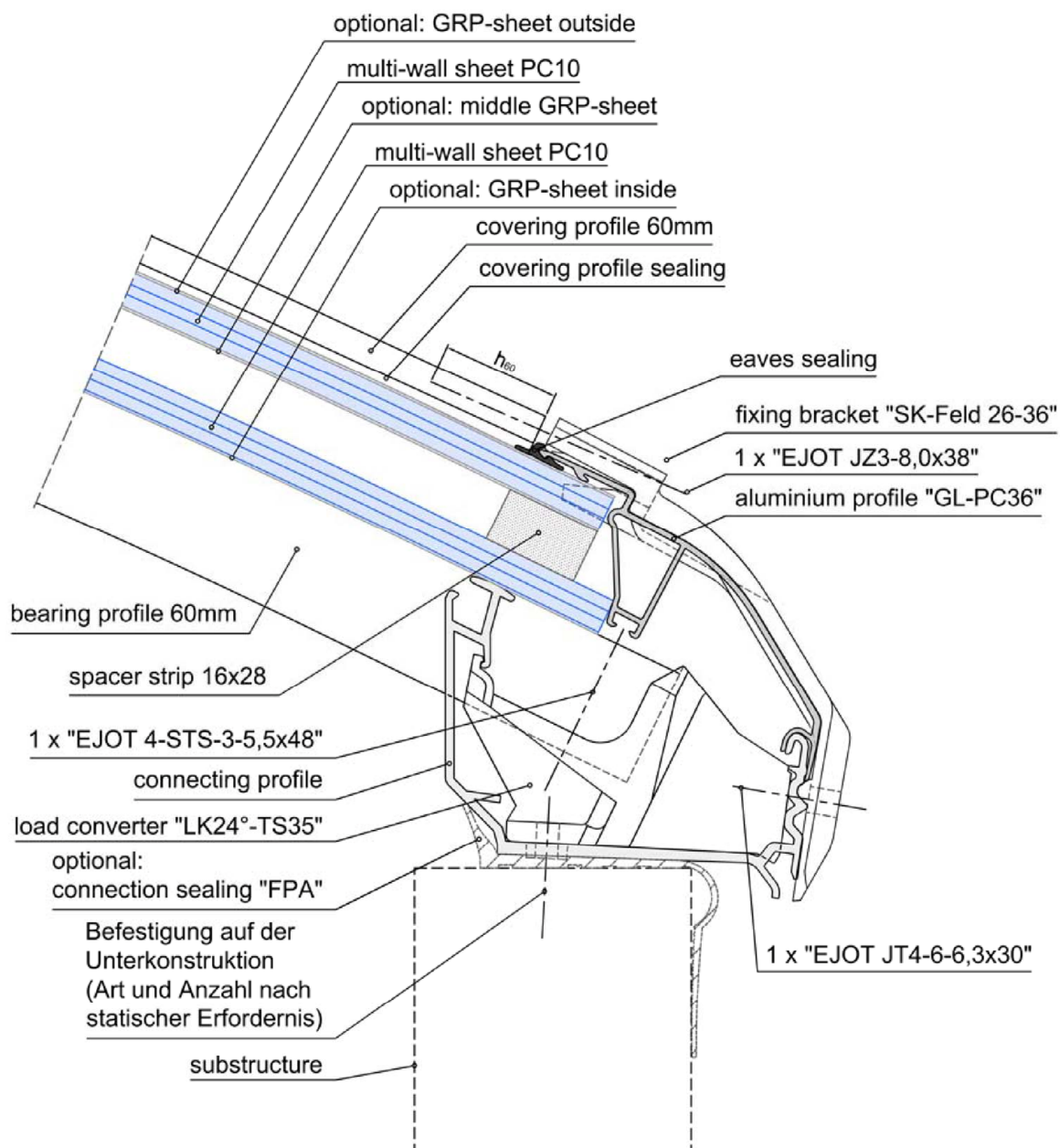


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10+PC10 tc16"
section E-E

Annex A 2.6.3

section F-F

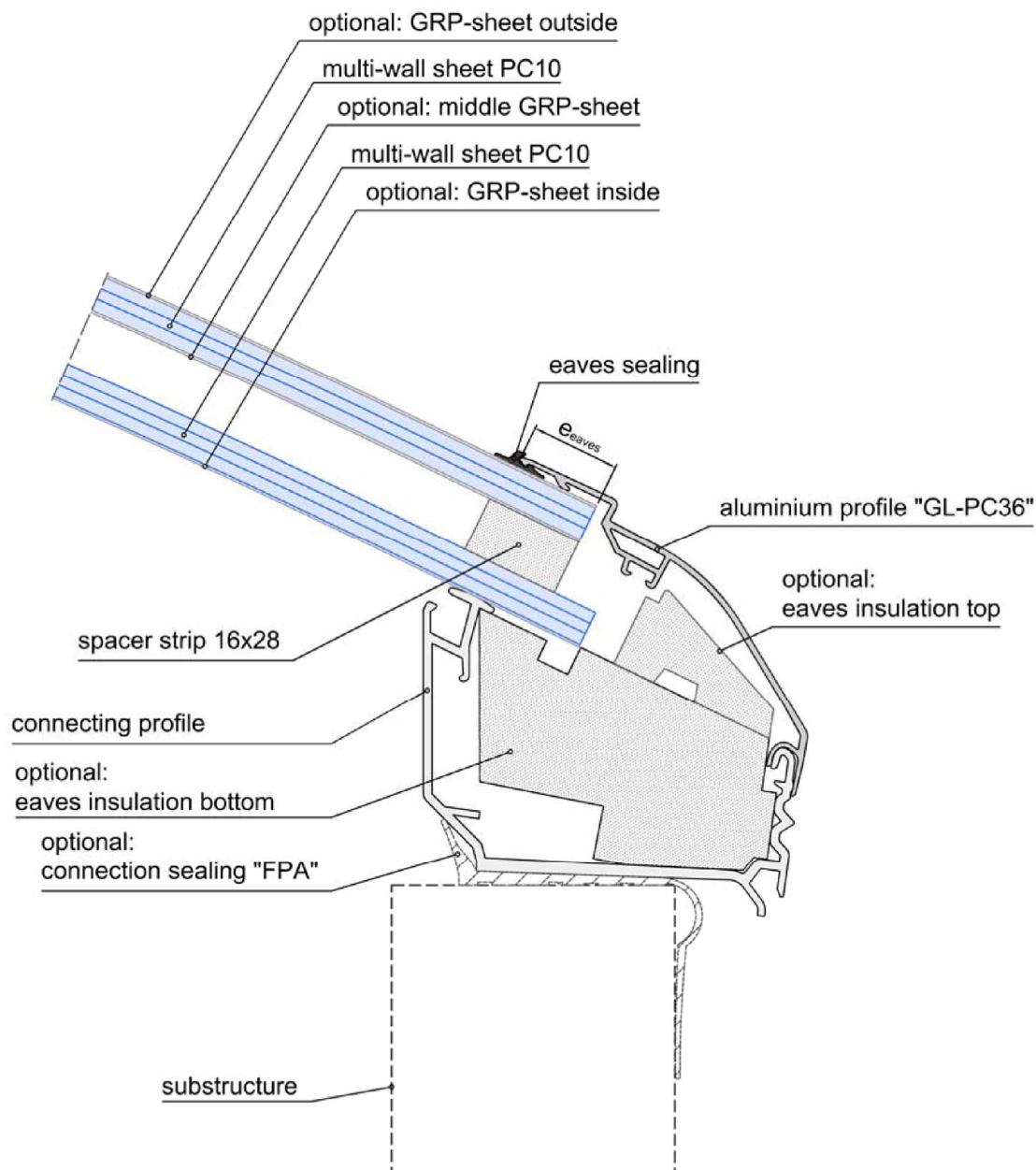


LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10+PC10 tc16"
section F-F

Annex A 2.6.4

section D-D

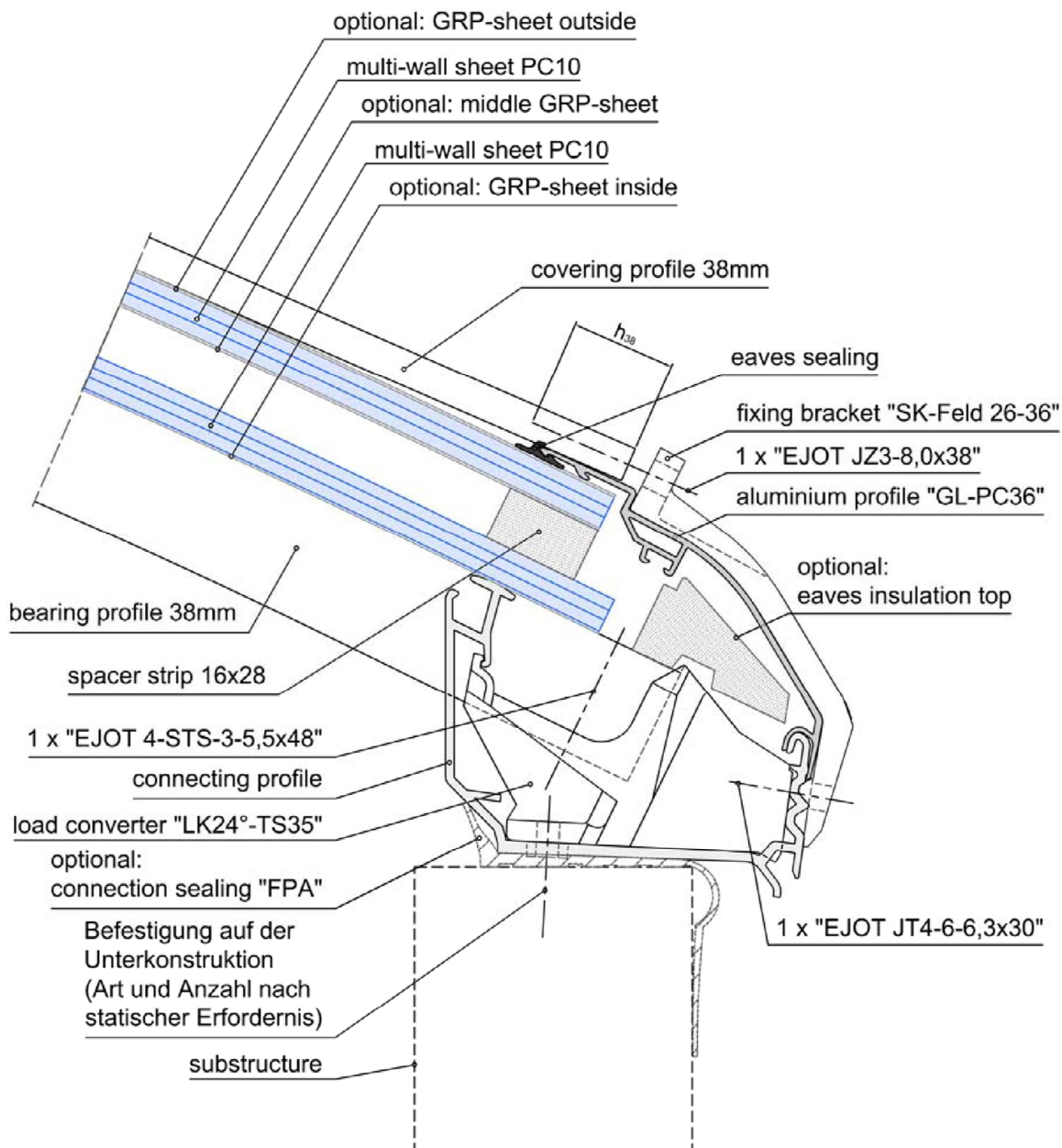


LAMILUX Lichtband B

sectional view connection to the substructure "PH" on the eaves side
covering type "PC10+PC10 tc16"
section D-D

Annex A 2.6.5

section E-E

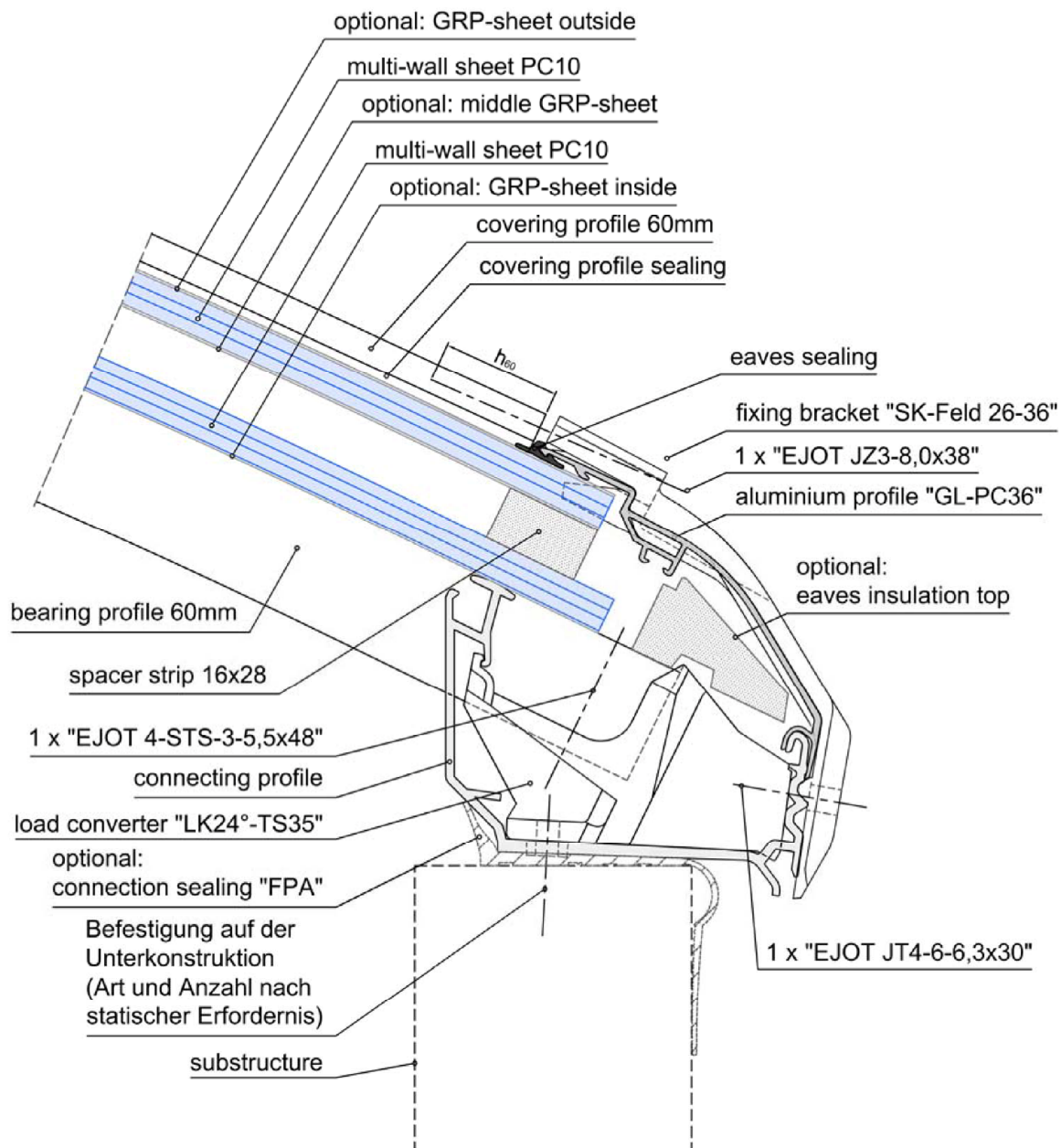


LAMILUX Lichtband B

sectional view impost execution "PH" for intermediate support
covering type "PC10+PC10 tc16"
section E-E

Annex A 2.6.6

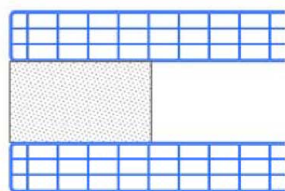
section F-F



LAMILUX Lichtband B

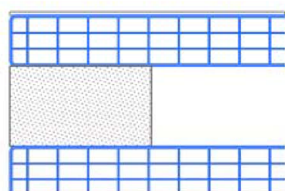
sectional view impost execution "PH" at the junction of the
covering type "PC10+PC10 tc16"
section F-F

Annex A 2.6.7



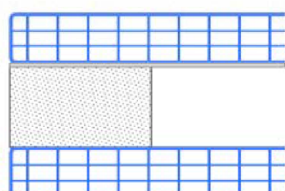
10mm multi-wall sheet

10mm multi-wall sheet



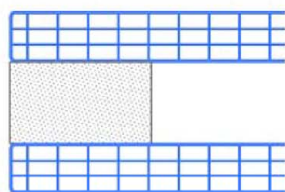
GRP solid sheet
10mm multi-wall sheet

10mm multi-wall sheet



10mm multi-wall sheet
GRP solid sheet

10mm multi-wall sheet



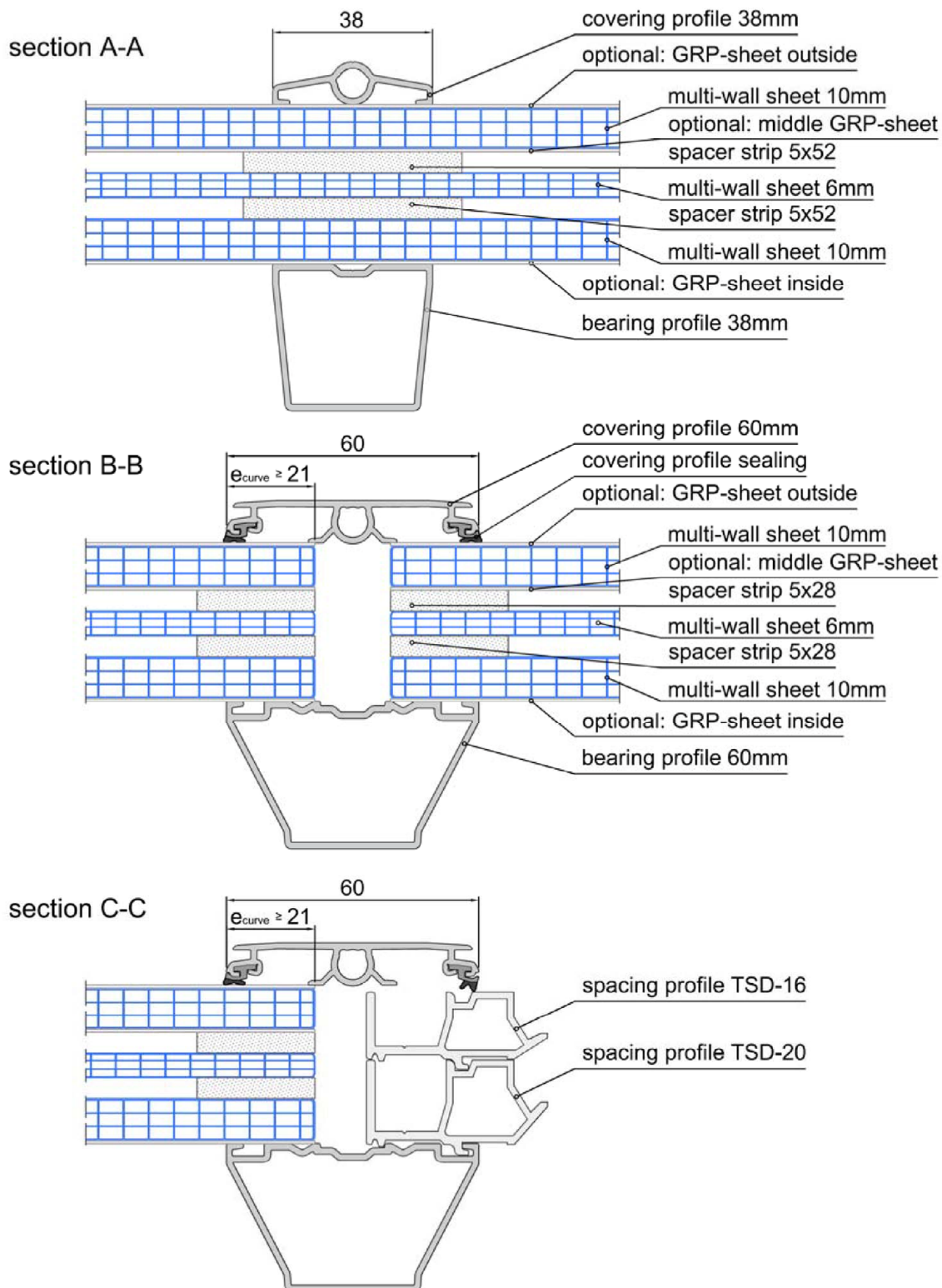
10mm multi-wall sheet

10mm multi-wall sheet
GRP solid sheet

LAMILUX Lichtband B

optional execution variants
covering type "PC10+PC10 tc16"

Annex A 2.6.8

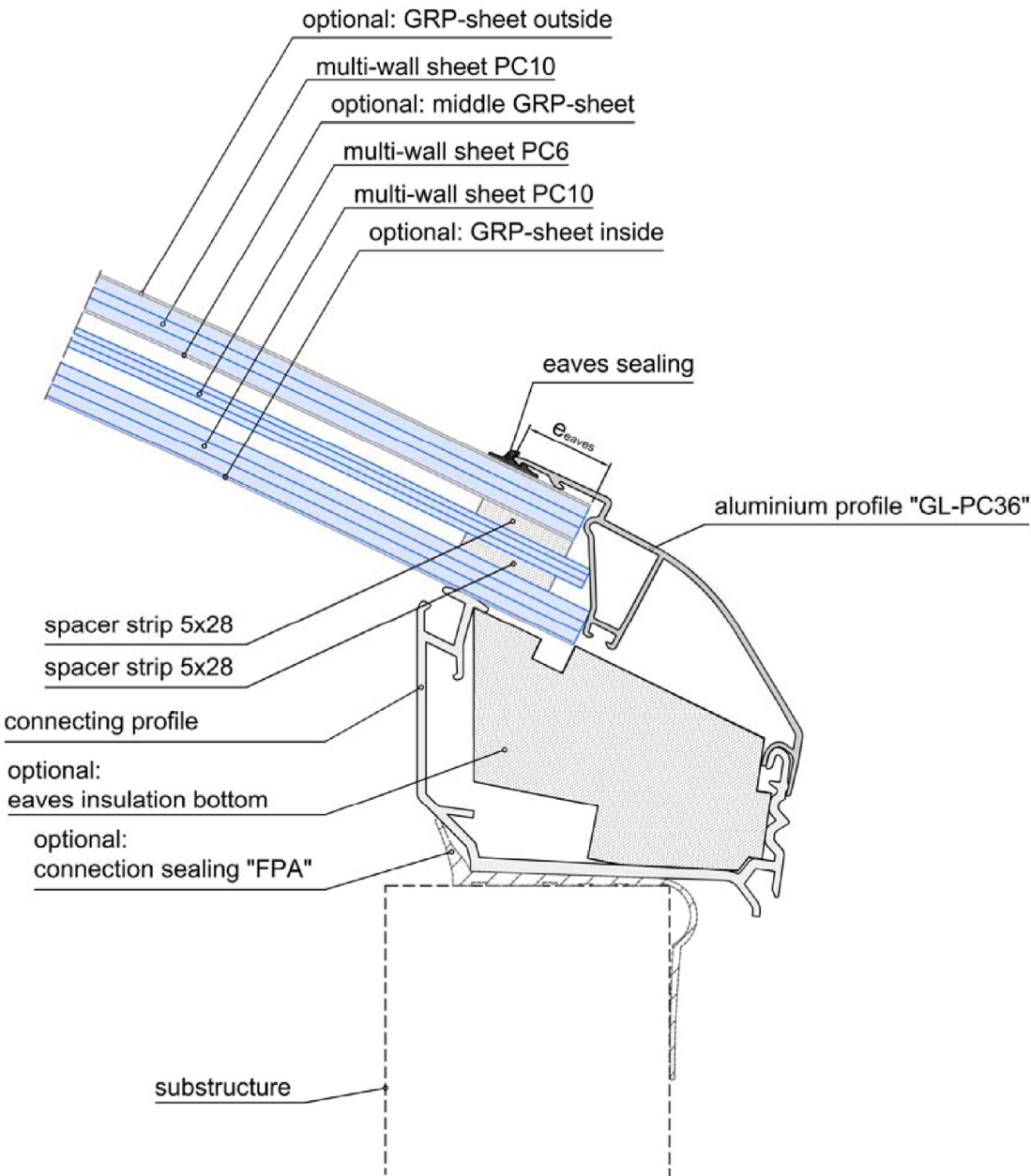


LAMILUX Lichtband B

sectional views arched bearing and covering profiles
covering type "PC10+PC6+PC10 tc5"
section A-A; section B-B; section C-C

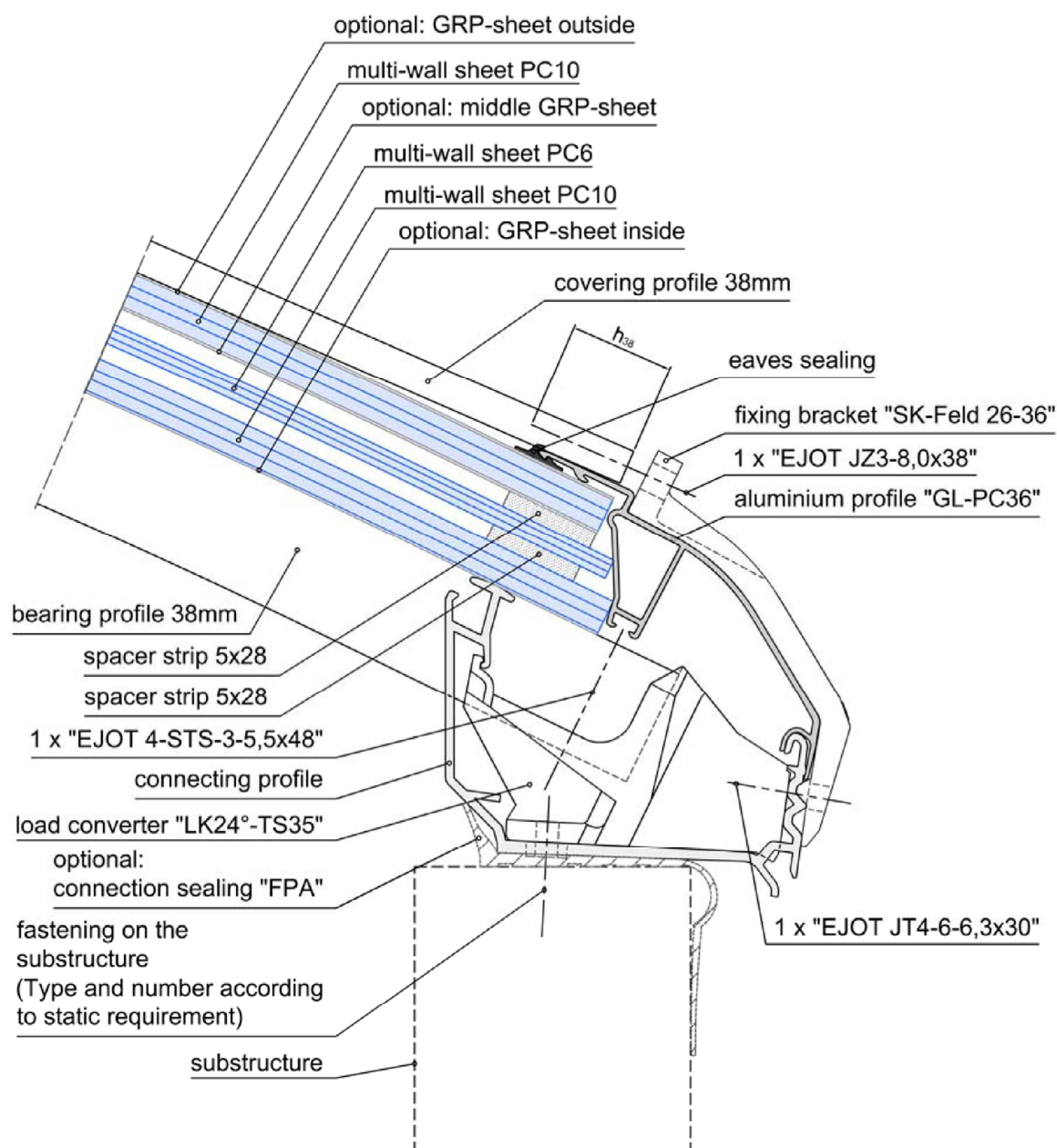
Annex A 2.7.1

section D-D



LAMILUX Lichtband B	Annex A 2.7.2
sectional view connection to the substructure on the eaves side covering type "PC10+PC6+PC10 tc5" section D-D	

section E-E

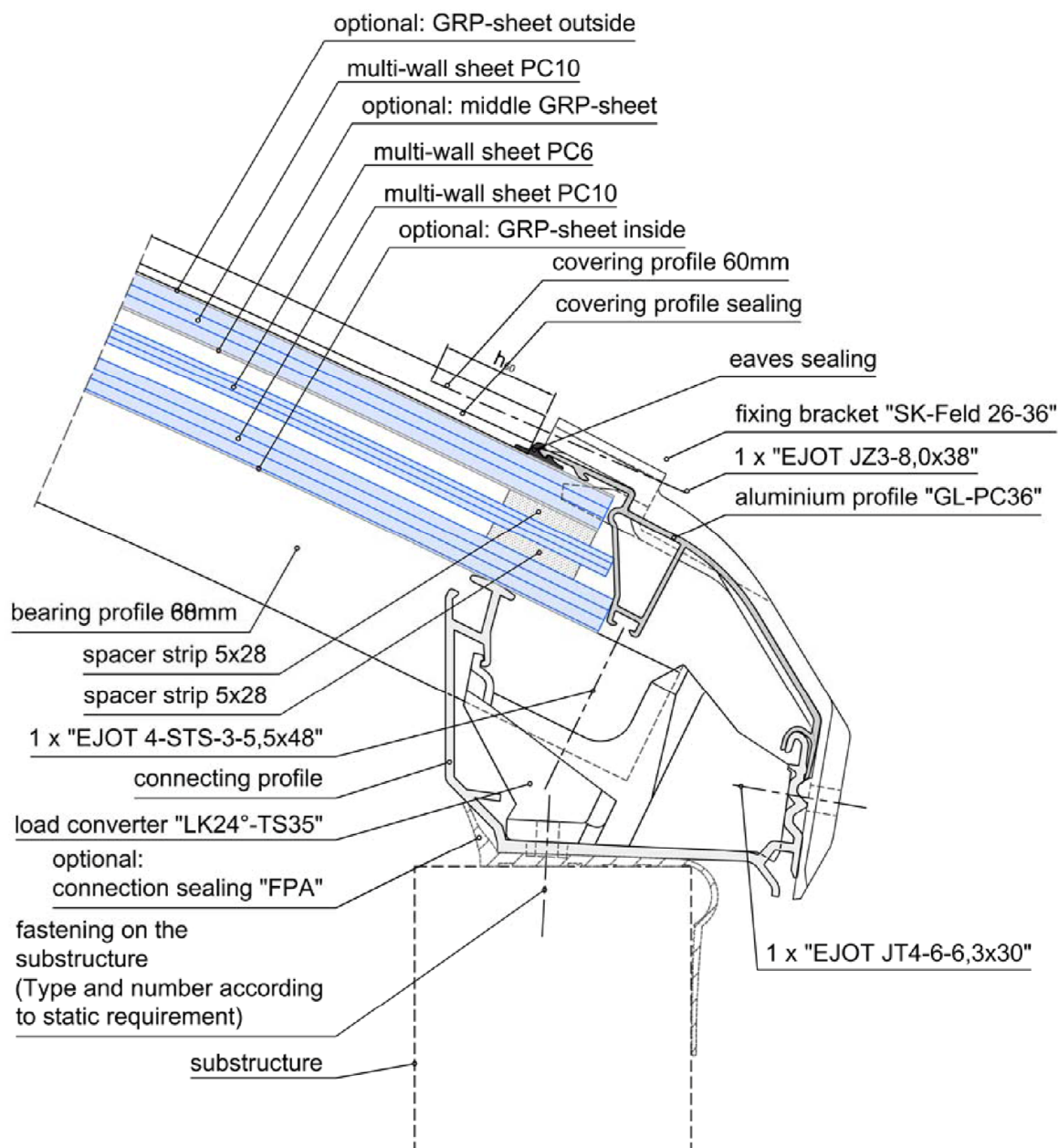


LAMILUX Lichtband B

sectional view impost execution for intermediate support
covering type "PC10+PC6+PC10 tc5"
section E-E

Annex A 2.7.3

section F-F

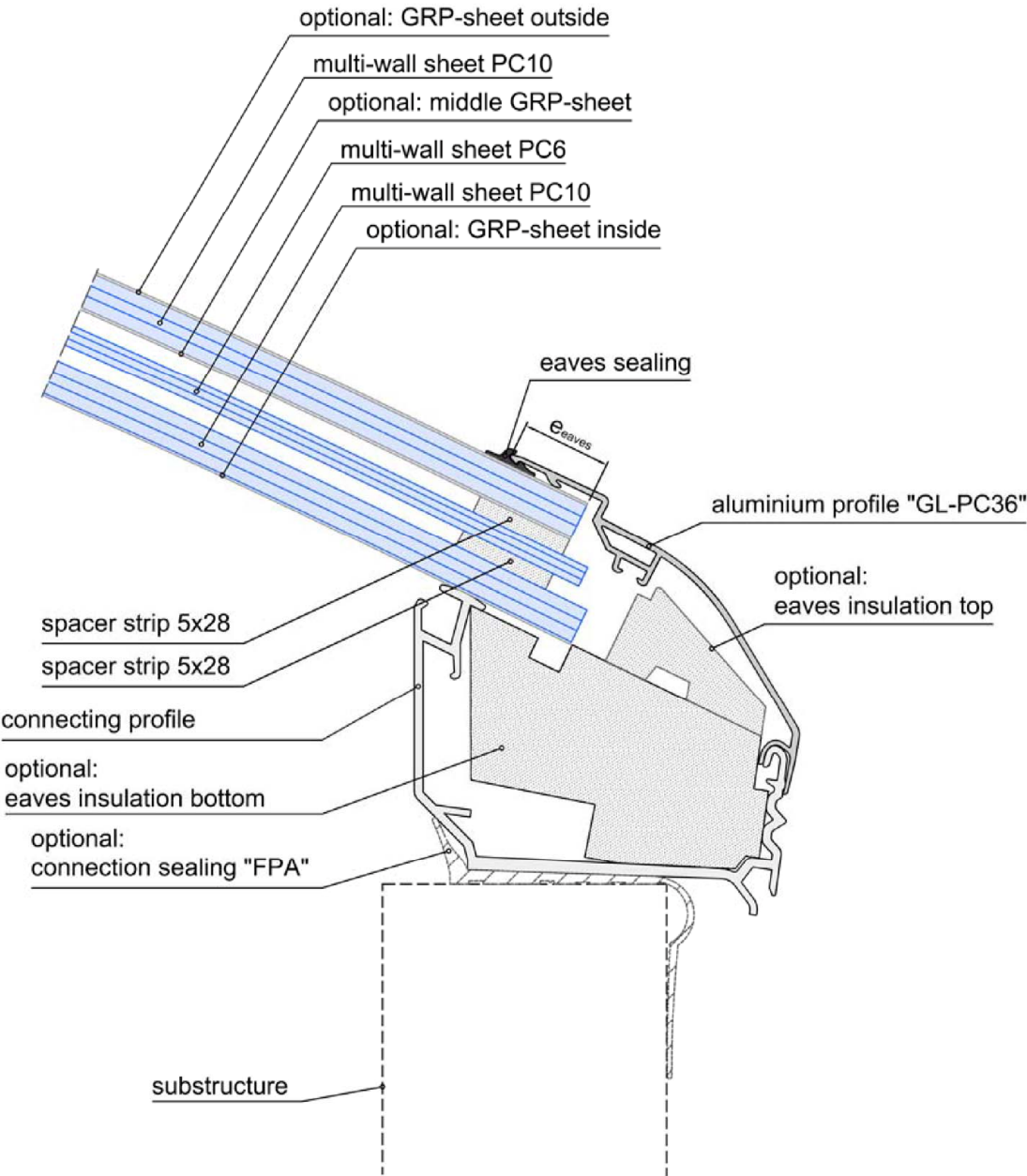


LAMILUX Lichtband B

sectional view impost execution at the junction of the
covering type "PC10+PC6+PC10 tc5"
section F-F

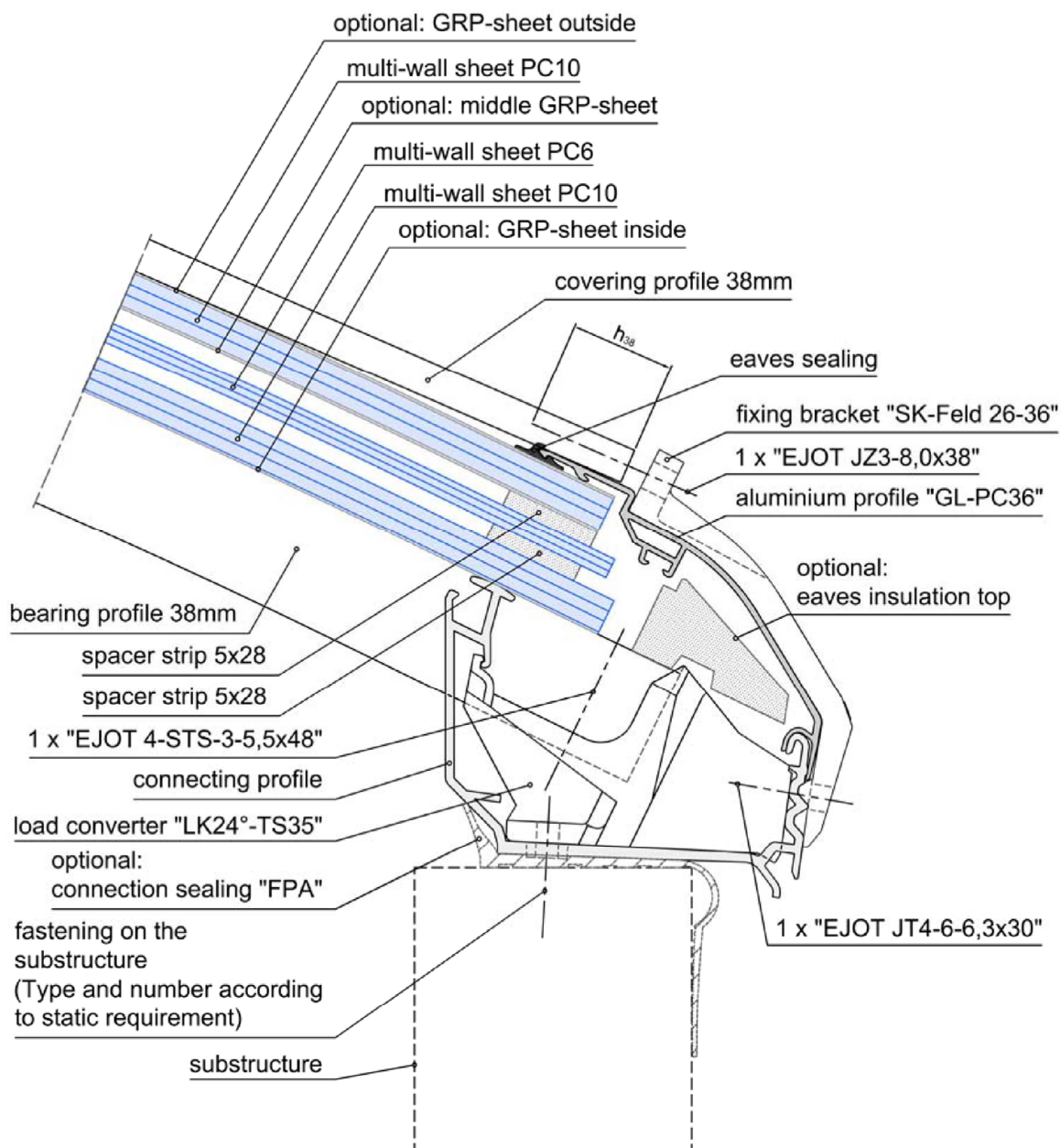
Annex A 2.7.4

section D-D



LAMILUX Lichtband B	Annex A 2.7.5
sectional view connection to the substructure "PH" on the eaves side covering type "PC10+PC6+PC10 tc5" section D-D	

section E-E

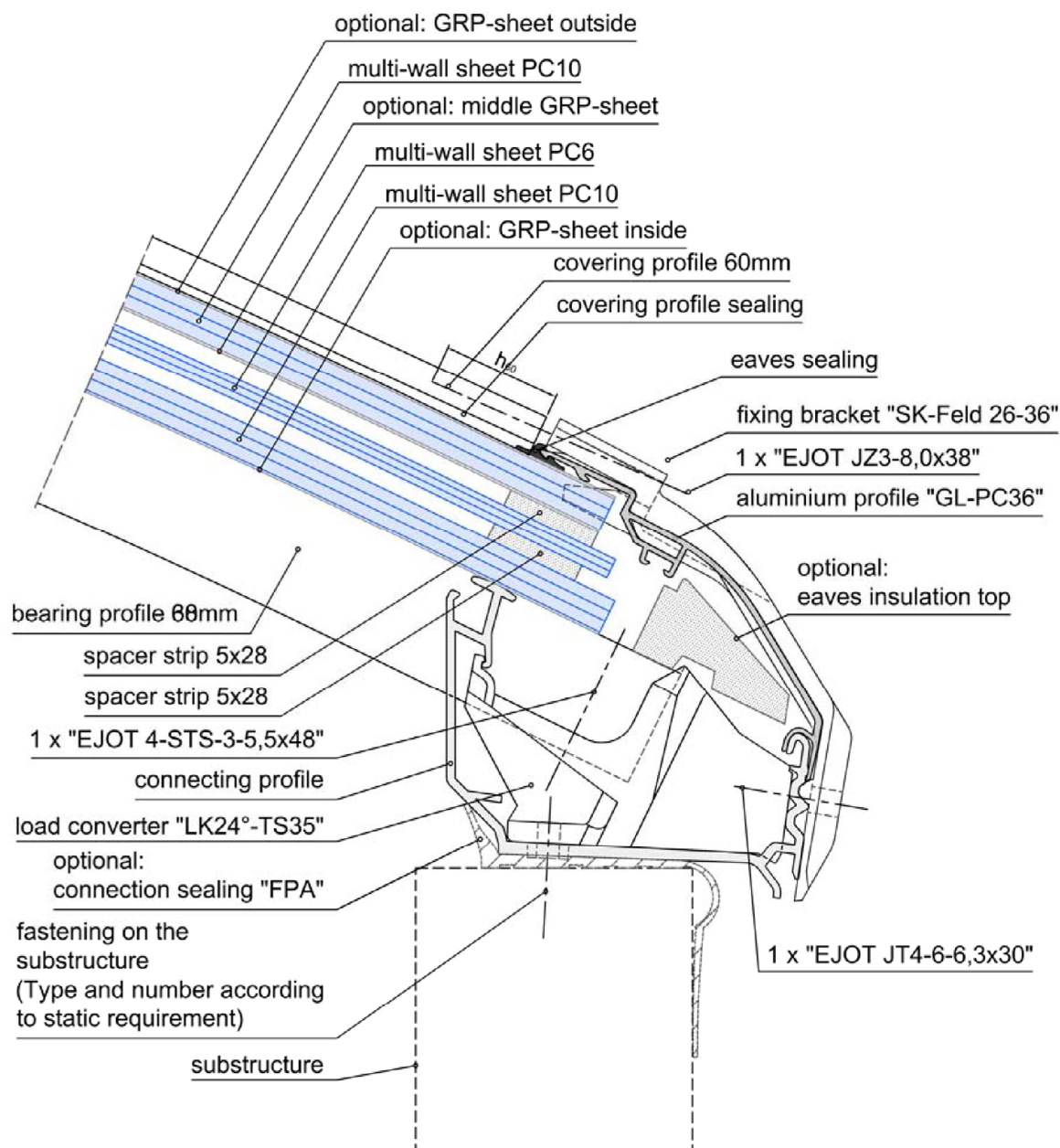


LAMILUX Lichtband B

sectional view impost execution "PH" for intermediate support
covering type "PC10+PC6+PC10 tc5"
section E-E

Annex A 2.7.6

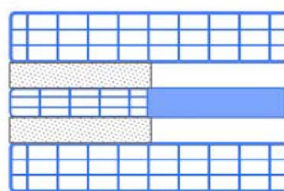
section F-F



LAMILUX Lichtband B

sectional view impost execution "PH" at the junction of the
covering type "PC10+PC6+PC10 tc5"
section F-F

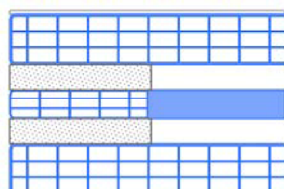
Annex A 2.7.7



10mm multi-wall sheet

6mm multi-wall sheet or solid sheet

10mm multi-wall sheet



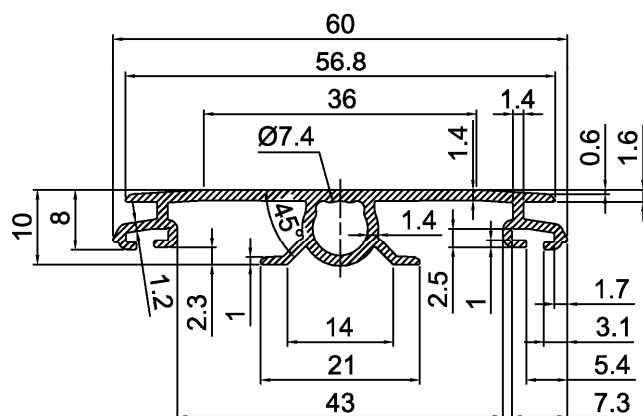
GRP solid sheet

10mm multi-wall sheet

6mm multi-wall sheet or solid sheet

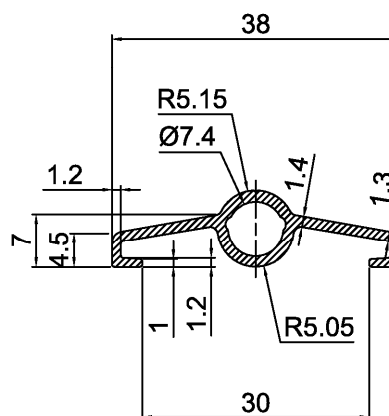
10mm multi-wall sheet

covering profile 60mm



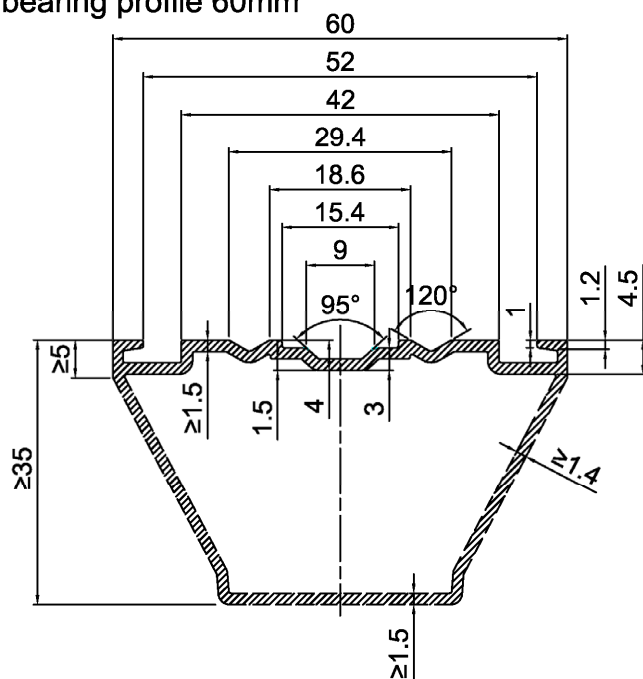
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

covering profile 38mm



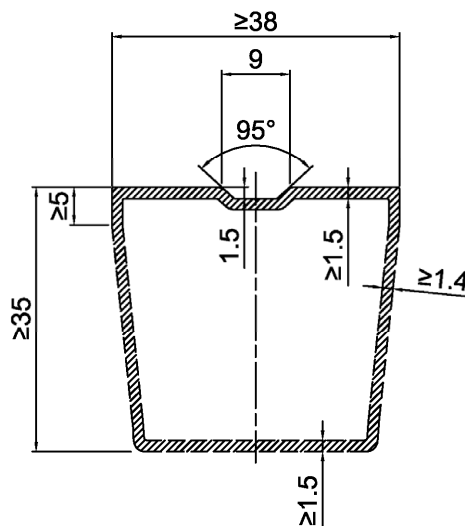
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

bearing profile 60mm



EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

bearing profile 38mm



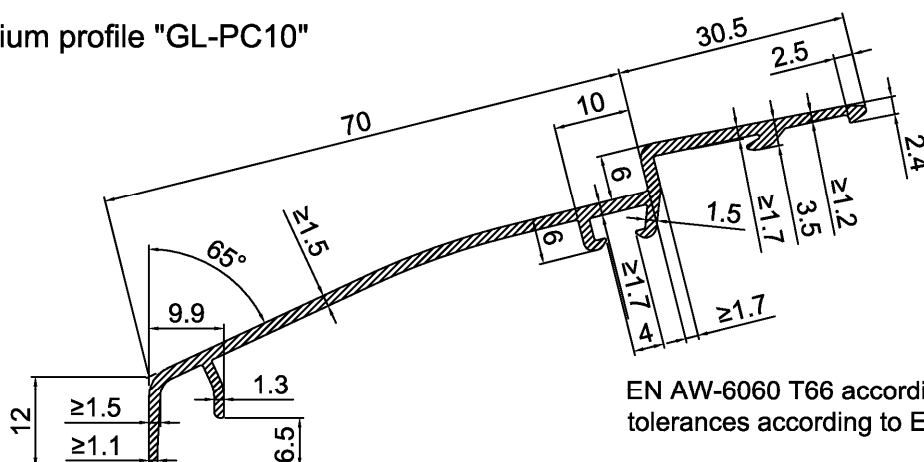
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

LAMILUX Lichtband B

components-curved profiles
covering profile 60mm; covering profile 38mm
bearing profile 60mm; bearing profile 38mm

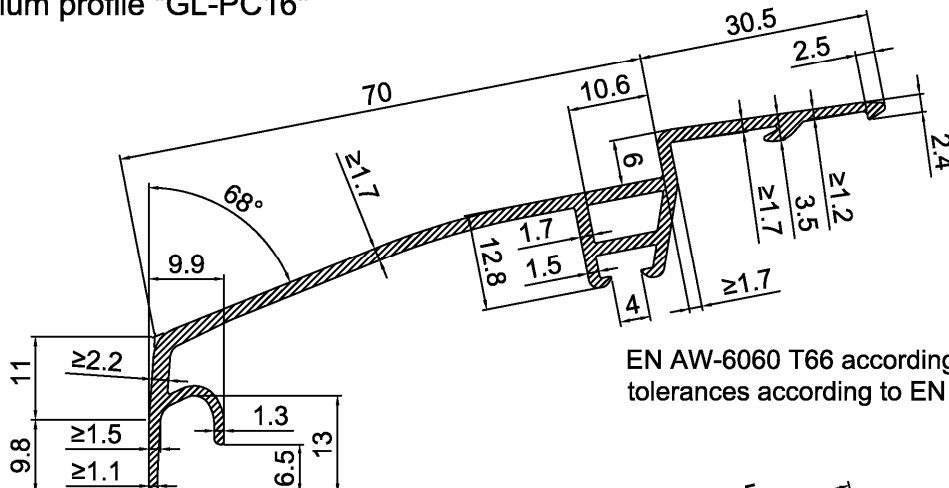
Annex A 3.1

aluminium profile "GL-PC10"



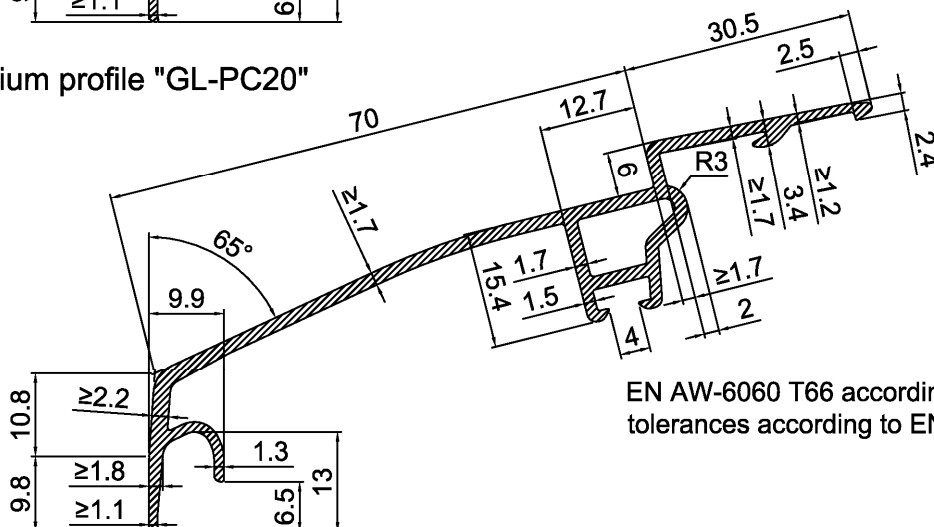
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

aluminium profile "GL-PC16"



EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

aluminium profile "GL-PC20"



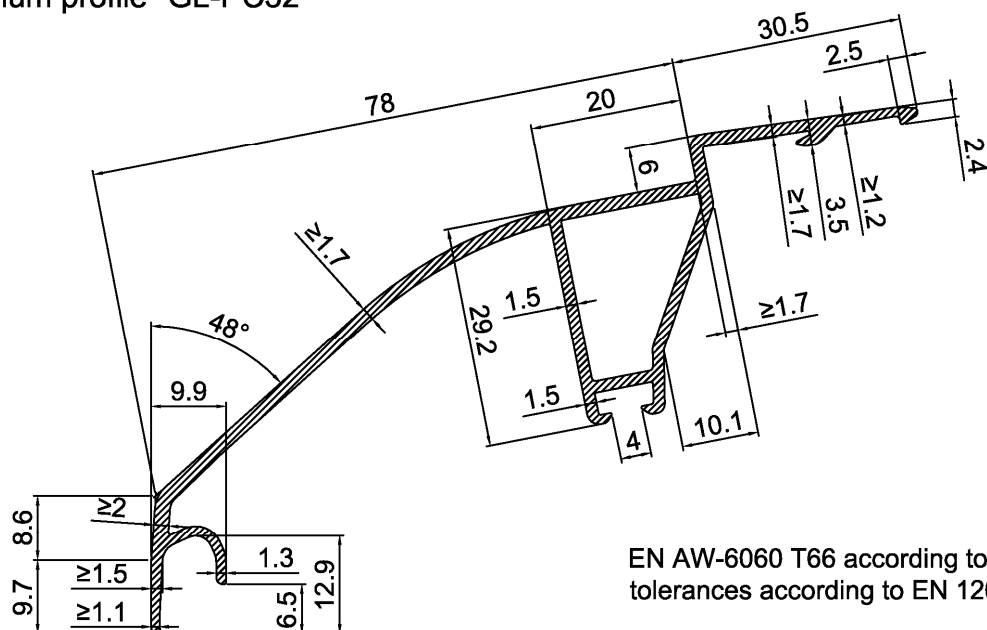
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

LAMILUX Lichtband B

components-connection on the eaves side
aluminium profiles "GL-PC10"; "GL-PC16"; "GL-PC20"
(for coverings "PC10", "PC10+PC6", "PC16" and "PC10+PC10")

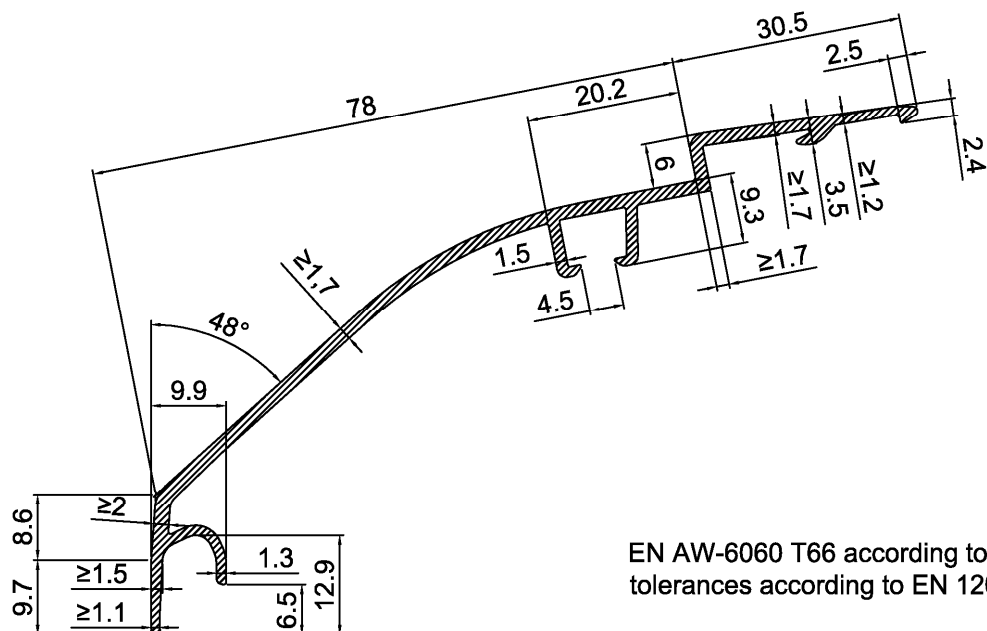
Annex A 3.2.1

aluminium profile "GL-PC32"



EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

aluminium profile "GL-PC32-PH"



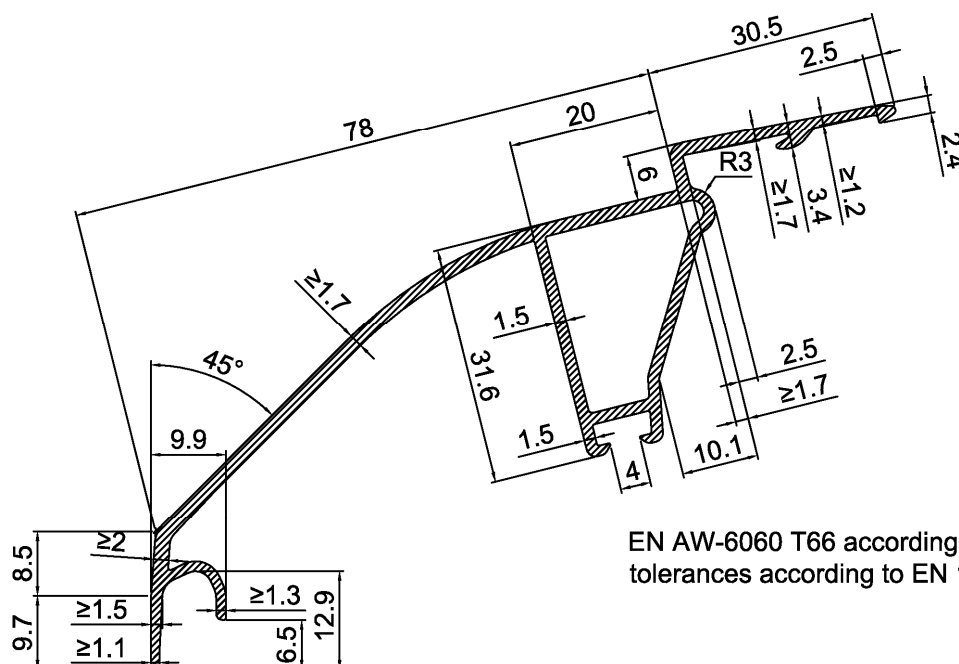
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

LAMILUX Lichtband B

components-connection on the eaves side
aluminium profiles "GL-PC32"; "GL-PC32-PH"
(for coverings "PC10+PC6 tc16")

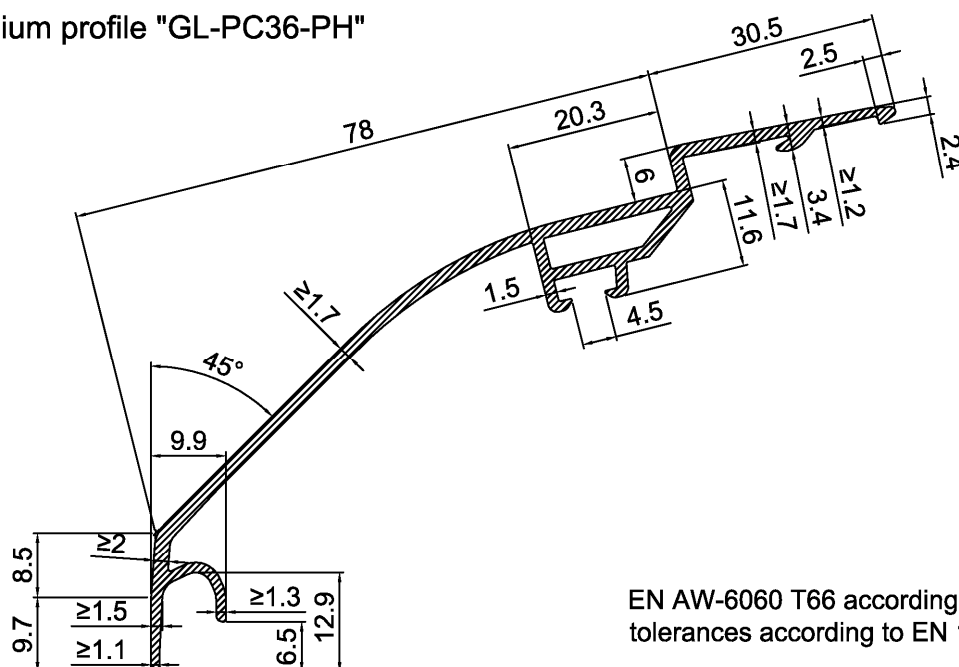
Annex A 3.2.2

aluminium profile "GL-PC36"



EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

aluminium profile "GL-PC36-PH"



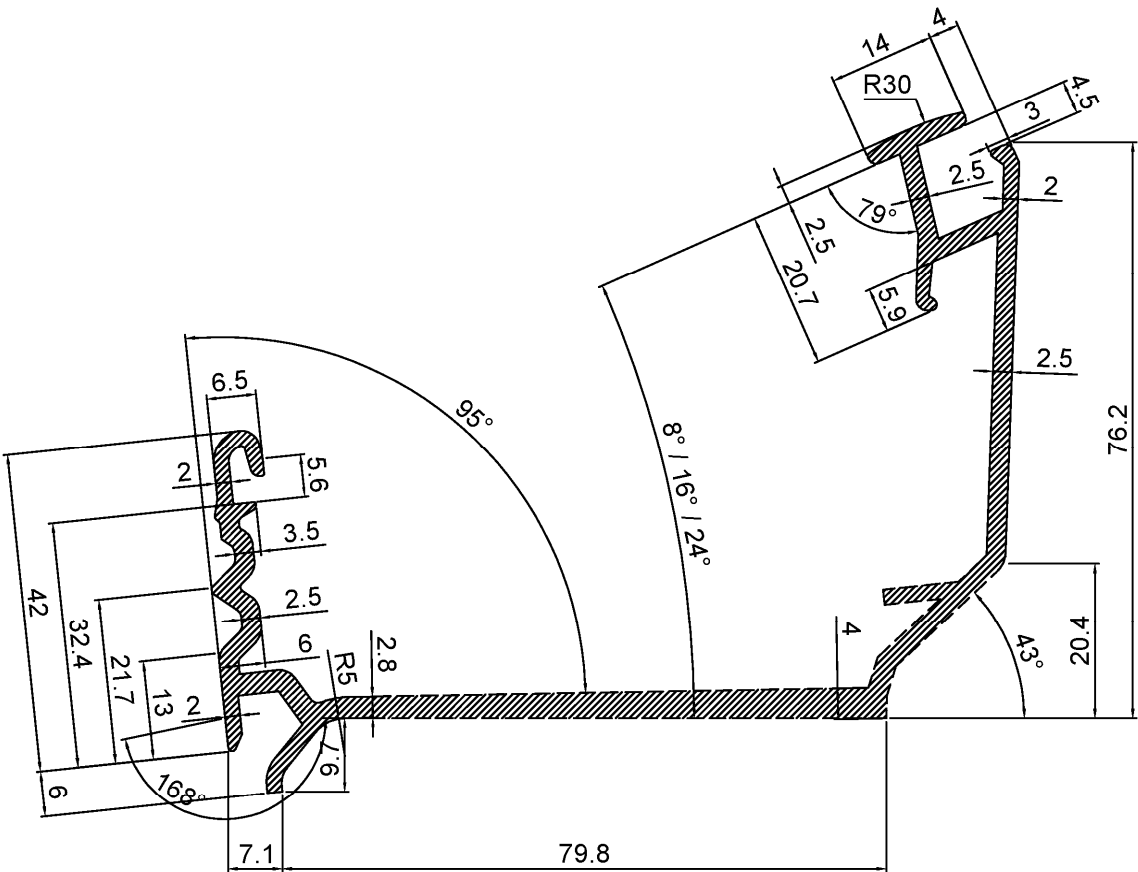
EN AW-6060 T66 according to EN 755-2
tolerances according to EN 12020-2

LAMILUX Lichtband B

components-connection on the eaves side
aluminium profiles "GL-PC36"; "GL-PC36-PH"
(for coverings "PC10+PC10 tc16" and "PC10+PC6+PC10tc5")

Annex A 3.2.3

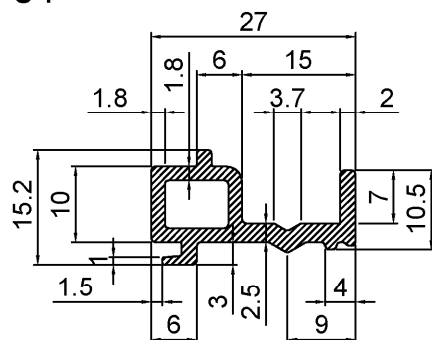
connecting profile



ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

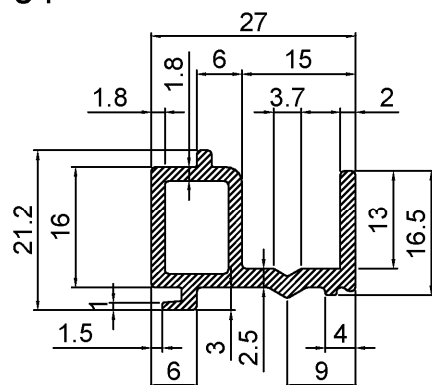
LAMILUX Lichtband B	Annex A 3.3
components-connection on the eaves side connecting profile	

spacing profile 10mm



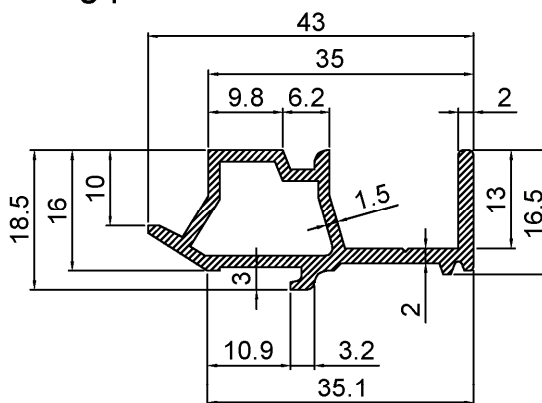
ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

spacing profile 16mm



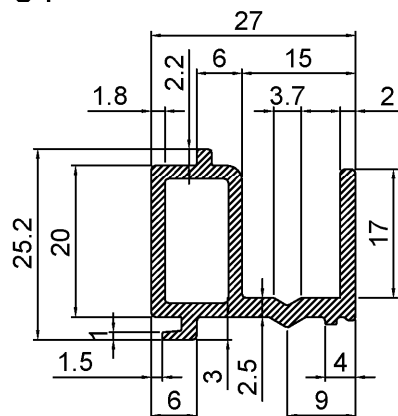
ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

spacing profile TSD-16



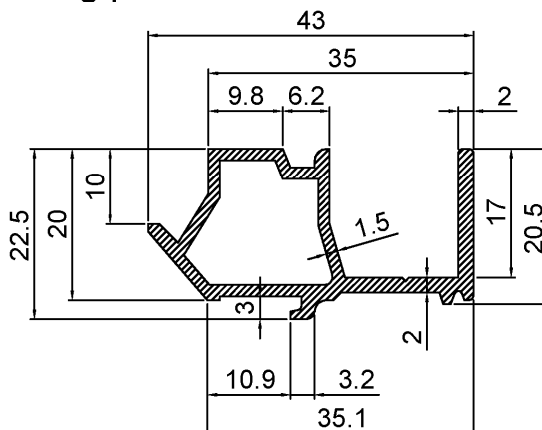
ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

spacing profile 20mm



ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

spacing profile TSD-20



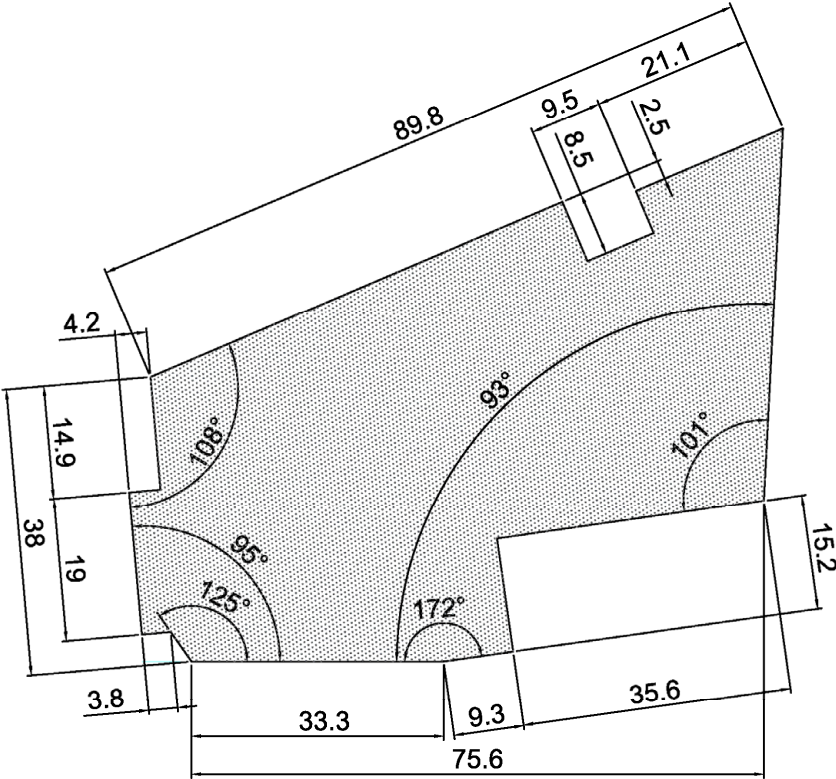
ISO 21306 - PVC-U, ECGLP, 078 - 25 - 33
according EN ISO 21306-1

LAMILUX Lichtband B

components-curved profiles
spacing profiles 10mm; 16mm; 20mm
spacing profiles TSD-16; TSD-20

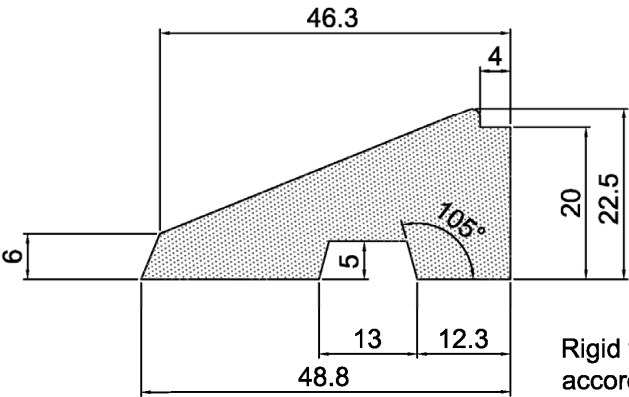
Annex A 3.4

eaves insulation bottom



Rigid foam EPS S
according to EN 13163
Thermal conductivity 0,031W/(m·K)

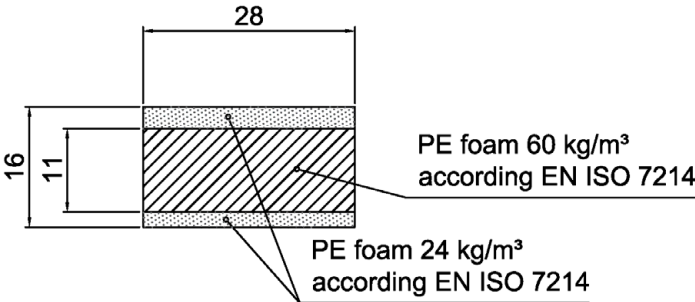
eaves insulation top



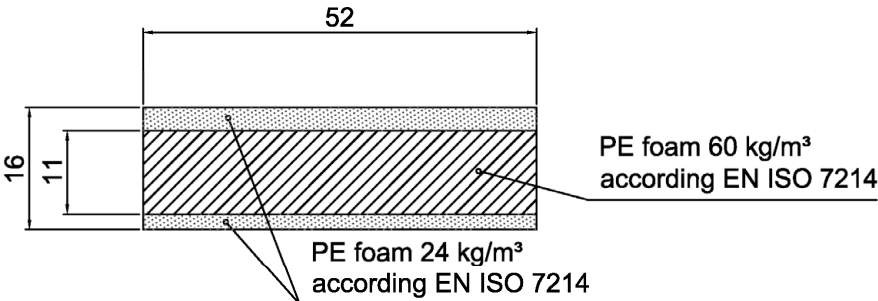
Rigid foam EPS S
according to EN 13163
Thermal conductivity 0,031W/(m·K)

LAMILUX Lichtband B	Annex A 3.5
components-connection on the eaves side eaves insulation bottom and top (optional)	

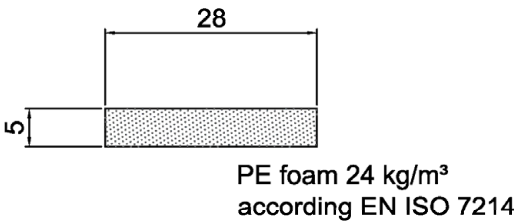
spacer strip 16 x 28



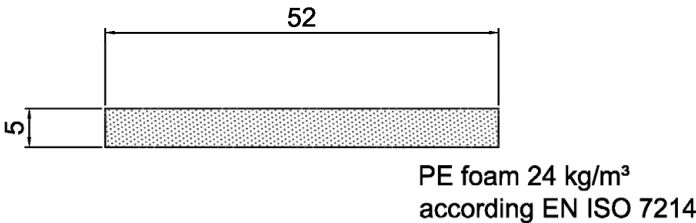
spacer strip 16 x 52



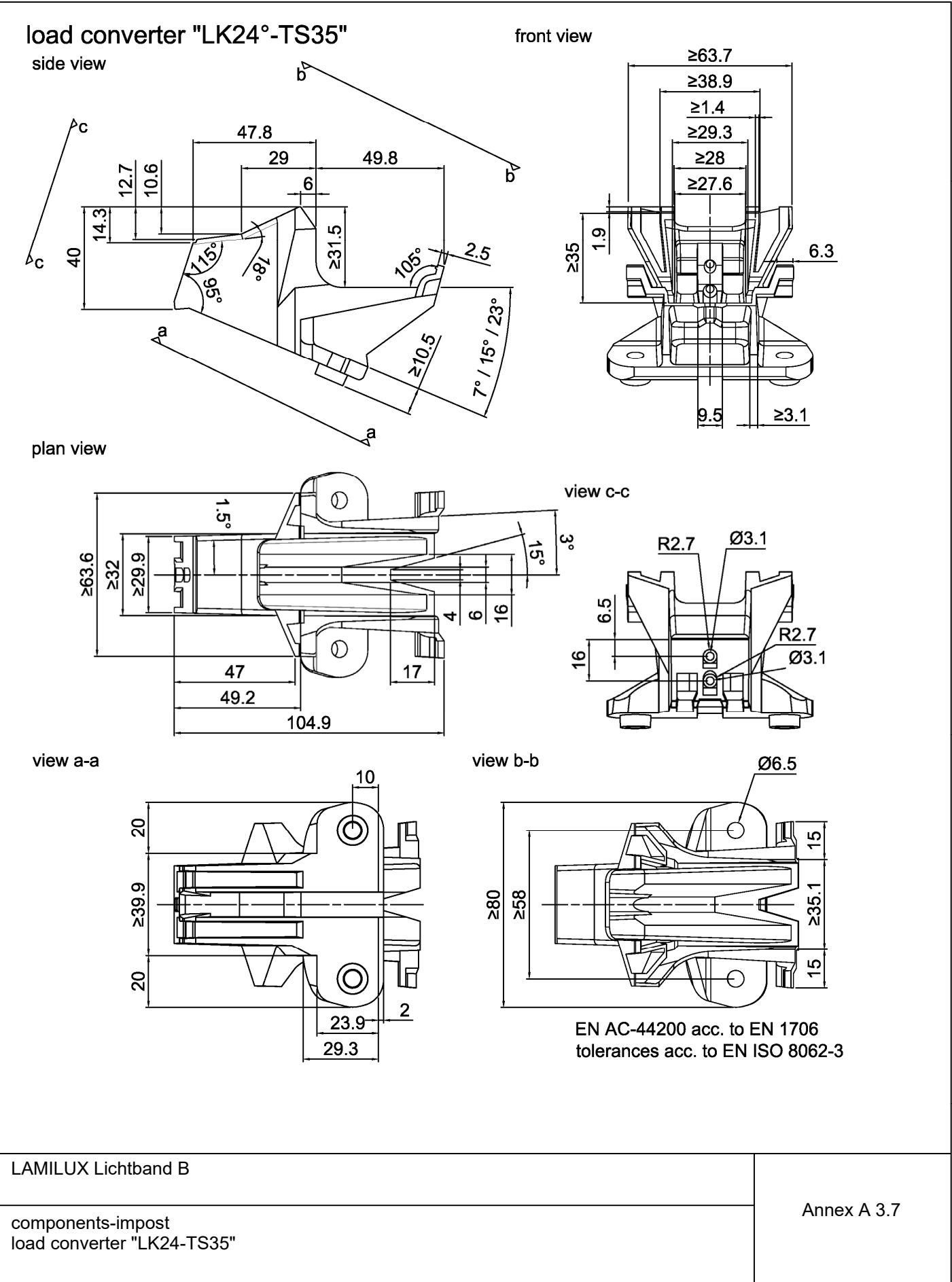
spacer strip 5 x 28



spacer strip 5 x 52



LAMILUX Lichtband B	Annex A 3.6
components-coverings spacer strips 16 x 28; 16 x 52; 5 x 28 and 5 x 52 for coverings with air gap 16 mm "tc16" and 5 mm "tc5"	



LAMILUX Lichtband B

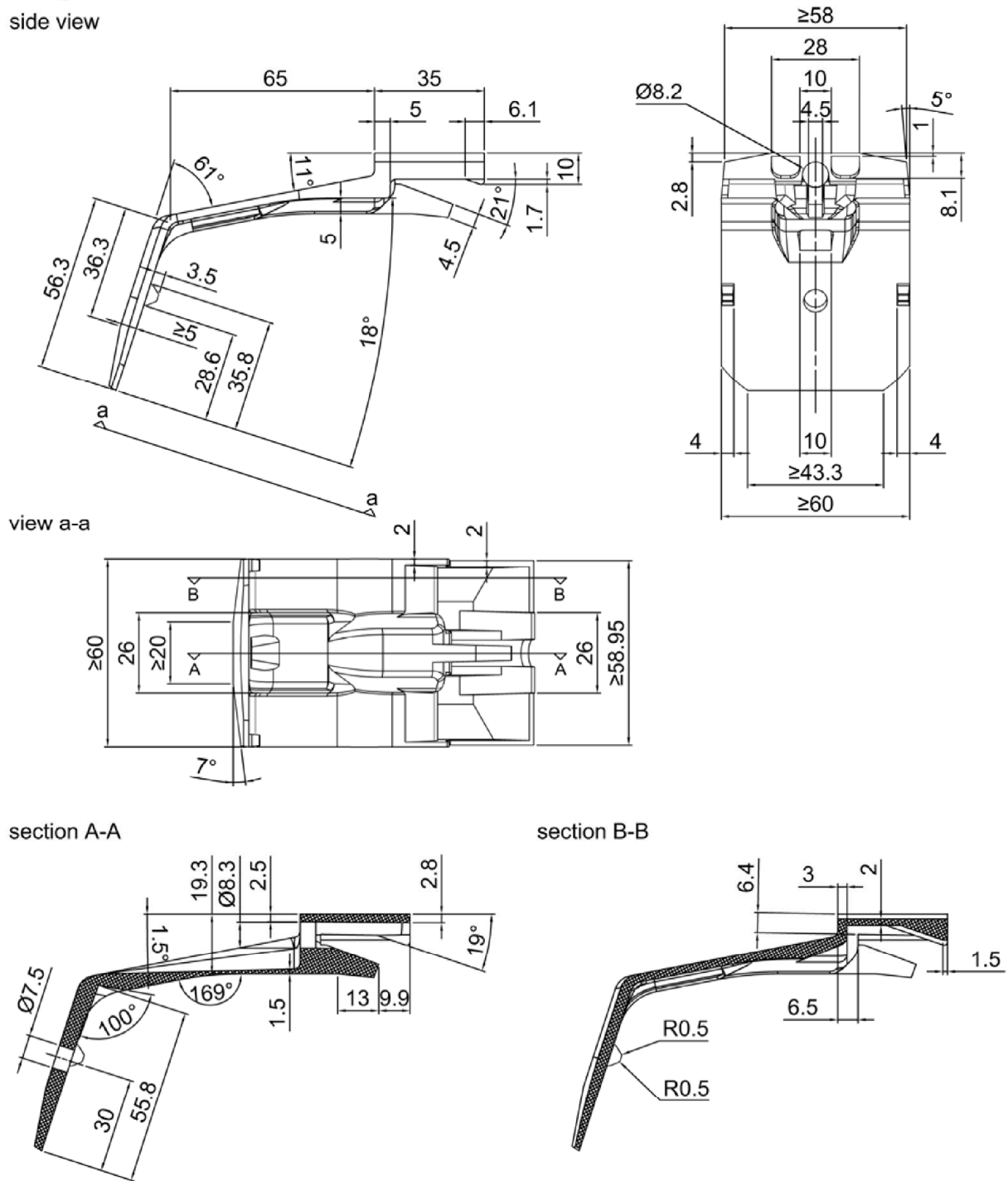
components-impot
load converter "LK24-TS35"

Annex A 3.7

fixing bracket "SK-Stoß 10-20"

front view

side view

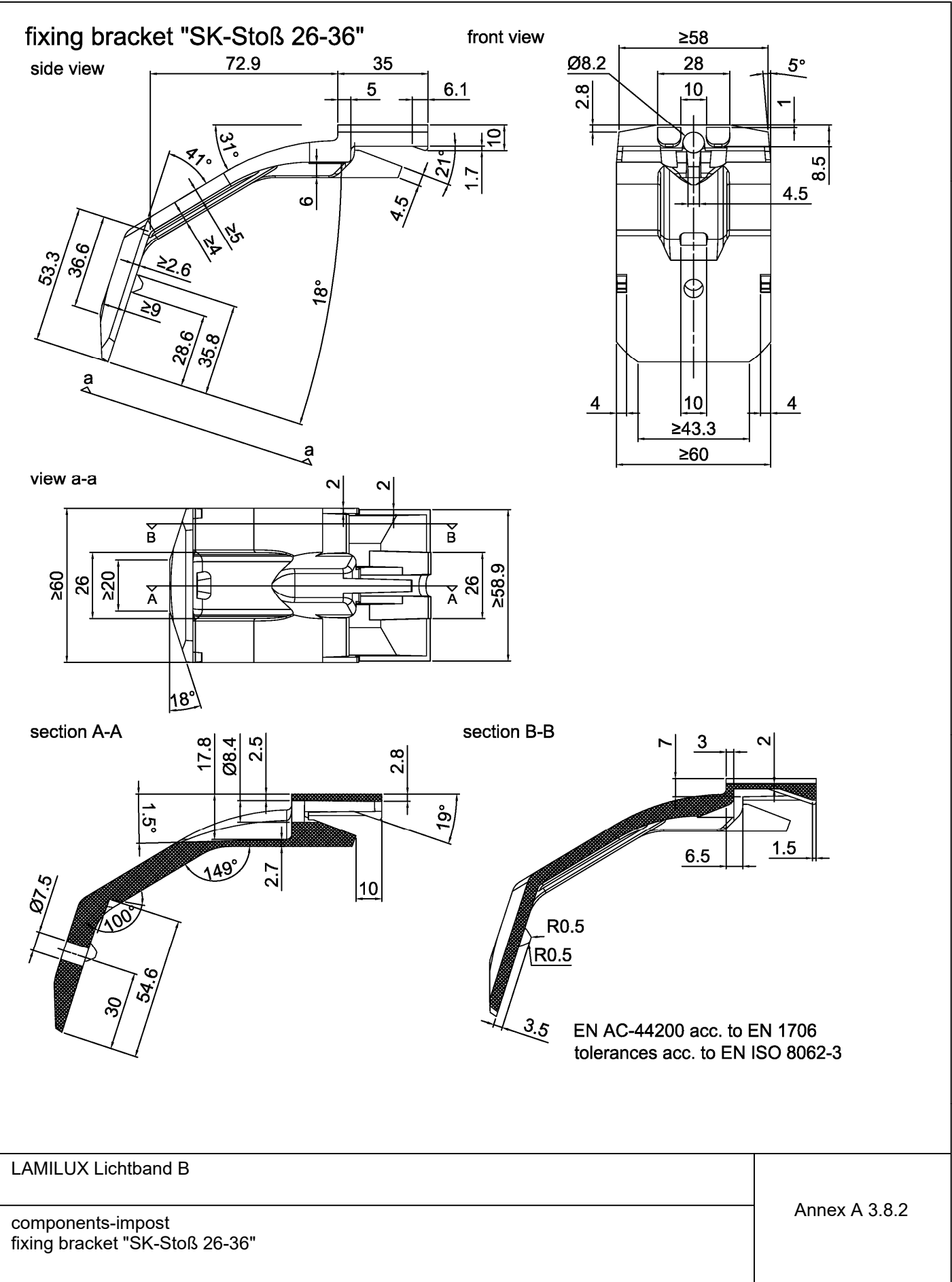


EN AC-44200 acc. to EN 1706
tolerances acc. to EN ISO 8062-3

LAMILUX Lichtband B

components-impot
fixing bracket "SK-Stoß"

Annex A 3.8.1



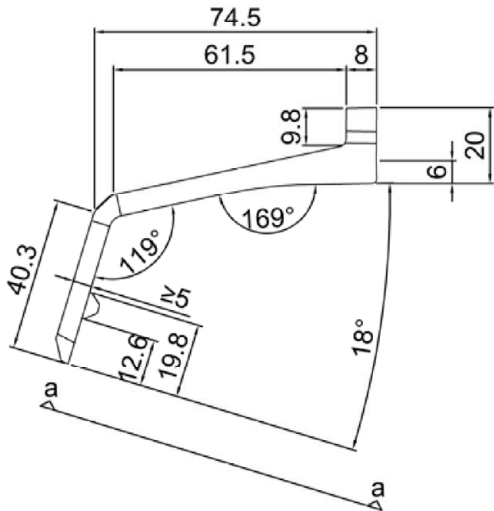
LAMILUX Lichtband B

components-impot
fixing bracket "SK-Stoß 26-36"

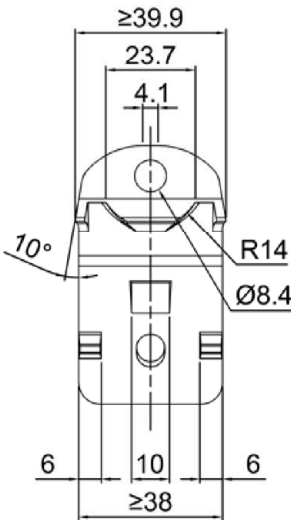
Annex A 3.8.2

fixing bracket "SK-Feld 10-20"

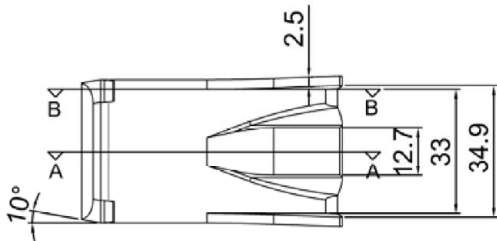
side view



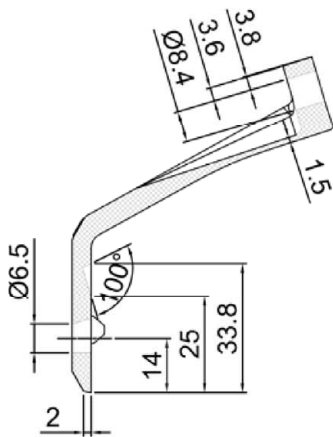
front view



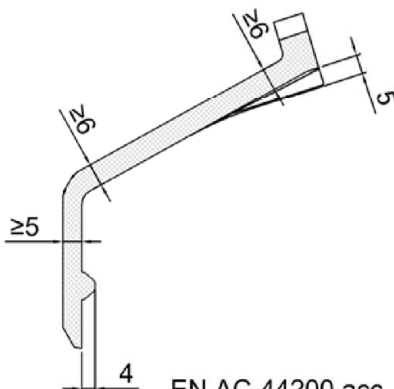
view a-a



section A-A

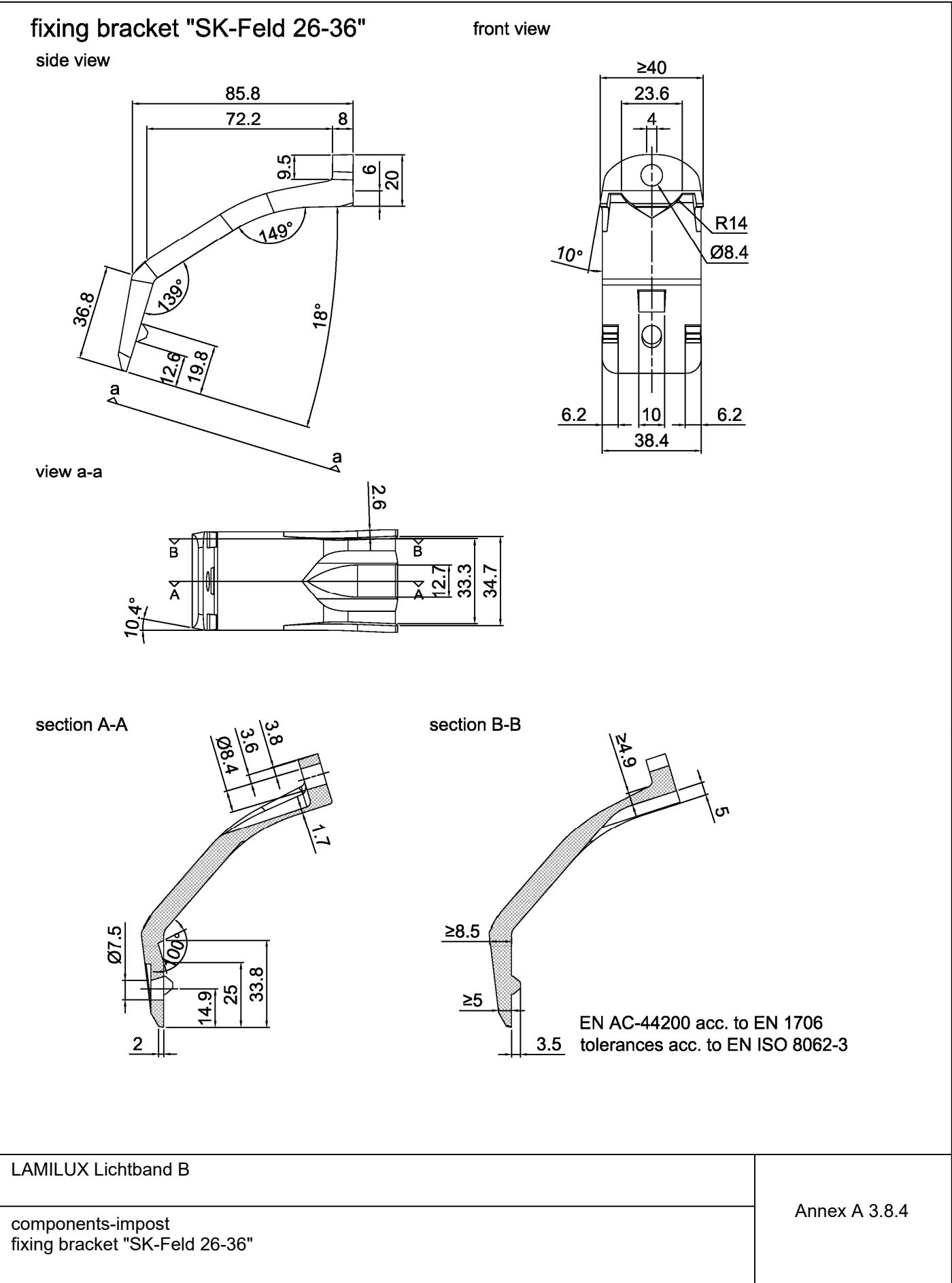


section B-B

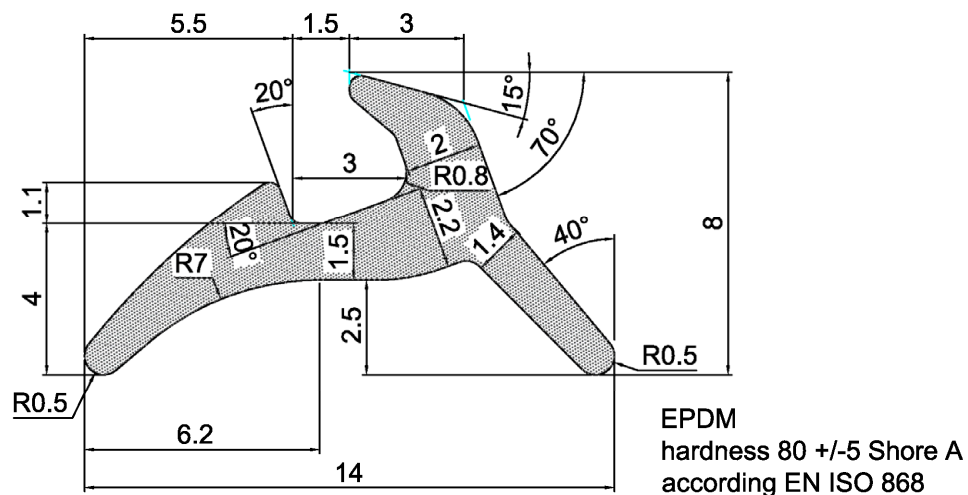


EN AC-44200 acc. to EN 1706
tolerances acc. to EN ISO 8062-3

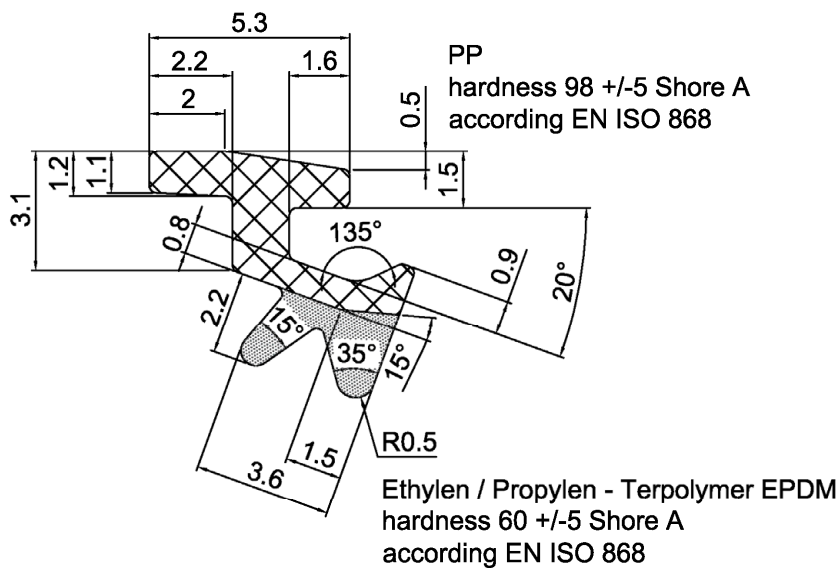
LAMILUX Lichtband B	Annex A 3.8.3
components-impost fixing bracket "SK-Feld"	



eaves sealing



covering profile sealing

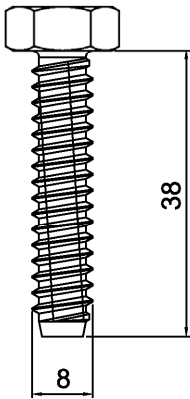


LAMILUX Lichtband B

components- sealings
eaves sealing and covering profile sealing

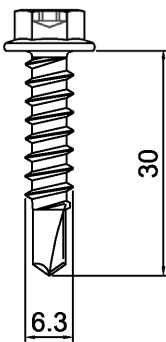
Annex A 3.9

self-tapping screw
"EJOT JZ3-8,0x38"



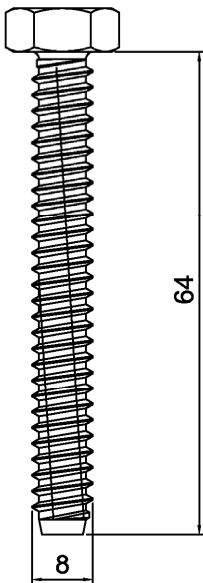
EN 10088 material number 1.4301
actuation: hexagon head 13mm

drilling screw
"EJOT JT4-6-6,3x30"



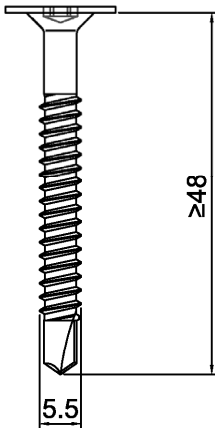
EN 10088 material number 1.4301
actuation: AF 3/8" with TX 25
drilling capacity 6mm

self-tapping screw
"EJOT JZ3-8,0x64"



EN 10088 material number 1.4301
actuation: hexagon head 13mm

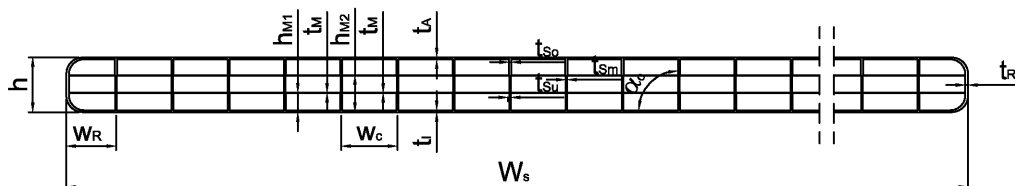
drilling screw
"EJOT JT4-STS-3-5,5x48"



EN 10088 material number 1.4301
actuation: TX 25
drilling capacity 3mm

LAMILUX Lichtband B	Annex A 3.10
Components- tapping scews, drilling screws "EJOT JZ3-8,0x38"; "EJOT JT4-6-6,3x30"; "EJOT JZ3-8,0x64"; "EJOT JT4-STS-3-5,5x48";	

Sheets description: Exolon multi UV 4/6-6
Sheets manufacturer: Exolon Group S.p.A., Nera Montoro
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 0,95 kg/m²



W _s [mm]	W _c [mm]	W _R [mm]	h [mm]	h _{M1} [mm]	h _{M2} [mm]	t _A [mm]	t _i [mm]
2100	6,0	3,8	5,8	2,1	4,0	0,21	0,20

t _{so} [mm]	t _{sm} [mm]	t _{su} [mm]	t _m [mm]	t _R [mm]	α [°]	kg/m ²
0,22	0,15	0,19	0,03	0,67	86 - 94	≥ 0,92

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B _x [Nm ² /m]	B _y [Nm ² /m]	S _y [Nm/m]	M _{b,pos} [Nm/m]	M _{b,neg} [Nm/m]
7,6	3,9	963	8,3	6,7

M_{b,pos} = outer skin under pressure

M_{b,neg} = inner skin under pressure

Specifications for use

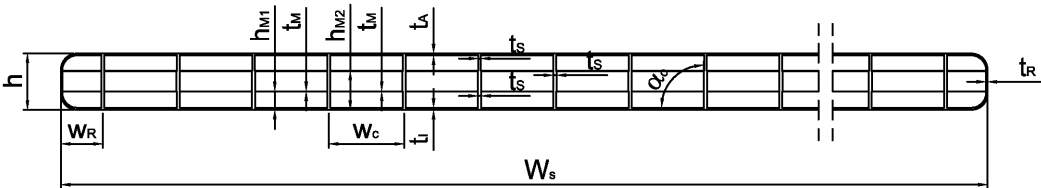
- The minimum admissible bending radius is 900mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Exolon multi UV 4/6-6"

Annex A 4.1.1

Sheets description:	PC SHEET 6 P 04w NO UV
Sheets manufacturer:	dott. Gallina S.r.l., La Loggia
Moulding composition:	ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area:	1,00 kg/m ²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hM1 [mm]	hM2 [mm]	tA [mm]	tI [mm]
2100	7,9	3,0	6,0	2,1	4,3	0,23	0,23

ts [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
0,27	0,04	0,18	82 - 98	≥ 0,97

Minimum performance declared for the sheets in the DoP according to EN 16153

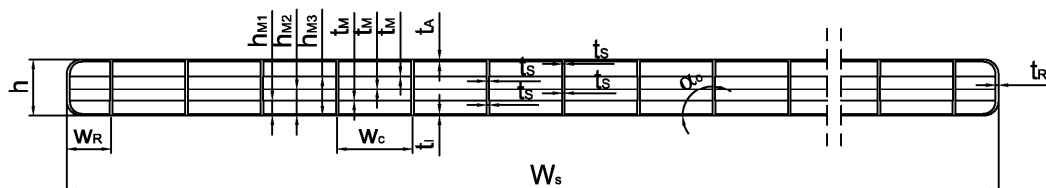
Mechanical resistance (deformation behavior)					Mb,pos = outer skin under pressure Mb,neg = inner skin under pressure
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]	
5,2	4,7	1088	6,0	6,0	

Specifications for use

- The minimum admissible bending radius is 900mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B	Annex A 4.1.2
geometry/ mass per unit area minimum performance levels or classes for the sheets in accordance with EN 16153 "PC SHEET 6 P 04w NO UV"	

Sheets description: PC SHEET 6 P 05w NO UV
Sheets manufacturer: dott. Gallina S.r.l., La Loggia
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,00 kg/m²



W _s [mm]	W _c [mm]	W _R [mm]	h [mm]	h _{M1} [mm]	h _{M2} [mm]	h _{M3} [mm]	t _A [mm]
2100	8,0	4,7	6,0	1,7	3,1	4,5	0,21

t _i [mm]	t _s [mm]	t _M [mm]	t _R [mm]	α [°]	kg/m ²
0,22	0,27	0,04	0,33	84 - 96	≥ 0,98

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B _x [Nm ² /m]	B _y [Nm ² /m]	S _y [Nm/m]	M _{b,pos} [Nm/m]	M _{b,neg} [Nm/m]
6,9	2,9	810	6,2	8,2

M_{b,pos} = outer skin under pressure

M_{b,neg} = inner skin under pressure

Specifications for use

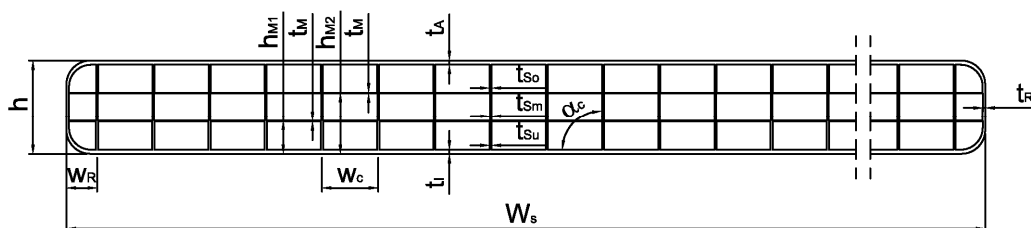
- The minimum admissible bending radius is 900mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"PC SHEET 6 P 05w NO UV"

Annex A 4.1.3

Sheets description: Exolon multi UV 4/10-6
Sheets manufacturer: Exolon Group S.p.A., Nera Montoro
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,75 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hM1 [mm]	hM2 [mm]	tA [mm]	tL [mm]
2100	6,0	3,2	10,0	3,4	6,8	0,44	0,44

tSo [mm]	tSm [mm]	tSu [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
0,20	0,16	0,23	0,08	0,26	82 - 98	≥ 1,71

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)					Mb,pos = outer skin under pressure Mb,neg = inner skin under pressure
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]	
49,0	23,1	2152	47,4	39,6	

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

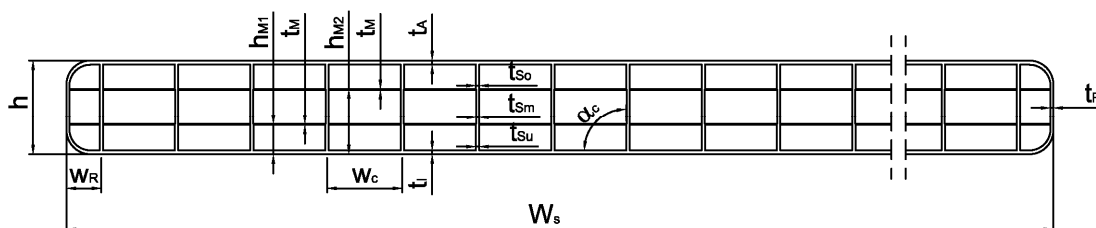
- The minimum admissible bending radius is 1500mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Exolon multi UV 4/10-6"

Annex A 4.2.1

Sheets description: POLICARB 10 P 04w
Sheets manufacturer: dott. Gallina S.r.l., La Loggia
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,75 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hM1 [mm]	hM2 [mm]	tA [mm]	tI [mm]
2100	7,9	3,7	10,0	3,0	7,1	0,44	0,40

tS0 [mm]	tSm [mm]	tSu [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
0,35	0,32	0,37	0,07	0,30	84 - 96	≥ 1,70

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B _x [Nm ² /m]	B _y [Nm ² /m]	S _y [Nm/m]	M _{b,pos} [Nm/m]	M _{b,neg} [Nm/m]
44,4	19,0	3135	46,7	35,7

M_{b,pos} = outer skin under pressure

M_{b,neg} = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

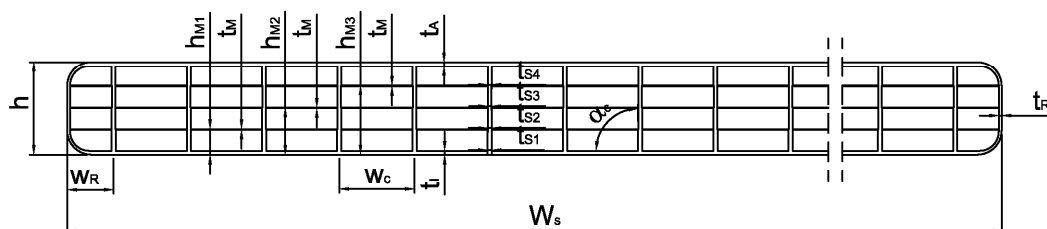
- The minimum admissible bending radius is 1500mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Policarb 10 P 04w"

Annex A 4.2.2

Sheets description: POLICARB 10 P 05w
Sheets manufacturer: dott. Gallina S.r.l., La Loggia
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,75 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hm1 [mm]	hm2 [mm]	hm3 [mm]	ta [mm]	ti [mm]
2100	7,9	4,9	9,8	2,8	4,9	7,2	0,45	0,40

ts1 [mm]	ts2 [mm]	ts3 [mm]	ts4 [mm]	tm [mm]	tr [mm]	α [°]	kg/m ²
0,44	0,40	0,36	0,41	0,07	0,31	82 - 98	≥ 1,78

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B _x [Nm ² /m]	B _y [Nm ² /m]	S _y [Nm/m]	M _{b,pos} [Nm/m]	M _{b,neg} [Nm/m]
53,2	22,9	2448	57,5	43,8

M_{b,pos} = outer skin under pressure

M_{b,neg} = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

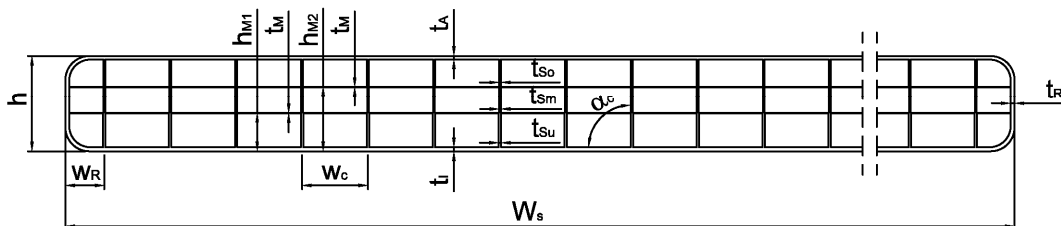
- The minimum admissible bending radius is 1500mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Policarb 10 P 05w"

Annex A 4.2.3

Sheets description: AKYVER SUN TYPE 10-4W
Sheets manufacturer: Corplex France Kayzersberg, Kayzersberg
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,75 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hM1 [mm]	hM2 [mm]	tA [mm]	tI [mm]
2100	6,9	4,1	10,2	3,9	6,8	0,49	0,45

tso [mm]	tSm [mm]	tSu [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
0,20	0,19	0,26	0,05	0,40	77 - 103	≥ 1,67

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]
50,2	19,2	1640	42,0	42,6

Mb,pos = outer skin under pressure

Mb,neg = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

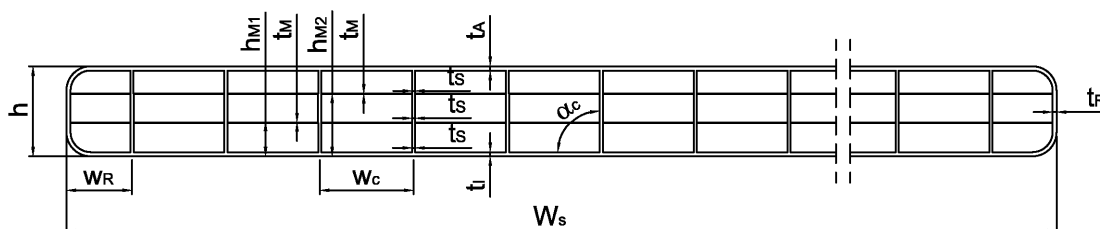
- The minimum admissible bending radius is 1500mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"AKYVER SUN TYPE 10-4W"

Annex A 4.2.4

Sheets description: IMPEX Multiwall 10/4w
Sheets manufacturer: Polycasa Nischwitz GmbH, Thallwitz
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 1,70 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hM1 [mm]	hM2 [mm]	tA [mm]	tI [mm]
2100	9,9	7,4	9,7	3,6	6,7	0,45	0,53

ts [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
0,33	0,06	0,57	82 - 98	≥ 1,70

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)					Mb,pos = outer skin under pressure Mb,neg = inner skin under pressure
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]	
44,1	16,9	1673	30,4	34,6	

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

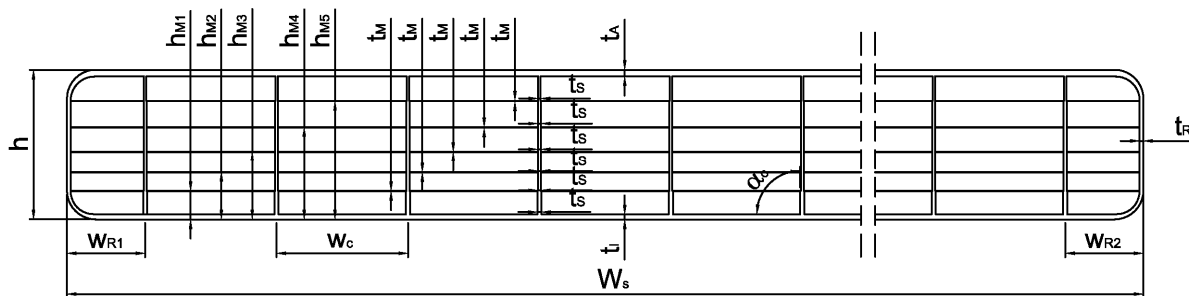
- The minimum admissible bending radius is 1500mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"IMPEX Multiwall 10/4w"

Annex A 4.2.5

Sheets description: Exolon multi UV 7/16-14
Sheets manufacturer: Exolon Group S.p.A., Nera Montoro
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 2,60 kg/m²



Ws [mm]	Wc [mm]	WR1 [mm]	WR2 [mm]	h [mm]	hM1 [mm]	hM2 [mm]	hM3 [mm]	hM4 [mm]
2100	13,9	7,4	9,6	16,0	3,2	5,7	8,2	10,7

hM5 [mm]	tA [mm]	tI [mm]	tS [mm]	tM [mm]	tR [mm]	α [°]	kg/m ²
13,2	0,59	0,61	0,39	0,08	0,67	82 - 98	≥ 2,58

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]
176,9	45,7	2254	64,6	62,9

Mb,pos = outer skin under pressure

Mb,neg = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

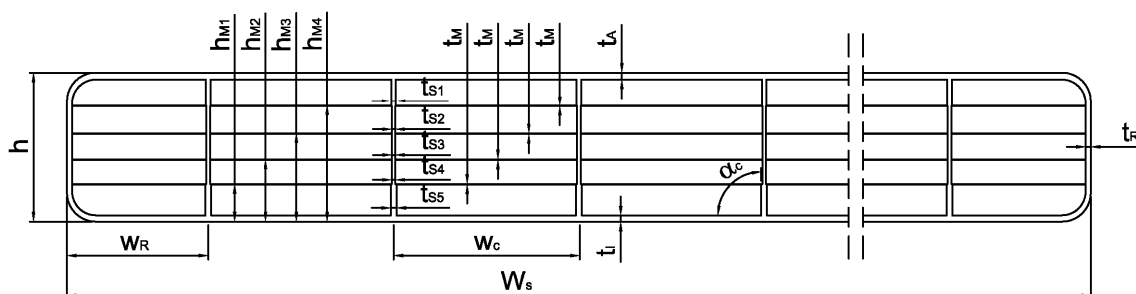
- The minimum admissible bending radius is 2400mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Exolon multi UV 7/16-14"

Annex A 4.3.1

Sheets description: POLICARB 16 P 06w
Sheets manufacturer: dott. Gallina S.r.l., La Loggia
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 2,80 kg/m²



ws [mm]	wc [mm]	wR [mm]	h [mm]	hm1 [mm]	hm2 [mm]	hm3 [mm]	hm4 [mm]	ta [mm]	ti [mm]
2100	19,5	14,0	15,9	3,6	6,6	9,5	12,2	0,80	0,75

ts1 [mm]	ts2 [mm]	ts3 [mm]	ts4 [mm]	ts5 [mm]	tm [mm]	tr [mm]	α [°]	kg/m ²
0,64	0,51	0,38	0,40	0,52	0,09	0,67	85 - 95	≥ 2,63

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
Bx [Nm ² /m]	By [Nm ² /m]	Sy [Nm/m]	Mb,pos [Nm/m]	Mb,neg [Nm/m]
191,0	43,7	2683	84,0	80,3

Mb,pos = outer skin under pressure

Mb,neg = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

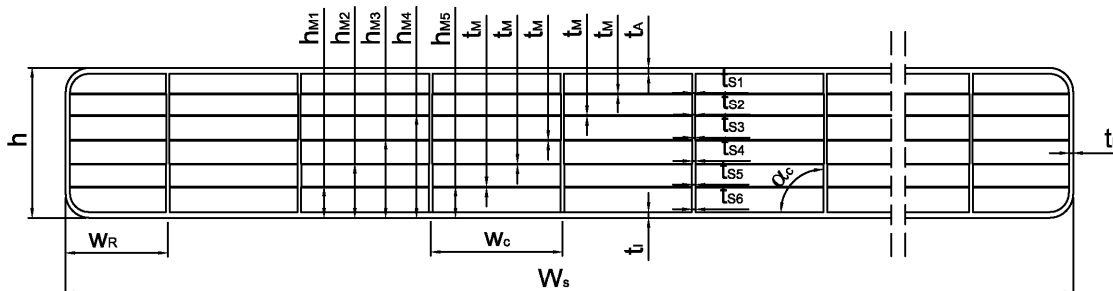
- The minimum admissible bending radius is 2400mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Policarb 16 P 06w"

Annex A 4.3.2

Sheets description: POLICARB 16 P 07w
Sheets manufacturer: dott. Gallina S.r.l., La Loggia
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 2,60 kg/m²



W_s [mm]	W_c [mm]	W_R [mm]	h [mm]	h_{M1} [mm]	h_{M2} [mm]	h_{M3} [mm]	h_{M4} [mm]	h_{M5} [mm]	t_a [mm]	t_i [mm]
2100	13,8	10,8	15,9	2,7	5,5	8,0	10,7	13,4	0,63	0,61

t_{s1} [mm]	t_{s2} [mm]	t_{s3} [mm]	t_{s4} [mm]	t_{s5} [mm]	t_{s6} [mm]	t_M [mm]	t_R [mm]	α [°]	kg/m ²
0,39	0,41	0,34	0,29	0,30	0,36	0,09	0,46	81 - 99	$\geq 2,63$

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B_x [Nm ² /m]	B_y [Nm ² /m]	S_y [Nm/m]	$M_{b,pos}$ [Nm/m]	$M_{b,neg}$ [Nm/m]
169,9	48,4	2195	69,7	58,7

$M_{b,pos}$ = outer skin under pressure

$M_{b,neg}$ = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

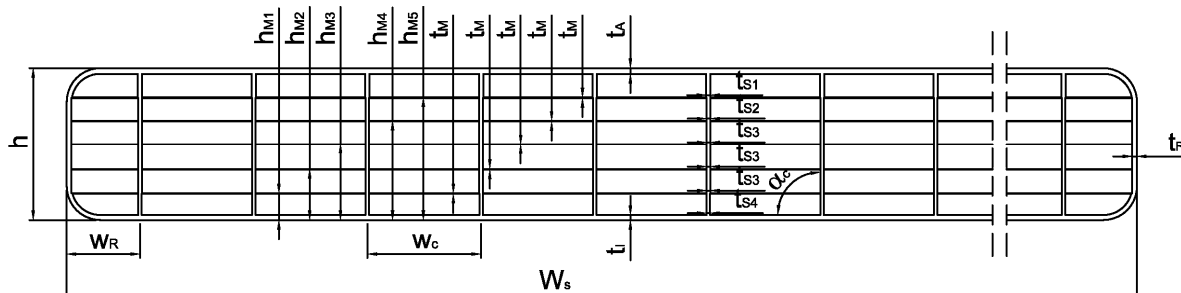
- The minimum admissible bending radius is 2400mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"Policarb 16 P 07w"

Annex A 4.3.3

Sheets description: AKYVER SUN TYPE 16-7W
Sheets manufacturer: Corplex France Kayzersberg, Kayzersberg
Moulding composition: ISO 21305-PC,X,EGL,0,3-0,9
Nominal mass per unit area: 2,70 kg/m²



W_s [mm]	W_c [mm]	W_R [mm]	h [mm]	h_{M1} [mm]	h_{M2} [mm]	h_{M3} [mm]	h_{M4} [mm]	h_{M5} [mm]	t_A [mm]
2100	12,0	8,0	16,1	2,7	5,2	8,0	10,5	12,9	0,61

t_i [mm]	ts_1 [mm]	ts_2 [mm]	ts_3 [mm]	ts_4 [mm]	t_M [mm]	t_R [mm]	α [°]	kg/m ²
0,54	0,45	0,45	0,37	0,36	0,06	0,50	81 - 99	≥ 2,47

Minimum performance declared for the sheets in the DoP according to EN 16153

Mechanical resistance (deformation behavior)				
B_x [Nm ² /m]	B_y [Nm ² /m]	S_y [Nm/m]	$M_{b,pos}$ [Nm/m]	$M_{b,neg}$ [Nm/m]
176,9	49,0	2566	65,6	54,1

$M_{b,pos}$ = outer skin under pressure

$M_{b,neg}$ = inner skin under pressure

Durability as variation (after aging)			
of the yellowness index	of the light transmittance	of deformation behavior	of tensile strength
ΔD	ΔD	Cu1	Ku1

Specifications for use

- The minimum admissible bending radius is 2400mm.
- The outside skin is marked at the border area.

LAMILUX Lichtband B

geometry/ mass per unit area
minimum performance levels or classes for the sheets in accordance with EN 16153
"AKYVER SUN TYPE 16-7W"

Annex A 4.3.4

LAMILUX Lichtband B

Annex B

Provisions for design and dimensioning

Dimensioning, installation and execution of the roof kit shall be in compliance with the national technical specifications. These differ in terms of their content as well as their status within the legal frameworks of the member states.

If no national provisions exist, dimensioning can be carried out in accordance with Annexes B 1, B 2 and B 3. In case the roof system, in particular the multi-wall sheets are systematically in contact with chemicals, the resistance to these substances shall be checked. Thereby, high concentrations of chemicals in the surrounding air shall be also considered.

Installation, packaging, transport, storage as well as use, maintenance and repair shall be carried out in accordance with the manufacturer's instructions (extract see Annex E).

B 1 Load-bearing capacity and serviceability of the covering

B 1.1 General

The design and arrangement of the multi-wall sheets as described in clause 1.1.1 in the translucent roof kit shall correspond to the specifications given in Annexes A 1 to A 4. The specifications given in clause 2 shall be complied with.

The stability shall be verified for the ultimate limit state (ULS)

$$E_d \leq R_d$$

and for the serviceability limit state (SLS)

$$E_d \leq C_d$$

E_d : design value of the action

R_d : design value of the structural resistance for verification of the ultimate limit state

C_d : design value of the structural resistance for verification of the serviceability limit state

The multi-wall sheets shall not be used for bracing the aluminium structure.

The multi-wall sheets shall not be walked on.

Assessment pertaining to fall-through protection is not included in this ETA.

B 1.2 Design values for actions, E_d

The action resulting from the dead weight of the multi-wall sheets may be neglected in the roof kit verifications. Live loads are not permitted.

The design values for the actions shall be determined in accordance with the applicable European specifications.

The actions E_k shall be increased through multiplication by the factors C_t in consideration of the duration depending on the load type.

Load action	Duration of load action	C_t
Wind	very short	1.00
Snow as an extraordinary snow load (e.g. in the low-lying plains of northern Germany)	short: up to one week	1.15
Snow	medium: up to three months	1.20

For the wind and temperature effects to be considered in the load case 'summer' the ψ coefficient defined in EN 1990 may be applied. In design situations where the wind is applied as the dominant variable action, the ψ coefficient may be considered in the design value of the structural resistance R_d and C_d (see Section B.1.3).

If the roof kit is installed with a starting arc angle $\alpha \leq 45^\circ$ in roofs with pitches $\leq 20^\circ$ the negative wind pressure loads (wind suction loads) may be applied in simplified form as acting on the translucent roof kit area with a constant aerodynamic coefficient c_p .

$$w_e = q_p(z_e) \cdot c_p$$

The gust velocity pressure $q_p(z_e)$ shall be taken from EN 1991-1-4.

The coefficient c_p shall be selected in accordance with the roof position and type. For enclosed buildings in which the translucent roof kit is installed in the zones H, I or N in accordance with clauses 7.2.3 to 7.2.7 of EN 1991-1-4:2010-12 the external pressure coefficient $c_{pe} = -0.7$ is used.

If the roof kit is installed on the ridge of a mono-gable roof or a hipped end roof in the zones J or K in accordance with clause 7.2.5 or 7.2.6 of EN 1991-1-4:2010-12 with a roof pitch $> 10^\circ$ the factor $c_{pe} = -1.2$ applies for enclosed buildings and $c_{p,net} = -2.0$ for freestanding roofs.

In case of conditions deviating from the specified conditions or use of translucent roof kit in zones F, G, L or M in accordance with clauses 7.2.3 to 7.2.7 of EN 1991-1-4:2010-12 the verifications shall be done applying special loads (see clause 1.5 of EN 1991-1-4).

B 1.3 Design values for structural resistance R_d and C_d

The design values for structural resistance R_d and C_d result from the characteristic value of structural resistance R_k in consideration of the material safety factor γ_M , the factor taking into account the effects of ageing and environmental influences C_u and the factor for influence of temperature C_θ as follows:

$$R_d = \frac{R_k}{\gamma_{MR} \cdot C_u \cdot C_\theta} \quad C_d = \frac{C_k}{\gamma_{MC} \cdot C_u \cdot C_\theta}$$

The following factors shall be applied:

Factor for ageing and environmental influences C_u		1.10
Temperature factor C_θ	summer	1.20
	winter	1.00

The following material safety factors shall be applied as a function of the consequence class (CC) in accordance with EN 1990:

Consequence class	Material safety factor γ_{MR}	Material safety factor γ_{MC}
CC 1	1.25	1.09
CC 2	1.30	1.13

In design situations where wind is considered to be the dominant variable action, the reduction in structural resistance due to temperature may be reduced by means of the ψ coefficient for the summer load case. For this design situation a reduction factor for temperature of $C'_\theta = 1 + \psi \cdot (C_\theta - 1.0)$ may be applied.

The characteristic values for structural resistance R_k and C_k shall be taken from the tables in Annex B 2 for the given multi-wall sheets and load-direction.

B 2 Characteristic structural resistances of the covering

B 2.1 Characteristic structural resistances of the covering
"PC 10" – Annexes A 4.2/ execution variants according to A 2.1.5

Multi-wall sheet in accordance with Annex	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	1,59	1,59
	2,69 ≤ R ≤ 4,40			2,26	1,90	1,59	1,59
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	3,29	2,82
	2,69 ≤ R ≤ 3,54			3,44	3,44	2,76	2,76
	3,54 < R ≤ 5,25			2,65	2,65	1,96	1,96
	3,54 < R ≤ 5,25	4-span	0.527	2,65	2,65	2,45	2,45
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,50	8,50	3,87	3,87
	3,54 < R ≤ 5,25			2,65	2,65	2,66	2,66
A 4.2.2 Policarb 10 P 04w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,65	2,65	1,59	1,59
	2,69 ≤ R ≤ 4,40			2,21	1,86	1,59	1,59
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,53	3,53	3,05	2,79
	2,69 ≤ R ≤ 3,54			3,44	3,44	2,79	2,79
	3,54 < R ≤ 5,25			2,65	2,65	1,98	1,98
	3,54 < R ≤ 5,25	4-span	0.527	2,65	2,65	2,50	2,50
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,06	9,06	4,12	4,12
	3,54 < R ≤ 5,25			2,65	2,65	2,77	2,77
A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	1,59	1,59
	2,69 ≤ R ≤ 4,40			2,26	1,90	1,59	1,59
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	3,39	2,91
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,85	2,85
	3,54 < R ≤ 5,25			2,70	2,70	2,02	2,02
	3,54 < R ≤ 5,25	4-span	0.527	2,70	2,70	2,50	2,50
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,34	9,34	4,25	4,25
	3,54 < R ≤ 5,25			2,70	2,70	2,77	2,77
A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	1,59	1,59
	2,69 ≤ R ≤ 4,40			2,03	1,71	1,59	1,59
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	3,39	2,91
	2,69 ≤ R ≤ 3,54			3,30	3,30	2,85	2,85
	3,54 < R ≤ 5,25			2,46	2,46	2,02	2,02
	3,54 < R ≤ 5,25	4-span	0.527	2,46	2,46	2,45	2,45
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,31	8,31	3,78	3,78
	3,54 < R ≤ 5,25			2,46	2,46	2,60	2,60

Multi-wall sheet in accordance with Annex	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 2,69	2-span	1.054	1,97	1,97	1,49	1,49
	2,69 ≤ R ≤ 4,40			1,47	1,24	1,49	1,49
	1,50 ≤ R ≤ 2,69	3-span	0.703	2,57	2,57	2,98	2,62
	2,69 ≤ R ≤ 3,54			2,36	2,36	2,62	2,62
	3,54 < R ≤ 5,25			1,76	1,76	1,86	1,86
	3,54 < R ≤ 5,25	4-span	0.527	1,76	1,76	2,30	2,30
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,26	6,26	3,57	3,57
	3,54 < R ≤ 5,25			1,76	1,76	2,47	2,47

B 2.2 Characteristic structural resistances of the covering "PC 10+PC 6"
Annexes A 4.2 outside / A 4.1 inside/ execution variants according to A 2.2.5

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,40	2,40	1,96	1,65
	2,69 ≤ R ≤ 4,40			1,90	1,90	1,96	1,65
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,75	3,57	3,29	2,82
	2,69 ≤ R ≤ 3,54			3,75	3,47	2,82	2,82
	3,54 < R ≤ 5,25			3,75	2,65	2,43	1,97
	1,50 ≤ R ≤ 3,54	5-span	0.422	11,22	11,22	3,87	3,19
	3,54 ≤ R ≤ 4,40			8,90	8,90	2,66	2,63
	4,40 < R ≤ 5,25			3,75	2,65	2,66	2,63
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.2 PC SHEET 6 P 04w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,45	2,45	1,59	1,19
	2,69 ≤ R ≤ 4,40			1,92	1,92	1,59	1,19
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,83	3,57	3,29	1,88
	2,69 ≤ R ≤ 3,54			3,83	3,47	2,76	1,88
	3,54 < R ≤ 5,25			3,83	2,70	1,96	1,46
	1,50 ≤ R ≤ 3,54	5-span	0.422	11,57	11,57	3,87	2,17
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,66	1,80
	4,40 < R ≤ 5,25			3,83	2,70	2,66	1,80
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,35	2,35	1,94	1,63
	2,69 ≤ R ≤ 4,40			1,86	1,86	1,94	1,63
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,64	3,57	3,39	2,91
	2,69 ≤ R ≤ 3,54			3,64	3,47	2,85	2,85
	3,54 < R ≤ 5,25			3,64	2,57	2,36	1,91
	1,50 ≤ R ≤ 3,54	5-span	0.422	10,53	10,53	4,25	4,25
	3,54 ≤ R ≤ 4,40			8,35	8,35	2,77	2,77
	4,40 < R ≤ 5,25			3,64	2,57	2,77	2,77
A 4.2.2 Policarb 10 P 04w / A 4.1.2 PC SHEET 6 P 04w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,43	2,43	1,59	1,19
	2,69 ≤ R ≤ 4,40			1,92	1,92	1,59	1,19
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,83	3,57	3,05	1,91
	2,69 ≤ R ≤ 3,54			3,83	3,47	2,79	1,91
	3,54 < R ≤ 5,25			3,83	2,70	1,98	1,48
	1,50 ≤ R ≤ 3,54	5-span	0.422	11,57	11,57	4,12	2,30
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,77	1,88
	4,40 < R ≤ 5,25			3,83	2,70	2,77	1,88

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.3 Policarb 10 P 05w / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,45	2,45	2,00	1,68
	2,69 ≤ R ≤ 4,40			1,92	1,92	2,00	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,83	3,57	3,39	2,85
	2,69 ≤ R ≤ 3,54			3,83	3,47	2,85	2,85
	3,54 < R ≤ 5,25			3,83	2,70	2,51	2,03
	1,50 ≤ R ≤ 3,54	5-span	0.422	11,57	11,57	4,25	3,66
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,77	2,77
	4,40 < R ≤ 5,25			3,83	2,70	2,77	2,77
A 4.2.3 Policarb 10 P 05w / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,45	2,45	2,00	1,68
	2,69 ≤ R ≤ 4,40			1,92	1,92	2,00	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,83	3,57	3,39	2,91
	2,69 ≤ R ≤ 3,54			3,83	3,47	2,85	2,85
	3,54 < R ≤ 5,25			3,83	2,70	2,51	2,03
	1,50 ≤ R ≤ 3,54	5-span	0.422	11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,77	2,77
	4,40 < R ≤ 5,25			3,83	2,70	2,77	2,77
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,08	2,08	2,00	1,68
	2,69 ≤ R ≤ 4,40			1,75	1,75	2,00	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	3,39	2,85
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,85	2,85
	3,54 < R ≤ 5,25			3,33	2,35	2,51	2,03
	1,50 ≤ R ≤ 3,54	5-span	0.422	10,41	10,41	3,78	3,10
	3,54 ≤ R ≤ 4,40			8,72	8,72	2,60	2,58
	4,40 < R ≤ 5,25			3,33	2,35	2,60	2,58
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,06	2,06	2,00	1,68
	2,69 ≤ R ≤ 4,40			1,73	1,73	2,00	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	3,39	2,91
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,85	2,85
	3,54 < R ≤ 5,25			3,26	2,30	2,43	1,97
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,83	9,83	4,25	4,25
	3,54 ≤ R ≤ 4,40			8,26	8,26	2,77	2,77
	4,40 < R ≤ 5,25			3,26	2,30	2,77	2,77

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.5 IMPEX Multiwall 10/4w / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	1,54	1,54	1,88	1,58
	2,69 ≤ R ≤ 4,40			1,31	1,31	1,88	1,58
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,14	3,14	2,98	2,71
	2,69 ≤ R ≤ 3,54			2,91	2,91	2,71	2,71
	3,54 < R ≤ 5,25			2,45	1,73	2,36	1,91
	1,50 ≤ R ≤ 3,54	5-span	0.422	7,64	7,64	3,57	2,98
	3,54 ≤ R ≤ 4,40			6,70	6,70	2,49	2,49
	4,40 < R ≤ 5,25			2,45	1,73	2,49	2,49
A 4.2.5 IMPEX Multiwall 10/4w / A 4.1.3 PC SHEET 6 P 05w NO UV 1.0	1,50 ≤ R ≤ 2,69	2-span	1.054	1,52	1,52	1,84	1,55
	2,69 ≤ R ≤ 4,40			1,29	1,29	1,84	1,55
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,07	3,07	3,39	2,91
	2,69 ≤ R ≤ 3,54			2,85	2,85	2,85	2,85
	3,54 < R ≤ 5,25			2,37	1,67	2,26	1,83
	1,50 ≤ R ≤ 3,54	5-span	0.422	7,17	7,17	4,25	4,25
	3,54 ≤ R ≤ 4,40			6,24	6,24	2,77	2,77
	4,40 < R ≤ 5,25			2,37	1,67	2,77	2,77

B 2.3 Characteristic structural resistances of the covering "PC 16"
Annexes A 4.3/ execution variants according to A 2.3.5

Multi-wall sheet in accordance with Annex	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.3.1 Exolon multi UV 7/16-14	2,40 ≤ R ≤ 4,40	2-span	1.054	1,86	1,86	2,01	2,01
	2,40 ≤ R ≤ 3,54	3-span	0.703	4,57	4,57	2,85	2,85
	3,54 ≤ R ≤ 5,25			4,57	4,57	2,16	2,16
A 4.3.2 Policarb 16 P 06w	2,40 ≤ R ≤ 4,40	2-span	1.054	2,24	2,24	2,01	2,01
	2,40 ≤ R ≤ 3,54	3-span	0.703	4,66	4,66	2,85	2,85
	3,54 ≤ R ≤ 5,25			4,66	4,66	2,16	2,16
A 4.3.3 Policarb 16 P 07w	2,40 ≤ R ≤ 4,40	2-span	1.054	2,15	2,15	2,01	2,01
	2,40 ≤ R ≤ 3,54	3-span	0.703	4,66	4,66	2,85	2,85
	3,54 ≤ R ≤ 5,25			4,66	4,66	2,16	2,16
A 4.3.4 AKYVER SUN TYPE 16/7W-12	2,40 ≤ R ≤ 4,40	2-span	1.054	1,90	1,90	2,01	2,01
	2,40 ≤ R ≤ 3,54	3-span	0.703	4,61	4,61	2,85	2,85
	3,54 ≤ R ≤ 5,25			4,61	4,61	2,16	2,16

B 2.4 Characteristic structural resistances of the covering "PC 10+PC 10"
Annexes A 4.2/ execution variants according to A 2.4.5

Multi-wall sheet in accordance with Annex [Sheet outside] + [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
2x A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	6,83	5,74
	2,69 ≤ R ≤ 5,25			4,55	4,55	2,75	2,75
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,35	8,31	6,83	5,74
	2,69 ≤ R ≤ 5,25			8,35	8,31	2,75	2,75
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	6,83	5,74
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,75	2,75
A 4.2.1 Exolon multi UV 4/10-6 + A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,69	4,69	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,61	8,57	7,04	5,92
	2,69 ≤ R ≤ 5,25			8,61	8,57	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84
A 4.2.1 Exolon multi UV 4/10-6 + A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	6,90	5,80
	2,69 ≤ R ≤ 5,25			4,64	4,64	2,78	2,78
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,35	8,31	6,90	5,80
	2,69 ≤ R ≤ 5,25			8,35	8,31	2,78	2,78
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	6,90	5,80
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78
A 4.2.1 Exolon multi UV 4/10-6 + A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,66	2,76	2,22	2,22
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,57	6,57	6,34	5,33
	2,69 ≤ R ≤ 5,25			4,46	4,46	2,67	2,67
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,09	8,06	6,34	5,33
	2,69 ≤ R ≤ 5,25			8,09	8,06	2,67	2,67
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,34	5,33
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,67	2,67

Multi-wall sheet in accordance with Annex [Sheet outside] + [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
2x A 4.2.2 Policarb 10 P 04w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,66	2,76	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,63	6,63	6,34	5,33
	2,69 ≤ R ≤ 5,25			4,60	4,60	2,75	2,75
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,18	8,14	6,34	5,33
	2,69 ≤ R ≤ 5,25			8,18	8,14	2,78	2,78
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	6,34	5,33
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78
A 4.2.3 Policarb 10 P 05w + A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,69	4,69	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,61	8,57	7,04	5,92
	2,69 ≤ R ≤ 5,25			8,61	8,57	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84
2x A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,69	4,69	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,61	8,57	7,04	5,92
	2,69 ≤ R ≤ 5,25			8,61	8,57	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84
A 4.2.3 Policarb 10 P 05w + A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,69	4,69	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,61	8,57	7,04	5,92
	2,69 ≤ R ≤ 5,25			8,61	8,57	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84

Multi-wall sheet in accordance with Annex [Sheet outside] + [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.3 Policarb 10 P 05w + A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,73	2,82	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	6,62	5,56
	2,69 ≤ R ≤ 5,25			4,64	4,64	2,78	2,78
	1,50 ≤ R ≤ 2,69	4-span	0.527	8,61	8,57	6,62	5,56
	2,69 ≤ R ≤ 5,25			8,61	8,57	2,78	2,78
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,62	5,56
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78
A 4.2.4 AKYVER SUN TYPE 10-4W-7 + A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 4,40	2-span	1.054	3,21	2,43	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,50	6,50	6,90	5,80
	2,69 ≤ R ≤ 5,25			4,41	4,41	2,78	2,78
	1,50 ≤ R ≤ 2,69	4-span	0.527	7,40	7,37	6,90	5,80
	2,69 ≤ R ≤ 5,25			7,40	7,37	2,78	2,78
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	6,90	5,80
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78
A 4.2.4 AKYVER SUN TYPE 10-4W-7 + A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,32	2,51	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,60	4,60	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	7,92	7,88	7,04	5,92
	2,69 ≤ R ≤ 5,25			7,92	7,88	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84
2x A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 4,40	2-span	1.054	3,36	2,54	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,70	6,70	7,04	5,92
	2,69 ≤ R ≤ 5,25			4,50	4,50	2,84	2,84
	1,50 ≤ R ≤ 2,69	4-span	0.527	7,40	7,37	7,04	5,92
	2,69 ≤ R ≤ 5,25			7,40	7,37	2,84	2,84
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,57	11,57	7,04	5,92
	2,69 ≤ R ≤ 3,54			11,57	11,57	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,84	2,84

Multi-wall sheet in accordance with Annex [Sheet outside] + [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.4 AKYVER SUN TYPE 10-4W-7 + A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 4,40	2-span	1.054	3,13	2,37	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	6,37	6,37	6,41	5,39
	2,69 ≤ R ≤ 5,25			4,31	4,31	2,73	2,73
	1,50 ≤ R ≤ 2,69	4-span	0.527	7,15	7,11	6,41	5,39
	2,69 ≤ R ≤ 5,25			7,15	7,11	2,73	2,73
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,41	5,39
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,73	2,73
A 4.2.5 IMPEX Multiwall 10/4w + A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 4,40	2-span	1.054	2,50	1,89	2,22	2,22
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,82	4,82	6,62	5,56
	2,69 ≤ R ≤ 5,25			3,33	3,33	2,67	2,67
	1,50 ≤ R ≤ 2,69	4-span	0.527	5,51	5,48	6,62	5,56
	2,69 ≤ R ≤ 5,25			5,51	5,48	2,67	2,67
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,62	5,56
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,67	2,67
A 4.2.5 IMPEX Multiwall 10/4w + A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 4,40	2-span	1.054	2,61	1,97	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,09	5,09	6,97	5,86
	2,69 ≤ R ≤ 5,25			3,47	3,47	2,78	2,78
	1,50 ≤ R ≤ 2,69	4-span	0.527	5,94	5,91	6,97	5,86
	2,69 ≤ R ≤ 5,25			5,94	5,91	2,78	2,78
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,97	5,86
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78
A 4.2.5 IMPEX Multiwall 10/4w + A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 4,40	2-span	1.054	2,61	1,97	2,27	2,27
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,96	4,96	6,76	5,68
	2,69 ≤ R ≤ 5,25			3,38	3,38	2,73	2,73
	1,50 ≤ R ≤ 2,69	4-span	0.527	5,51	5,48	6,76	5,68
	2,69 ≤ R ≤ 5,25			5,51	5,48	2,73	2,73
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,76	5,68
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,78	2,78

Multi-wall sheet in accordance with Annex [Sheet outside] + [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
2x A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 4,40	2-span	1.054	2,42	1,77	2,13	2,13
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,69	4,69	6,20	5,21
	2,69 ≤ R ≤ 5,25			3,24	3,24	2,61	2,61
	1,50 ≤ R ≤ 2,69	4-span	0.527	5,34	5,31	6,20	5,21
	2,69 ≤ R ≤ 5,25			5,34	5,31	2,61	2,61
	1,50 ≤ R ≤ 2,69	5-span	0.422	11,34	11,34	6,20	5,21
	2,69 ≤ R ≤ 3,54			11,34	11,34	4,25	4,25
	3,54 ≤ R ≤ 4,40			9,18	9,18	2,61	2,61

B 2.5 Characteristic structural resistances of the covering "PC 10+PC 6 tc16"
Annexes A 4.2 outside/ A 4.1 inside/ execution variants according to A 2.5.8

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,13	2,13	1,53	1,53
	2,69 ≤ R ≤ 4,40			1,95	1,95	1,53	1,53
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,75	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,75	1,70
	3,54 < R ≤ 5,25			2,70	2,70	2,75	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,69	8,69	2,75	1,70
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.2 PC SHEET 6 P 04w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,18	2,18	1,42	1,42
	2,69 ≤ R ≤ 4,40			1,97	1,97	1,42	1,42
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,10	1,22
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,10	1,22
	3,54 < R ≤ 5,25			2,76	2,76	2,10	1,22
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,78	8,78	2,10	1,22
A 4.2.1 Exolon multi UV 4/10-6 / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,13	2,13	1,45	1,45
	2,69 ≤ R ≤ 4,40			1,93	1,93	1,45	1,45
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,48	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,48	1,70
	3,54 < R ≤ 5,25			2,68	2,68	2,48	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,69	8,69	2,48	1,70
A 4.2.2 Policarb 10 P 04w / A 4.1.2 PC SHEET 6 P 04w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,11	2,11	1,42	1,42
	2,69 ≤ R ≤ 4,40			1,97	1,97	1,42	1,42
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,13	1,24
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,13	1,24
	3,54 < R ≤ 5,25			2,76	2,76	2,13	1,24
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,34	9,34	2,13	1,24

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.3 Polycarb 10 P 05w / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,40	2,40	1,58	1,58
	2,69 ≤ R ≤ 4,40			1,97	1,97	1,58	1,58
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,86	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,86	1,70
	3,54 < R ≤ 5,25			2,76	2,76	2,86	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,34	9,34	2,86	1,70
A 4.2.3 Polycarb 10 P 05w / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	2,38	2,38	1,51	1,51
	2,69 ≤ R ≤ 4,40			1,97	1,97	1,51	1,51
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,60	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,60	1,70
	3,54 < R ≤ 5,25			2,76	2,76	2,60	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,34	9,34	2,60	1,70
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	1,89	1,89	1,59	1,59
	2,69 ≤ R ≤ 4,40			1,81	1,81	1,59	1,59
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,80	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,80	1,70
	3,54 < R ≤ 5,25			2,57	2,57	2,80	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,50	8,50	2,80	1,70
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	1,86	1,86	1,51	1,51
	2,69 ≤ R ≤ 4,40			1,79	1,79	1,51	1,51
	1,50 ≤ R ≤ 2,69	3-span	0.703	3,57	3,57	2,54	1,70
	2,69 ≤ R ≤ 3,54			3,47	3,47	2,54	1,70
	3,54 < R ≤ 5,25			2,54	2,54	2,54	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,41	8,41	2,54	1,70

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.5 IMPEX Multiwall 10/4w / A 4.1.1 Exolon multi UV 4/6-6	1,50 ≤ R ≤ 2,69	2-span	1.054	1,37	1,37	1,50	1,50
	2,69 ≤ R ≤ 4,40			1,34	1,34	1,50	1,50
	1,50 ≤ R ≤ 2,69	3-span	0.703	2,75	2,75	2,69	1,70
	2,69 ≤ R ≤ 3,54			2,60	2,60	2,69	1,70
	3,54 < R ≤ 5,25			1,88	1,88	2,69	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,35	6,35	2,69	1,70
A 4.2.5 IMPEX Multiwall 10/4w / A 4.1.3 PC SHEET 6 P 05w NO UV	1,50 ≤ R ≤ 2,69	2-span	1.054	1,37	1,37	1,42	1,42
	2,69 ≤ R ≤ 4,40			1,34	1,34	1,42	1,42
	1,50 ≤ R ≤ 2,69	3-span	0.703	2,71	2,71	2,42	1,70
	2,69 ≤ R ≤ 3,54			2,57	2,57	2,42	1,70
	3,54 < R ≤ 5,25			1,82	1,82	2,42	1,70
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,35	6,35	2,42	1,70

B 2.6 Characteristic structural resistances of the covering

"PC 10+PC 10 tc16" – Annexes A 4.2/ execution variants according to A 2.6.8

"PC 10+PC 6+PC 10 tc5" – Annexes A 4.2 / execution variants according to A 2.7.8

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
2x A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,11	4,11	3,33	2,16
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,14	9,14	3,87	3,87
	3,54 ≤ R ≤ 4,40			6,70	6,70	3,33	2,66
	4,40 < R ≤ 5,25			4,11	4,11	3,33	2,66
A 4.2.1 Exolon multi UV 4/10-6 / A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,14	9,14	3,87	3,87
	3,54 ≤ R ≤ 4,40			6,70	6,70	3,36	2,66
	4,40 < R ≤ 5,25			4,15	4,15	3,36	2,66
A 4.2.1 Exolon multi UV 4/10-6 / A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,45	8,45	3,78	3,78
	3,54 ≤ R ≤ 4,40			6,52	6,52	3,36	2,60
	4,40 < R ≤ 5,25			4,15	4,15	3,36	2,60
A 4.2.1 Exolon multi UV 4/10-6 / A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,41	2,41	2,31	1,64
	2,69 ≤ R ≤ 4,40			2,41	2,41	2,31	1,64
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,25	5,08
	2,69 ≤ R ≤ 5,25			4,07	4,07	2,96	1,92
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	2,96	2,47
	4,40 < R ≤ 5,25			4,07	4,07	2,96	2,47

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
2x A 4.2.2 Polycarb 10 P 04w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,36	1,68
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,36	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,02	1,96
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,37	9,37	4,12	4,12
	3,54 ≤ R ≤ 4,40			7,16	7,16	3,02	2,77
	4,40 < R ≤ 5,25			4,15	4,15	3,02	2,77
A 4.2.3 Polycarb 10 P 05w / A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	9,14	9,14	3,87	3,87
	3,54 ≤ R ≤ 4,40			6,70	6,70	3,36	2,66
	4,40 < R ≤ 5,25			4,15	4,15	3,36	2,66
2x A 4.2.3 Polycarb 10 P 05w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	10,88	10,88	4,25	4,25
	3,54 ≤ R ≤ 4,40			7,99	7,99	3,36	2,77
	4,40 < R ≤ 5,25			4,15	4,15	3,36	2,77
A 4.2.3 Polycarb 10 P 05w / A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5,25			4,15	4,15	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,45	8,45	3,78	3,78
	3,54 ≤ R ≤ 4,40			6,52	6,52	3,36	2,60
	4,40 < R ≤ 5,25			4,15	4,15	3,36	2,60

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.3 Policarb 10 P 05w / A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,46	2,46	2,36	1,68
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,36	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,31	5,14
	2,69 ≤ R ≤ 5.25			4,15	4,15	3,02	1,96
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	3,02	2,47
	4,40 < R ≤ 5.25			4,15	4,15	3,02	2,47
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,63	5,63	6,44	5,24
	2,69 ≤ R ≤ 5.25			3,90	3,90	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,45	8,45	3,78	3,78
	3,54 ≤ R ≤ 4,40			6,52	6,52	3,36	2,60
	4,40 < R ≤ 5.25			3,90	3,90	3,36	2,60
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,74	5,74	6,44	5,24
	2,69 ≤ R ≤ 5.25			3,98	3,98	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,45	8,45	3,78	3,78
	3,54 ≤ R ≤ 4,40			6,52	6,52	3,36	2,60
	4,40 < R ≤ 5.25			3,98	3,98	3,36	2,60
2x A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 2,69	2-span	1.054	2,68	2,68	2,43	1,73
	2,69 ≤ R ≤ 4,40			2,46	2,46	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,68	5,68	6,44	5,24
	2,69 ≤ R ≤ 5.25			3,94	3,94	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	8,45	8,45	3,78	3,78
	3,54 ≤ R ≤ 4,40			6,52	6,52	3,36	2,60
	4,40 < R ≤ 5.25			3,94	3,94	3,36	2,60

Multi-wall sheet in accordance with Annex [Sheet outside] / [Sheet inside]	Radius R [m]	System	Distance a.p [m]	Characteristics values of structural resistance [kN/m ²]			
				downward load		uplift load	
				R _k	C _k	R _k	C _k
A 4.2.4 AKYVER SUN TYPE 10-4W-7 / A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,41	2,41	2,36	1,68
	2,69 ≤ R ≤ 4,40			2,41	2,41	2,36	1,68
	1,50 ≤ R ≤ 2,69	3-span	0.703	5,63	5,63	6,25	5,08
	2,69 ≤ R ≤ 5,25			3,86	3,86	2,99	1,94
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	2,99	2,47
	4,40 < R ≤ 5,25			3,86	3,86	2,99	2,47
A 4.2.5 IMPEX Multiwall 10/4w / A 4.2.1 Exolon multi UV 4/10-6	1,50 ≤ R ≤ 2,69	2-span	1.054	2,30	2,30	2,41	1,71
	2,69 ≤ R ≤ 4,40			1,92	1,92	2,41	1,71
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,19	4,19	6,44	5,24
	2,69 ≤ R ≤ 5,25			2,91	2,91	3,29	2,14
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	3,29	2,47
	4,40 < R ≤ 5,25			2,91	2,91	3,29	2,47
A 4.2.5 IMPEX Multiwall 10/4w / A 4.2.3 Policarb 10 P 05w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,30	2,30	2,43	1,73
	2,69 ≤ R ≤ 4,40			1,97	1,97	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,31	4,31	6,44	5,24
	2,69 ≤ R ≤ 5,25			2,99	2,99	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	3,36	2,47
	4,40 < R ≤ 5,25			2,99	2,99	3,36	2,47
A 4.2.5 IMPEX Multiwall 10/4w / A 4.2.4 AKYVER SUN TYPE 10-4W-7	1,50 ≤ R ≤ 2,69	2-span	1.054	2,30	2,30	2,43	1,73
	2,69 ≤ R ≤ 4,40			1,97	1,97	2,43	1,73
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,25	4,25	6,44	5,24
	2,69 ≤ R ≤ 5,25			2,95	2,95	3,36	2,18
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	3,36	2,47
	4,40 < R ≤ 5,25			2,95	2,95	3,36	2,47
2x A 4.2.5 IMPEX Multiwall 10/4w	1,50 ≤ R ≤ 2,69	2-span	1.054	2,30	2,30	2,28	1,63
	2,69 ≤ R ≤ 4,40			1,87	1,87	2,28	1,63
	1,50 ≤ R ≤ 2,69	3-span	0.703	4,13	4,13	6,25	5,08
	2,69 ≤ R ≤ 5,25			2,86	2,86	2,92	1,90
	1,50 ≤ R ≤ 3,54	5-span	0.422	6,13	6,13	3,57	3,57
	3,54 ≤ R ≤ 4,40			4,96	4,96	2,92	2,47
	4,40 < R ≤ 5,25			2,86	2,86	2,92	2,47

B 3 Load-bearing capacity and characteristic values for structural resistance of the fasteners

For the fasteners to establish the connection covering profile with fixing bracket and fixing bracket with load converter (see Annex A 1.3.1 and A 1.3.2) the characteristic values given in the following table apply for the tensile load-bearing capacity $N_{R,k}$ of the screws.

Name of screw	Components to be connected	Tensile load-bearing capacity $N_{R,k}$
EJOT JZ3-8,0 x 38	covering profile 38mm / fixing bracket "SK-Feld 10-20"; "SK-Feld 26-36"	10.7 kN
EJOT JZ3-8,0 x 64	covering profile 60mm / fixing bracket "SK-Stoß 10-20"; "SK-Stoß 26-36"	13.7 kN
EJOT JT4-6-6,3 x 30	fixing bracket "SK-Feld 10-20"; "SK-Feld 26-36" / load converter "LK24°-TS35" and fixing bracket "SK-Stoß 10-20"; "SK-Stoß 26-36" / load converter "LK24°-TS35"	8.6 kN

The design value of load-bearing capacity $N_{R,d}$ can be calculated as follow:

$$N_{R,d} = N_{R,k} / \gamma_M$$

with safety factor:

$$\gamma_M = 1.33$$

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Annex C

Thermal resistance

If requirements are made for the thermal resistance of the roof system, the thermal transmittance coefficient U_r is to be determined as resultant of thermal transmittance of the covering as well as all other thermal bridges existing in the stalled rooflight, weighed on the basis of their surfaces areas.

The respective area percentage shall be calculated for the roof kits. For the calculation of the thermal transmittance coefficient U_r of the roof kits, the following equation shall be used:

$$U_r = \frac{\sum(U_{ti} \cdot A_{ti}) + \sum(U_{pi} \cdot A_{pi}) + \sum(U_{tg} \cdot A_{tg}) + \sum(\Psi_{pi} \cdot l_{pi}) + \sum(\Psi_j \cdot l_j)}{A_r} \quad \text{in W/(m}^2\text{K)}$$

where:

U_{ti} : = thermal transmittance coefficient of the covering (translucent part) in W/(m²K)

A_{ti} : = area of the covering (translucent part) in m²

U_{pi} : = thermal transmittance coefficient of the profiles, support structure in W/(m²K)

A_{pi} : = area of the profiles, support structure in m²

U_{tg} : = thermal transmittance coefficient of the gable (translucent part) in W/(m²K)

A_{tg} : = area of the gable (translucent part) in m²

Ψ_{pi} : = linear thermal transmittance coefficient for the influence of the restraint of the covering and the impost in the area of the eaves connection in W/(m K)

l_{pi} : = connecting profile length in m

Ψ_j : = linear thermal transmittance coefficient of other thermal bridges in W/(m K)

l_j : = length of other thermal bridges in m

If the substructure is taken into account the thermal transmittance coefficients U_{up} of the substructure and additional the linear thermal transmittance coefficient Ψ_{up} of the connection of the roof kit with the substructure at the eaves side has to be calculated in accordance with the applicable European standards, e.g. EN ISO 6946.

The surface area of the covering corresponds to the exposed outer surface of the covering. The surface area of the 60 mm and 38 mm arched profiles is calculated from their width of 60 mm and 38 mm respectively and their arch length between the eaves-side connections.

C 1 Thermal transmittance coefficients of the coverings

The sheet structure corresponds to those given in Annexes A 4

Table C 1 Thermal transmittance coefficients U_t of the coverings

Covering	sheet(s) as per Annex	Vertical installation U_{tg} [W/(m ² ·K)]	Horizontal installation U_{ti} [W/(m ² ·K)]
Typ PC10	A 4.2.1, -2, -4, -5	2,5	2,7
	A 4.2.3	2,4	2,6
Typ PC10 + PC6	A 4.2+A 4.1	1,8	1,9
Typ PC16	A 4.3	1,8	1,9
Typ PC10 + PC10	A 4.2	1,6	1,7
Typ PC10 + PC6 tc 16	A 4.2+A 4.1.1/4.1.2	1,4	1,5
	A 4.2+A 4.1.3		1,4
Typ PC10 + PC10 tc 16	A 4.2	1,2	1,3
Typ PC10 + PC6 + PC10 tc 5	A 4.2, A 4.1	1,0	1,0

The thermal transmittance coefficients U_t depend on the selected covering and the installation position. Differentiation is made between vertical installations (horizontal heat flow) and horizontal installations (upwards heat flow).

For the purposes of comparing the coverings in terms of EN 673 the U_t value for vertical installations shall be used.

C 2 Thermal transmittance coefficients of the bearing profiles

The sections correspond to those given in Annexes A 1 and A 2.

Table C 2: Thermal transmittance coefficients of the bearing profiles

Covering	Bearing profile as per Annex	$U_{pi(A-A)}$ [W/(m ² K)]	$U_{pi(B-B)}$ [W/(m ² K)]
Typ PC10	A 2.1.1	2,0	2,1
Typ PC10 + PC6	A 2.2.1	2,0	1,8
Typ PC16	A 2.3.1	1,6	1,6
Typ PC10 + PC10	A 2.4.1	1,4	1,4
Typ PC10 + PC6 tc 16	A 2.5.1	1,2	1,4
Typ PC10 + PC10 tc 16	A 2.6.1	1,1	1,1
Typ PC10 + PC6 + PC10 tc 5	A 2.7.1	0,98	1,2

The thermal transmittance in the connection area of the coverings is fully included in the thermal transmittance for arched profiles. $\Psi_j = 0$.

C 3 Thermal transmittance coefficients in the zone of the eaves profiles and the impost

The thermal transmittance coefficients for the eaves-side connection differ for the different designs:

- Eaves-side connection without eaves insulation (see table (1)),
- Eaves-side connection with eaves insulation bottom between the imposts (s. table (2))
- Eaves-side connection with eaves insulation bottom between the imposts and continuous eaves insulation top (see table (3))

The following table contains the thermal transmittance coefficients U_{pi} to be applied for the eaves-side connection in the different designs as well as the corresponding reference area A_{pi} for the eaves-side connection depending on the covering.

Table C 3.1: Thermal transmittance coefficients U_{pi} for the eaves-side connection in the different designs as well as the corresponding reference area A_{pi}

Thermal transmittance eaves-side connection for covering:	Reference area A_{pi} [m ² /m]	Eaves-side connection		
		(1) U_{pi} [W/(m ² ·K)]	(2) U_{pi} [W/(m ² ·K)]	(3) U_{pi} [W/(m ² ·K)]
Typ "PC10"	0,143	1,4	-	-
Typ "PC10 + PC6"	0,149	1,3	0,84	-
Typ "PC16"	0,149	1,3	0,87	-
Typ "PC10 + PC10"	0,154	1,2	0,80	-
Typ "PC10 + PC6 tc 16"	0,167	1,1	0,66	0,61
Typ "PC10 + PC10 tc 16"	0,172	1,1	0,65	0,58
Typ "PC10 + PC6 + PC10 tc 5"	0,172	1,1	0,64	0,57

In order to take into account the influence of the restraint of the covering as well as the influence of the impost on thermal transmittance coefficient of the eaves-side connection, the linear thermal transmittance coefficient ψ_{pi} related to the length of the eaves-side connection profiles must also be taken into account. This depends on the respective design of the covering and the eaves-side connection as well as the respective support system of the covering. The linear thermal transmittance coefficient is to be used according to the following table.

Table C 3.2: Linear thermal transmittance coefficient Ψ_{pi} in the area of clamping the covering and of the impost

Linear thermal transmittance in the area of clamping the covering and of the impost depending on the construction variants (1)-(3):		Support system			
		2-span	3-span	4-span	5-span
Typ "-PC10"-	(1) Ψ_j [W/(m·K)]	0,029	0,044	0,059	0,073
Typ "PC10 + PC6"	(1) Ψ_j [W/(m·K)]	0,027	0,042	0,057	0,071
	(2) Ψ_j [W/(m·K)]	0,045	0,064	0,084	0,103
Typ "-PC16"-	(1) Ψ_j [W/(m·K)]	0,028	0,043	0,058	0,072
	(2) Ψ_j [W/(m·K)]	0,034	0,053	0,073	0,092
Typ "-PC10 + PC10"-	(1) Ψ_j [W/(m·K)]	0,033	0,048	0,063	0,077
	(2) Ψ_j [W/(m·K)]	0,039	0,058	0,078	0,097
Typ "PC10 + PC6 tc 16"	(1) Ψ_j [W/(m·K)]	0,030	0,045	0,060	0,074
	(2) Ψ_j [W/(m·K)]	0,031	0,050	0,070	0,089
	(3) Ψ_j [W/(m·K)]	0,039	0,057	0,076	0,094
Typ "PC10 + PC10 tc 16"	(1) Ψ_j [W/(m·K)]	0,025	0,040	0,055	0,069
	(2) Ψ_j [W/(m·K)]	0,047	0,066	0,086	0,105
	(3) Ψ_j [W/(m·K)]	0,033	0,051	0,070	0,088
Typ "PC10 + PC6 + PC10 tc 5"	(1) Ψ_j [W/(m·K)]	0,024	0,039	0,054	0,068
	(2) Ψ_j [W/(m·K)]	0,046	0,065	0,085	0,104
	(3) Ψ_j [W/(m·K)]	0,031	0,049	0,068	0,086

C 4 Thermal transmittance coefficient of other thermal bridge sectors

The thermal transmittance coefficient U_j and the linear thermal transmittance Ψ_j of other thermal bridge sectors has to be calculated according to EN ISO 10077-2 or alternatively it has to be tested according to EN 12412-2.

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Annex D

Air permeability

D 1 Individual airflow rate at 50 Pa and 100 Pa pressure difference

To calculate the individual airflow rate of a roof kit, the expected total volume flow through the construction for the pressure differences 50 Pa, $V_{(50)}$ or for 100 Pa, $V_{(100)}$ is to be calculated as the sum of the individual leakage points according to the following formula:

$$V(P) = V_{(P;Gable)} + \sum (N \cdot V_{(P;Segment)}) + \sum V_{(P;Facilities)}$$

with:

- $V_{(P;Gable)}$ = volume airflow through 2 gable ends,
- $V_{(P;Segment)}$ = volume airflow through 1 segment of the respective roof kit and N their number,
- $V_{(P; Facilities)}$ = additional volume flow rate features of the roof construction system (e.g. flaps), determined according to the conditions of EAD-220089-00-0401.

The volume airflows to be applied for the segments are shown in the following table.

System	Distance a.p (m]	Volume airflow at 50 Pa – $V_{(50;Segment)}$	Volume airflow at 100 Pa – $V_{(100;Segment)}$
2-span-system	≤ 1.054	19,5 m³/h	31,0 m³/h
3- span-system	≤ 0.703	19,5 m³/h	31,0 m³/h
4- span-system	≤ 0.527	26,1 m³/h	41,4 m³/h
5- span-system	≤ 0.422	32,6 m³/h	51,7 m³/h

The volume airflows to be applied for 2 gable ends are shown in the following table.

Gable ends Clear width	Volume airflow at 50 Pa – $V_{(50;Giebel)}$	Volume airflow at 100 Pa – $V_{(100;Giebel)}$
Gable width ≤ 2,00m	7,0 m³/h	11,2 m³/h
Gable width 2,01m bis 3,00m	10,6 m³/h	16,8 m³/h
Gable width 3,01m bis 4,00m	14,1 m³/h	22,4 m³/h
Gable width 4,01m bis 6,00m	21,1 m³/h	33,6 m³/h

D 2 Classification

According to Delegated Regulation (EU) 2019/1342, the LAMILUX Lichtband B roof kit, including its gable ends, is classified as follows depending on the support system used:

System	Distance a.p (m]	Classification Air permeability
2-span-system	1.054	Class A $_{[100 Pa, 9,4 m³/(h \cdot m)}$
3-span-system	0.703	Class A $_{[100 Pa, 9,4 m³/(h \cdot m)}$
4-span-system	0.527	Class B
5-span-system	0.422	Class B

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Annex E

Provisions for installation, packaging, transport, storage, use, maintenance and repair

E 1 Installation

The fixing of the roof kit on the substructure is not covered by this ETA. The stability shall be verified for the relevant substructure in accordance with the applicable European specifications.

Before the roof kit is installed, the dimensional stability of the substructure shall be checked. Particular care shall be taken to ensure that the substructure has a rectangular footprint. The compliance of the existing substructure with the substructure for which the load-bearing capacity was verified in the planning stage shall be checked visually.

The installation of the roof kit may only be performed by specialists who are specially trained for this purpose. The installation guidelines provided by the manufacturer shall be respected. The manufacturer of the roof kit shall inform the specialists that they may only carry out assembly and installation of the roof kit in accordance with his instructions and the provisions of the ETA. The hollow chambers of the multi-wall sheets must not be filled.

If the translucent roof kit can systematically come into contact with chemical substances, the resistance of the multi-wall sheets and, if necessary, of other kit components to these substances shall be verified.

When starting the installation of the roof kit, the load converters are placed into the appropriate openings of the connecting profile "FP24^o" and screwed to the substructure on eaves with the fasteners specified in the planning. The bearing profiles are positioned into the load converter "LK24°-TS35" and fixed. Thereafter the covering is placed on the bearing profiles and curved thereby by cold forming according to the radius of curvature of the bearing profiles. Afterwards the covering is fixed on eaves side with aluminium profiles and with fixing brackets "SK-Stoß 10-20" or "SK-Stoß 26-36", whereas the spacer on the fixing brackets "SK-Stoß 10-20" or "SK-Stoß 26-36", shall be in between the covering elements to secure their position.

During positioning of the multi-wall sheets the minimum fixing distances e_{curve} and e_{impost} given in the Annexes of the ETA shall be respected.

Thereafter the fixing brackets "SK-Feld 10-20" or "SK-Feld 26-36" will be mounted in the area of intermediate support, eaves sealing will be installed and the covering profiles will be fixed with the self-cutting screws. The minimum screwing depth given in sections E-E and F-F of ETA Annexes A 2.1 to A 2.7 shall be respected.

It shall be ensured that all seals are fixed non-relocatable to avoid a relocation of the seal due to thermal expansion and the resulting leakage. Joins of the eaves sealing shall be located below the fixing brackets.

The translucent roof kit shall be installed and connected to the adjacent structure in a manner that ensures no moisture can penetrate into it and avoiding thermal bridges. These details shall be evaluated on a case-by-case basis.

E 2 Packaging, transport and storage

The components of the roof kit shall be stored and transported in accordance with the manufacturer's specifications such that the components cannot be damaged. In particular, for multi-wall sheets made from polycarbonate it shall be ensured that only those surfaces with UV protective coatings are exposed to UV radiation.

The packaging shall protect the material from moisture and weather effects whilst avoiding heat build-up inside the packaging. It is the responsibility of the manufacturer to ensure that this information is passed on to the people in charge.

E 3 Use, maintenance, repair

The installed roof kit is not a walk-on system. For installation purposes, the roof kit may be walked on by a single person using boards laid across the substructure (at least two bearing profiles) for support; the boards shall run perpendicular to the loading direction of the bearing profiles.

For maintenance, the installed roof kit shall be visually inspected by a qualified expert once a year. The manufacturer shall be consulted if the PC multi-wall sheets show surface cracks or damage or if they are strongly discoloured. The aluminium components of the roof kit shall be examined for pronounced corrosion by visual inspection. Repair shall be arranged where necessary.

Only the components listed in the ETA may be used for replacement of components.

Cleaning agents shall be free of solvents and abrasives. Chemical and biological cleaning additives may only be used if they have been proven to be compatible with polycarbonate; otherwise only water and a soft cloth shall be used to clean the multi-wall sheets.