

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-16/0710**  
**of 8 February 2021**

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

JET-Vario-Norm

Product family  
to which the construction product belongs

Self supporting translucent roof kits

Manufacturer

JET Tageslicht & RWA GmbH  
Weidehorst 28  
32609 Hüllhorst  
DEUTSCHLAND

Manufacturing plant

JET Tageslicht & RWA GmbH  
Weidehorst 28  
32609 Hüllhorst  
DEUTSCHLAND

This European Technical Assessment  
contains

65 pages including 56 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-16/0710 issued on 28 March 2019

**European Technical Assessment**

**ETA-16/0710**

English translation prepared by DIBt

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## Specific part

### 1 Technical description of the product

#### 1.1 Kit description and setup

The 'JET-Vario-Norm' roof kit is made up of components which are factory-made and assembled on site as a self-supporting translucent roof kit.

The static system of the roof system 'JET-Vario-Norm' complies with the category "Curved roof systems with additional bearing profiles" as listed in section 2.2.5.1 a) of the EAD 22089-00-0401<sup>1</sup>.

The roof kit comprises 1.05 m- or 2.1 m-wide arched translucent PC multi-wall sheets which are positioned on bearing profiles and protected from wind loads with covering profiles. The sheets are mounted on the eaves side in an impost profile partially made from PVC. The multi-wall sheets are abutted along their longitudinal edges via a bearing profile. For the 2.10 m-wide sheets, one (for double-span systems) or two (for triple-span systems) additional bearing profiles are arranged as intermediate supports parallel to the end arches.

The following components are used for the manufacture of the 'JET-Vario-Norm' arched self-supporting translucent roof kit:

- translucent polycarbonate (PC) multi-wall sheets of thickness 10 mm (PC 10), 16 mm (PC 16) and 20mm (PC20), including combinations of sheets as described in 1.1.9
- glass fibre-reinforced unsaturated polyester resin (GF-UP) sheet (optionally arranged between the 10mm multi-wall sheets) or
- glass fibre mat (optionally arranged between the 10mm multi-wall sheets)
- 3 mm solid sheets made from polycarbonate (optionally arranged on top of a 16mm multi-wall sheet)
- 4 mm double-wall sheet made from polycarbonate (optionally arranged between the 10mm 'multi-wall sheets)
- aluminium bearing and covering profiles,
- aluminium impost profiles,
- (where required) tension locks
- sealing profiles
- foam tape/ alternatively EPS strip
- connecting devices.

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 documentation<sup>2</sup> of this European technical assessment.

<sup>1</sup> EAD 22089 00-0401 Self supporting translucent roof kits with covering made of plastic sheets; edition march 2019

<sup>2</sup> 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.

### 1.1.1 Multi-wall sheets

The following multi-wall sheets made from polycarbonate (PC) in accordance with the harmonised European standard EN 16153<sup>3</sup> may be used.

Table 1: PC-sheets

Manufacturer	Trade name	Sheet height [mm]	Annex
Exolon Group S.p.A. I – Nera Montoro	Makrolon multi UV 2/10-10.5	10	A 4.1
CORPLEX, Kayserberg F – Kayserberg	Akyver Sun Type 10/1700	10	A 4.2
Exolon Group S.p.A. I – Nera Montoro	Makrolon multi UV 2/10-10.5 ES	10	A 4.3
CORPLEX, Kayserberg F – Kayserberg	Akyver Sun Type 10/2000	10	A 4.4
CORPLEX, Kayserberg F – Kayserberg	Akyver Sun Type 10/4W-7	10	A 4.5
Koscon Industrial S.A. CH – Stabio	Macrolux LL 4W10	10	A 4.6
Exolon Group S.p.A. I – Nera Montoro	Makrolon multi UV 4/10-6	10	A 4.7
Exolon Group S.p.A. I – Nera Montoro	Makrolon multi UV 7/16-14	16	A 4.8
CORPLEX, Kayserberg F – Kayserberg	Akyver Sun Type 16/7W-12	16	A 4.9
Koscon Industrial S.A. CH – Stabio	Macrolux LL 7W16	16	A 4.10
CORPLEX, Kayserberg F – Kayserberg	Akyver Sun Type 20/7W-12	20	A 4.11
Koscon Industrial S.A. CH – Stabio	Macrolux LL 7W20	20	A 4.12

The multi-wall sheets have unfilled hollow chambers and weatherproofing on the outer surfaces which are unmistakably identified.

### 1.1.2 GF-UP sheet

Sheet made from glass fibre-reinforced unsaturated polyester resin with a thickness of 1.2 mm and with a glass content of at least 25 % by mass. It corresponds to the specifications deposited with Deutsches Institut für Bautechnik.

### 1.1.3 Optional (full-surface) covering supplements

#### 1.1.3.1 Glass fibre mat

Up to two layers of glass fibre mat with a weight per unit area of 120 g/m<sup>2</sup> (+18/-11 g/m<sup>2</sup>) each may alternatively be arranged between the multi-wall sheets. It corresponds to the specifications deposited with Deutsches Institut für Bautechnik.

#### 1.1.3.2 Solid sheet

The 3mm-thick solid polycarbonate (PC) sheet 'PC UVP 3 mm' produced by Polycasa N.V., BE-2440 Geel, and possessing a weight per unit area of 3.6 kg/m<sup>2</sup> in accordance with the harmonised European standard EN 16240<sup>4</sup> can be used.

#### 1.1.3.3 Double-wall sheet

The 4mm double-wall polycarbonate sheet 'Sun Type 4' produced by CORPLEX, Kayzersberg in accordance with the harmonised European standard EN 16153 can be used.

### 1.1.4 Bearing and covering profiles

The aluminium profiles are made from the aluminium alloy EN AW-6060 T66 in accordance with EN 755-2<sup>5</sup> and exhibit the dimensions given in Annexes A 3.1 to A 3.4 of the ETA.

### 1.1.5 Impost

#### 1.1.5.1 Impost profiles

The aluminium profiles are made from EN AW-6060 T66 in accordance with EN 755-2 and have the dimensions given in Annexes A 3.5.1 to A 3.6.3.

#### 1.1.5.2 Supporting profile

The supporting profiles in the versions 'supporting profile 18°' and 'supporting profile 30°' are made from the aluminium alloy EN AW-6060 T66 in accordance with EN 755-2.

The supporting profiles have the dimensions given in Annex A 3.8.4.

### 1.1.6 Tension lock

The tension locks made from EN AW-6060 T66 in accordance with EN 755-2 have the dimensions given in Annex A 3.10.

### 1.1.7 Sealing profile

The sealing profile is made from ethylene-propylene terpolymer (EPDM) and has the dimensions given in Annex A 3.9. The Shore A hardness is 60° +/- 5° in accordance with EN ISO 868<sup>6</sup>.

### 1.1.8 Foam tape/ EPS strip

The foam tape is made from polyethylene foam and has the dimensions given in annex A 2.3.3. The density is 65kg/m<sup>3</sup> in accordance with EN ISO 845<sup>7</sup>. Alternatively, a strip of EPS with a density of (29 + 1) kg/m<sup>3</sup> may be used, which meets the levels CS(10)150 of compressive stress at 10% deformation and BS200 of bending strength according to EN 13163<sup>8</sup>. If this strip is used, it is bonded to the inside of the outer skin.

The products correspond to the specifications deposited with Deutsches Institut für Bautechnik.

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	EN 755-2:2016-10	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2: Mechanical properties
6	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
7	EN ISO 845:2009-10	Cellular plastics and rubbers - Determination of apparent density
8	EN 13163:2013-03	Thermal insulation products for buildings – Factory made products of expanded polystyrene (EPS) – Specification

### 1.1.9 Connecting devices

The tension lock top part and the covering profile or the tension lock lower part and the impost profile as well as covering belt and the impost profile are connected with cup blind rivets Ø 4.8 x 11.5 Al (sleeve: aluminium AlMg5 (EN AW 5019) – EN 573<sup>9</sup>; mandrel: galvanised steel – EN 10016-2<sup>10</sup> or stainless steel – EN 10088<sup>11</sup> material no. 1.4541).

The blind rivets have the dimensions given in Annex A 3.12.

The tension lock top part and the tension lock lower part are connected using hexagon socket head cap screws in accordance with EN ISO 4762<sup>12</sup> (M6x50 A2-70/ M8x50 A2-70).

### 1.1.10 'JET-Vario-Norm' roof kit

The roof kit is made up of the components described in Sections 1.1.1, 1.1.2 and 1.1.4 to 1.1.9. The following combinations are possible:

Table 2: Combinations of the roof kit

Covering	Multi-wall sheet(s) as per Annex	Impost profiles as per Annex	
		Inclination 30°	Inclination 18°
PC 10	A 4.1 - A 4.7	A 3.5.1	
PC 16	A 4.8 - A 4.10	A 3.5.1	A 3.6.1
PC 20	A 4.11 - A 4.12	A 3.5.2	A 3.6.1
PC 10+10 (2x same PC-sheet)	A 4.5 - 4.7	A 3.5.2	A 3.6.2
PC 10+10 DI (2x same PC-sheet with air layer)	A 4.5 - 4.7	A 3.6.3	A 3.6.3
PC 16 + GF-UP DI (PC-sheet/ GF-UP sheet with air layer)	A 4.8 - A 4.10	A 3.6.3	A 3.6.3

The 'PC 10+10' covering may optionally be used with an intermediate GF-UP sheet (Section 1.1.2) or glass fibre mat (Section 1.1.3.1).

The 'PC 10+10 DI' covering may optionally be used with an intermediate GF-UP sheet (Section 1.1.2) or a 4mm double wall sheet (Section 1.1.3.3).

The roof kit may be designed as follows with additional use of the solid sheet in accordance with Section 1.1.3.2 and in accordance with table 3:

Table 3: Combinations of the roof kit with solid sheet:

Covering	Multi-wall sheet as per Annex	Impost profiles as per Annex	
		Inclination 30°	Inclination 18°
PC 3+16 (inner multi-wall sheet)	A 4.9 Details in Annexes 1.4 and 2.1.8	A 3.5.2	A 3.6.2

- <sup>9</sup> EN 573-3:2013-12 Aluminium and aluminium alloys - Chemical composition and form of wrought products – Part 3: Chemical composition and form of products; German version EN 573-3:2013
- <sup>10</sup> EN 10016-2:1995-04 Non-alloy steel rod for drawing and/or cold rolling - Part 2: Specific requirements for general purpose rod; German version EN 10016-2:1994
- <sup>11</sup> EN 10088-2:2014-12 Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes; German version EN 10088-2:2014
- <sup>12</sup> DIN EN ISO 4762:2004-06 Hexagon socket head cap screws (ISO 4762:2004)

Table 4: Reaction to fire of the components

component	Reaction to fire
Multi-wall sheets/ coverings	Class E as per EN 13501-1 <sup>13</sup>
GF-UP sheet	
Glass fibre mat	
Solid sheet	
Base profile	
Roof sheeting connecting profile	
Foam tape/ EPS-strip	
Sealing profile	No contribution to fire spread in accordance with EOTA TR 021 (Version June 2005)
Bearing and covering profiles	Class A1 as per EN 13501-1 (without further testing as per Commission Decision 96/603/EC, as amended by Commission Decisions 2000/605/EC and 2003/424/EC)
Load converter	
Tension lock	
Connecting devices	

## 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 structures. The multi-wall sheets may be combined to form continuous rooflights of any length with rectangular bases.

The roof kit is not a walk-on system; 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 and C.

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 a means for choosing the right products in relation to the expected economically reasonable working life of the structure.

## 3 Performance of the product and references to the methods used for its assessment

### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Fire performance in case of external fire exposure of 'JET-Vario-Norm' roof kit	No performance assessed
Reaction to fire of 'JET-Vario-Norm' roof kit	Class E
Resistance to fire of 'JET-Vario-Norm' roof kit	No performance assessed

13

DIN EN 13501-1:2010-01

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

### 3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Release of dangerous substances or radiation	The chemical composition of the product has to be in compliance with the composition deposited at the Technical Assessment Body (DIBt). The kit does not contain dangerous substances in accordance with EOTA TR 034 (Version October 2015) or based on an individual assessment on current knowledge there is no risk for the environment due to a release of dangerous substances. *
Watertightness and condensation	Category 1 (no leaks with no differential air pressure) up to inclination of the substructure from the horizontal: 5°  Design details as per information deposited with DIBt
* Note: In addition to the specific provisions relating to dangerous substances contained in this ETA, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). For the purposes of meeting the provisions of the Construction Products Regulation, these requirements shall also be complied with insofar as they are applicable.	

### 3.3 Mechanical resistance and stability (BWR 4)

Essential characteristic	Performance
Characteristic structural resistance of the multi-wall sheets to forces (actions) resulting from gravity loads and uplift loads [kN/m <sup>2</sup> ] provided that the bearing conditions as described in Annexes A 2.1 to A 2.3 are respected	See Annex B 2
Consideration of the effect of load duration	See Annex B 1
Consideration of ageing and environmental effects	See Annex B 1
Consideration of thermal effects	See Annex B 1
Values for characteristic structural resistance of aluminium bearing and covering profiles	In accordance with structural calculation.
Resistance to damage by impact loads with a 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

### 3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal resistance	No performance assessed
Air permeability	
Radiation Properties – Light transmittance – Solar direct transmittance – Total solar energy transmittance	See declaration of performance according to EN 16153



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

According to the European Assessment Document (EAD) 220089-00-0401, the legal basis is as follows: 98/600/EC

The system to be applied is: 3

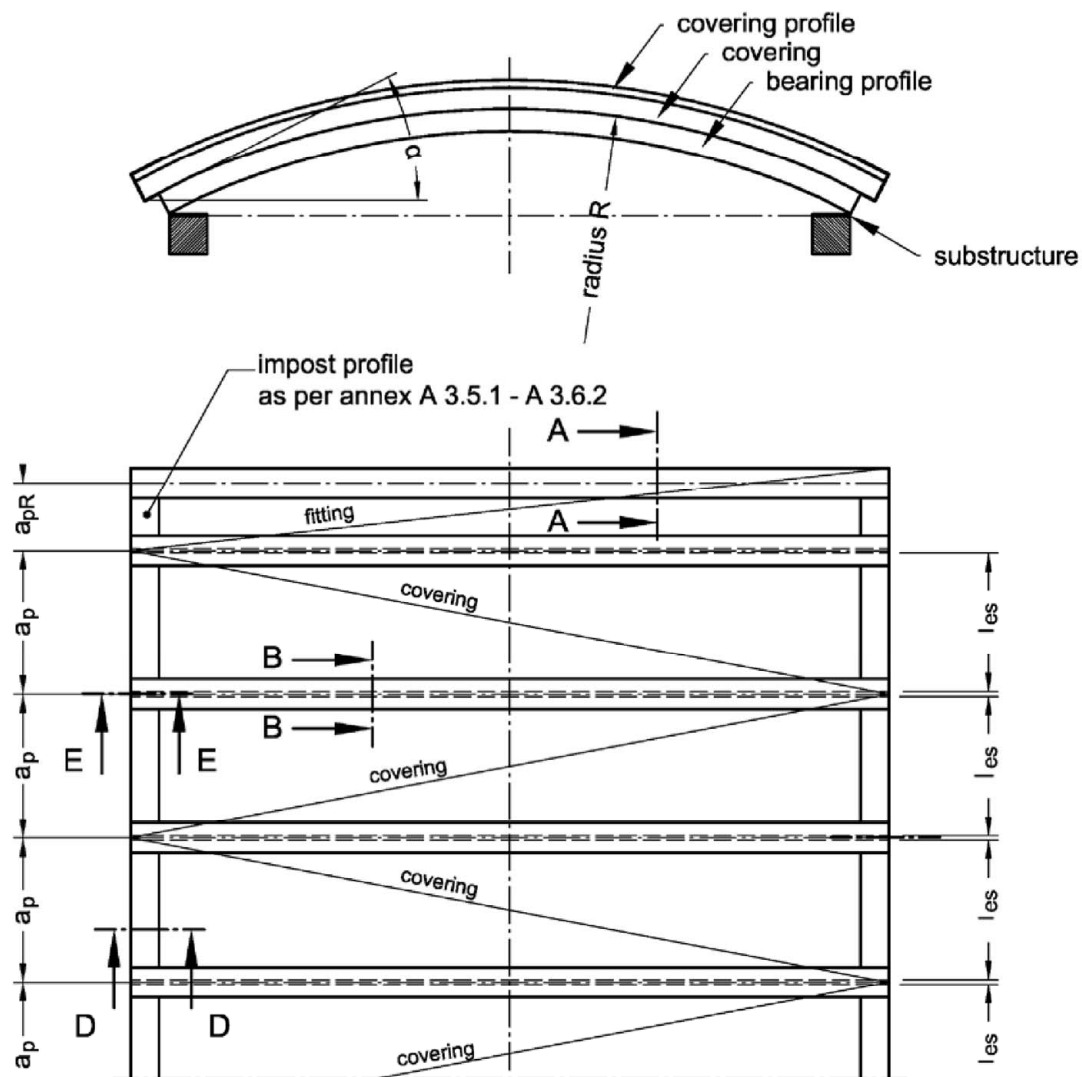
**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

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 8 February 2021 by Deutsches Institut für Bautechnik

Renée Kamanzi-Fechner  
Head of Section

*beglaubigt:*  
Wachner



$a_p$ : spacing of the bearing profiles

$a_p = \max 1060 \text{ mm}$

$l_{es}$ : width of covering  
cutted from production width  $l_e$

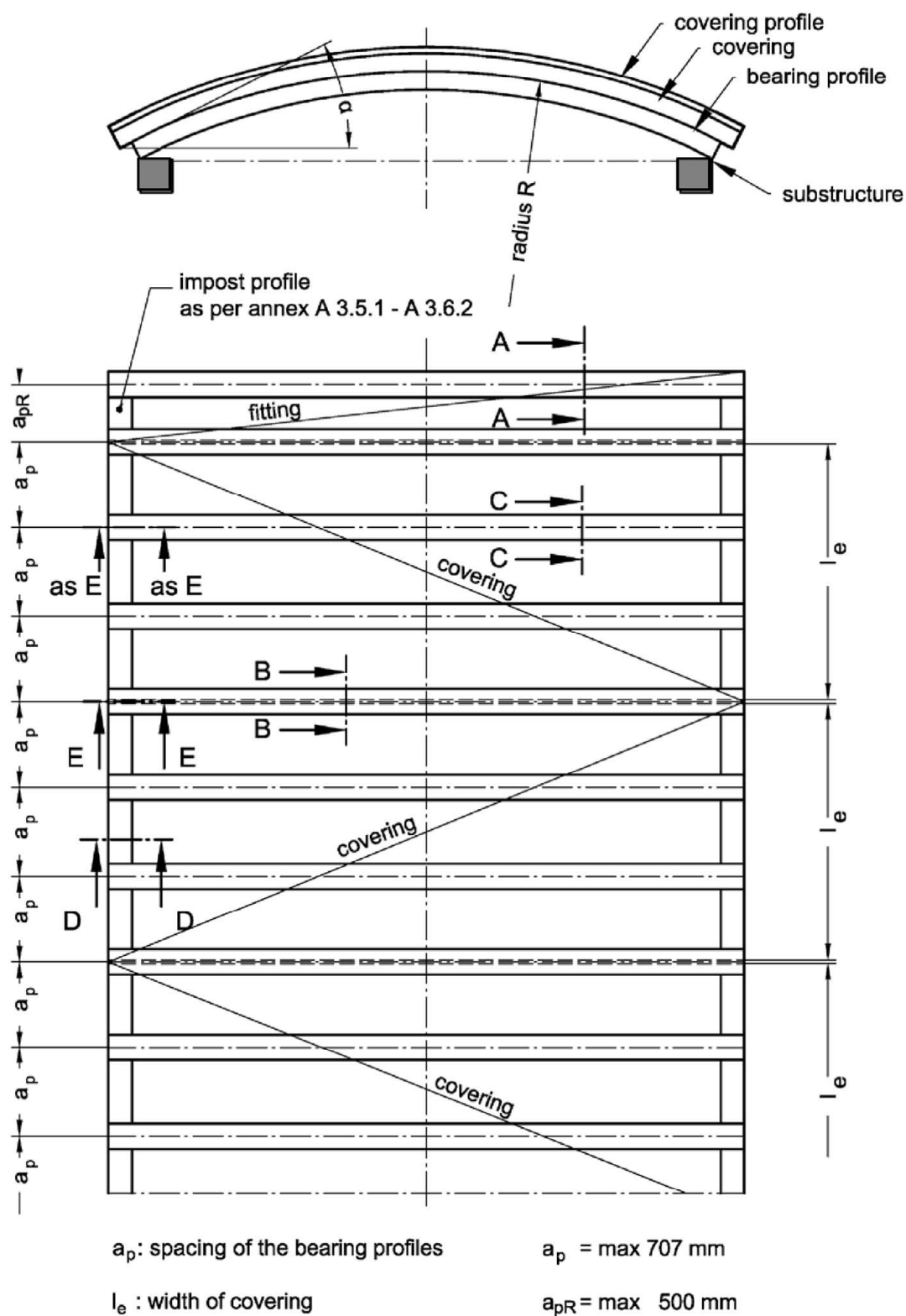
$a_{pR} = \max a_p$

JET-Vario-Norm

System overview  
1-span-system

Annex A 1.1

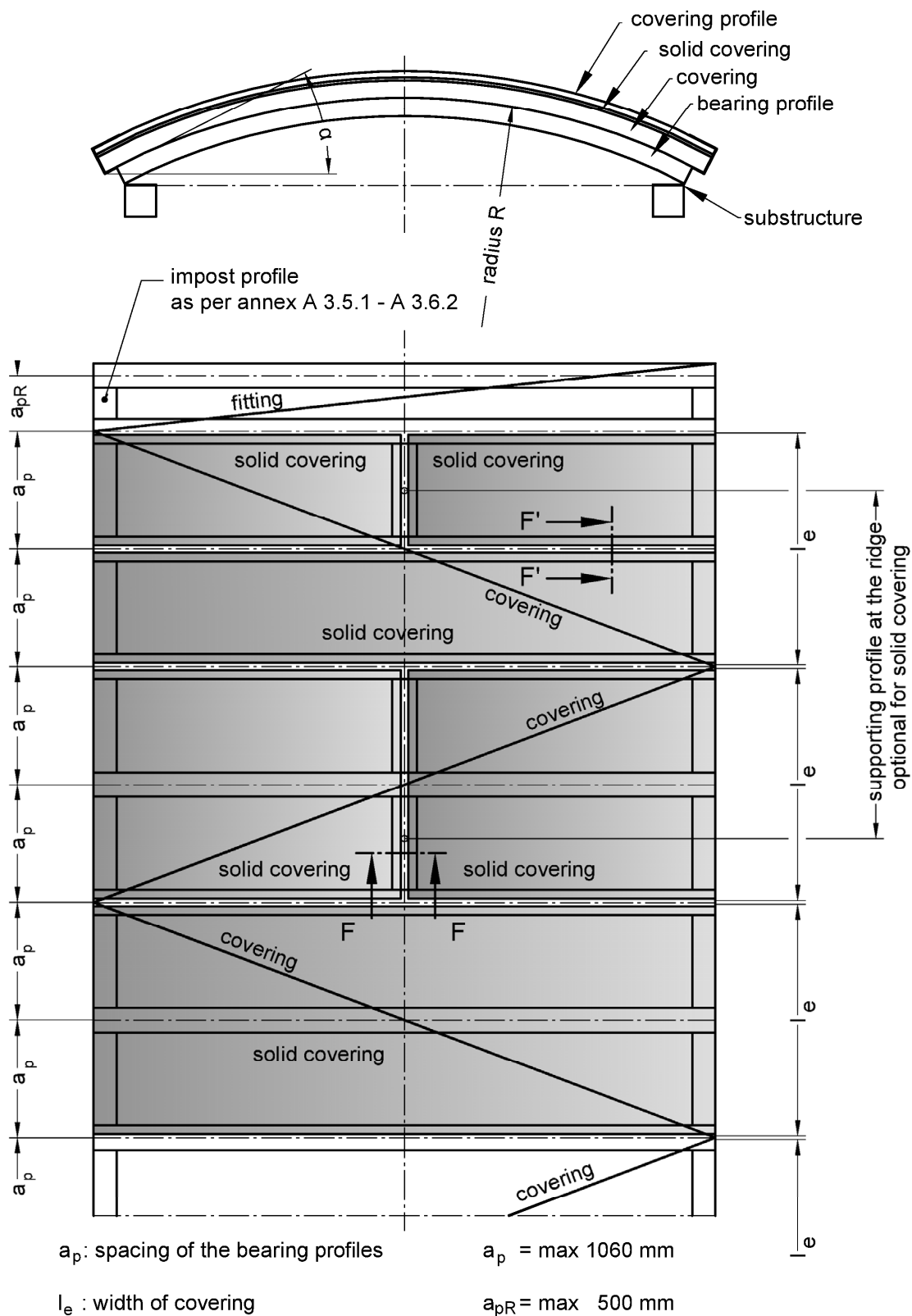




JET-Vario-Norm

System overview  
3-span-system

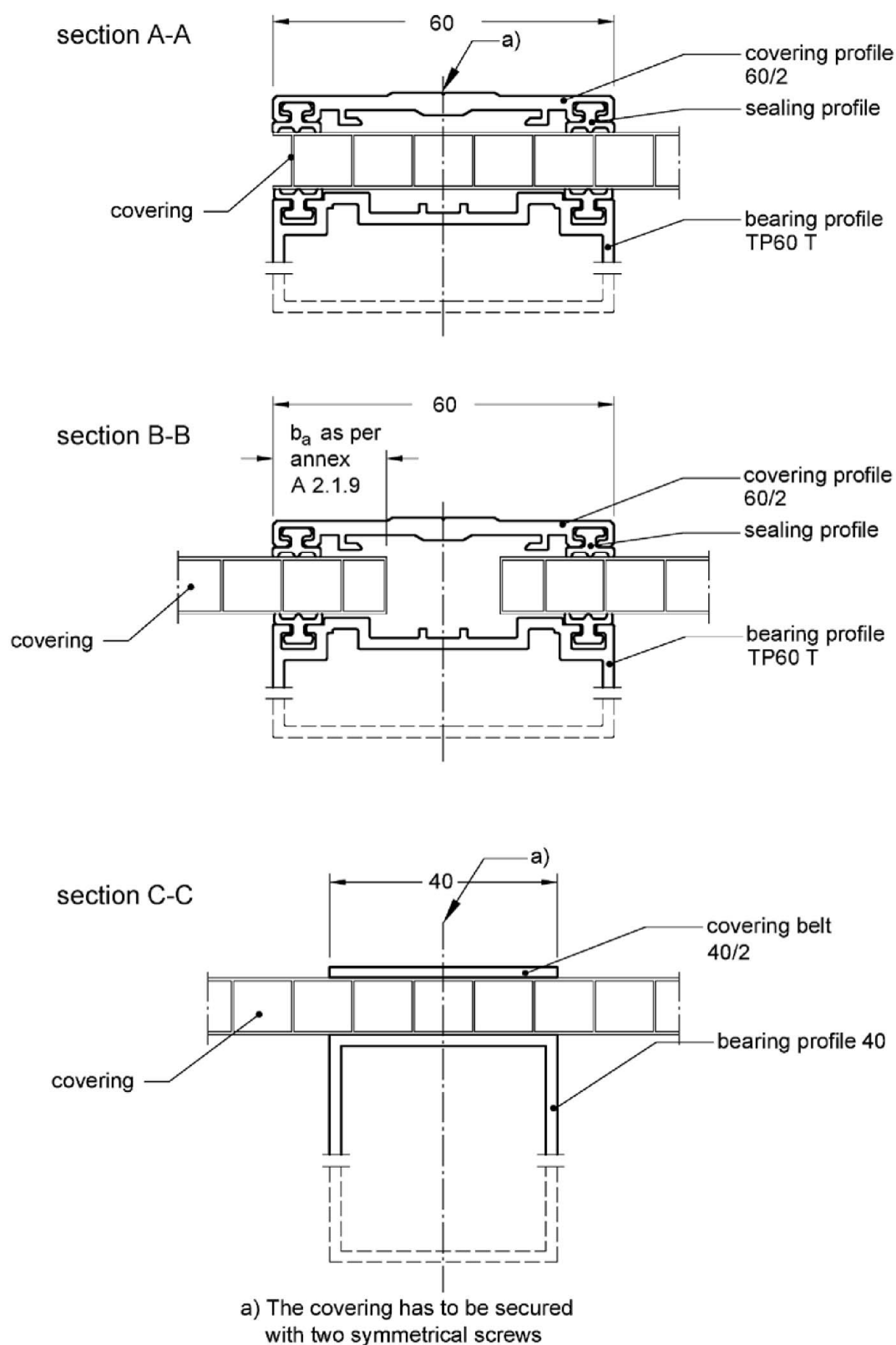
Annex A 1.3



JET-Vario-Norm

Overview of multi-wall-sheet in combination with solid covering "PC 16" + "PC UVP 3 mm"  
2-span-system

Annex A 1.4



All dimensions in mm

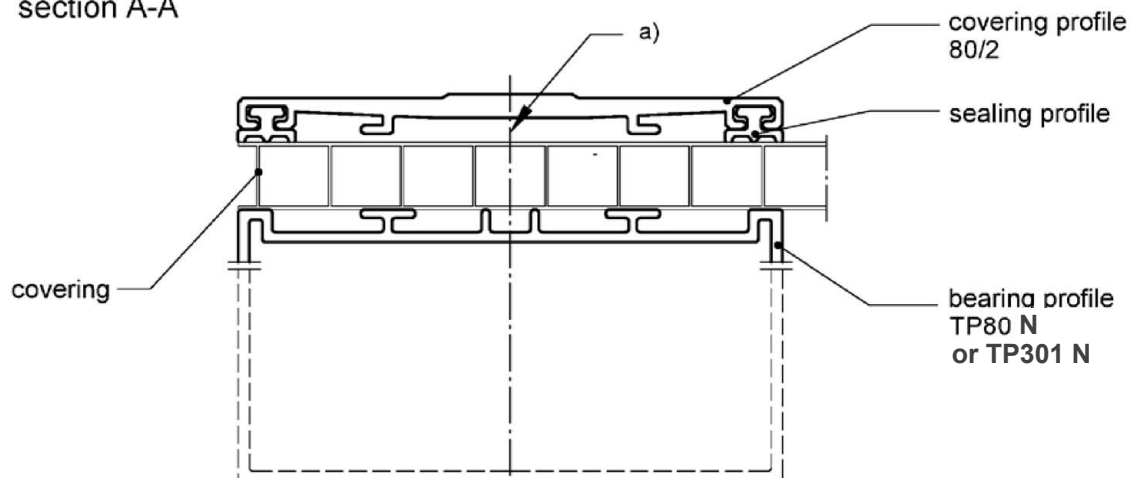
schematic drawing - covering

JET-Vario-Norm

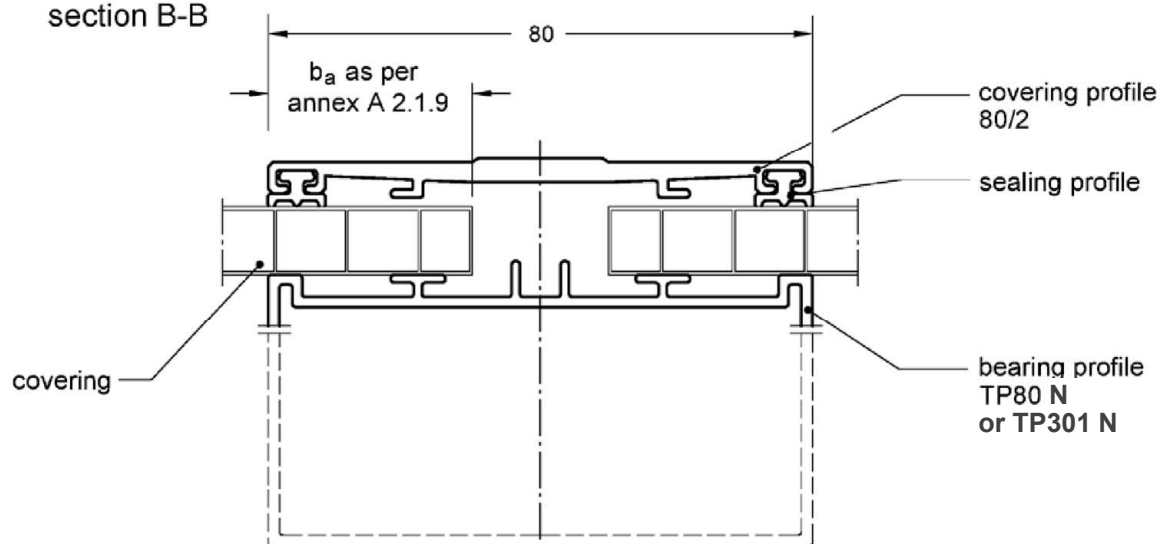
Combinations of arch profiles 2-span-system  
Section A-A, B-B and C-C

Annex A 2.1.1

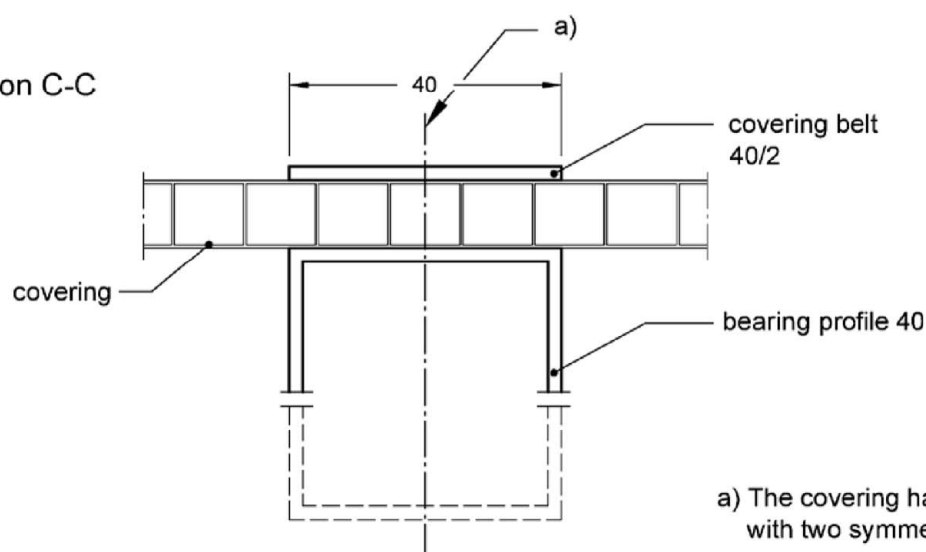
section A-A



section B-B



section C-C



a) The covering has to be secured with two symmetrical screws

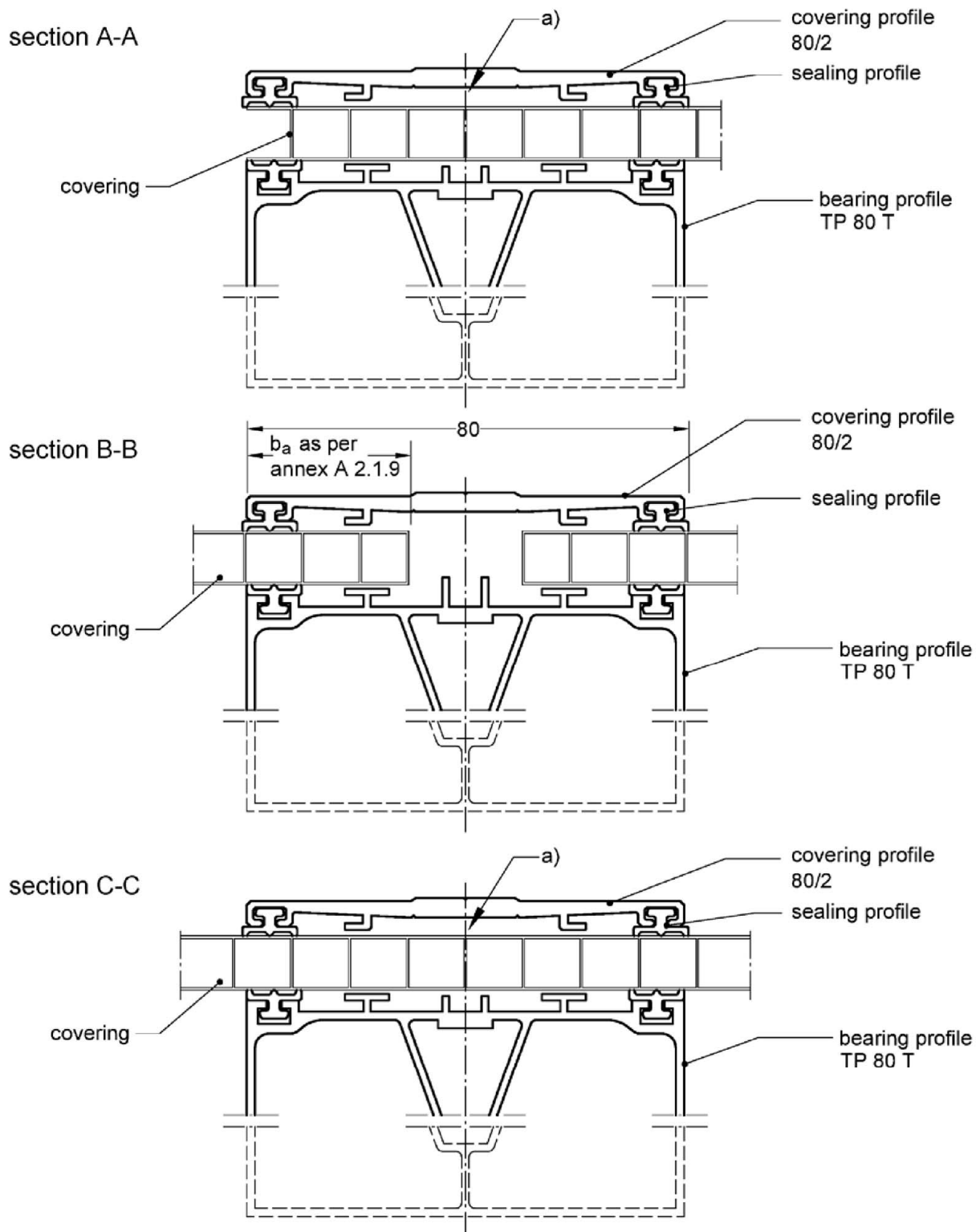
schematic drawing - covering

All dimensions in mm

JET-Vario-Norm

Combinations of arch profiles 1-, 2- and 3-span-system  
Section A-A, B-B and C-C

Annex A 2.1.2



a) The covering has to be secured with two symmetrical screws

All dimensions in mm

schematic drawing - covering

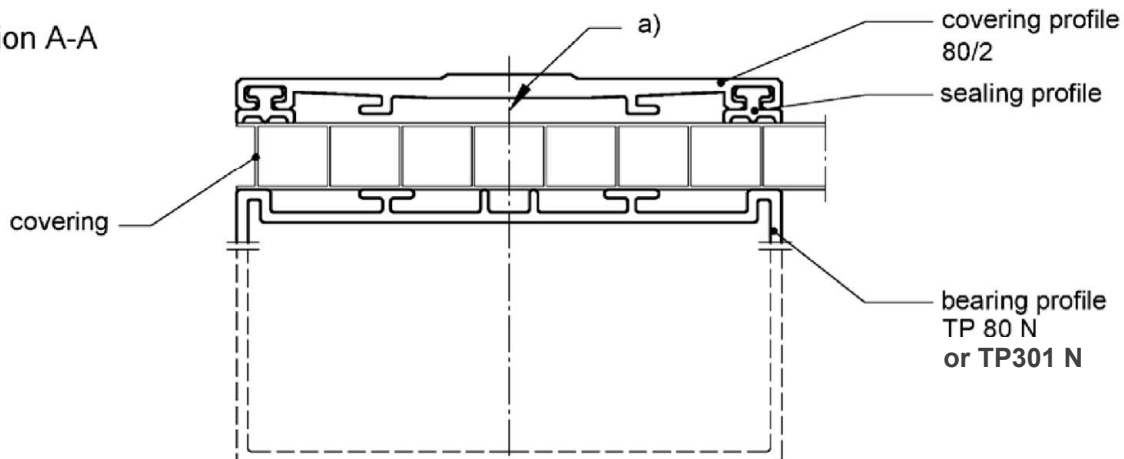
JET-Vario-Norm

Combinations of arch profiles 1-, 2- and 3-span-system  
Section A-A, B-B and C-C

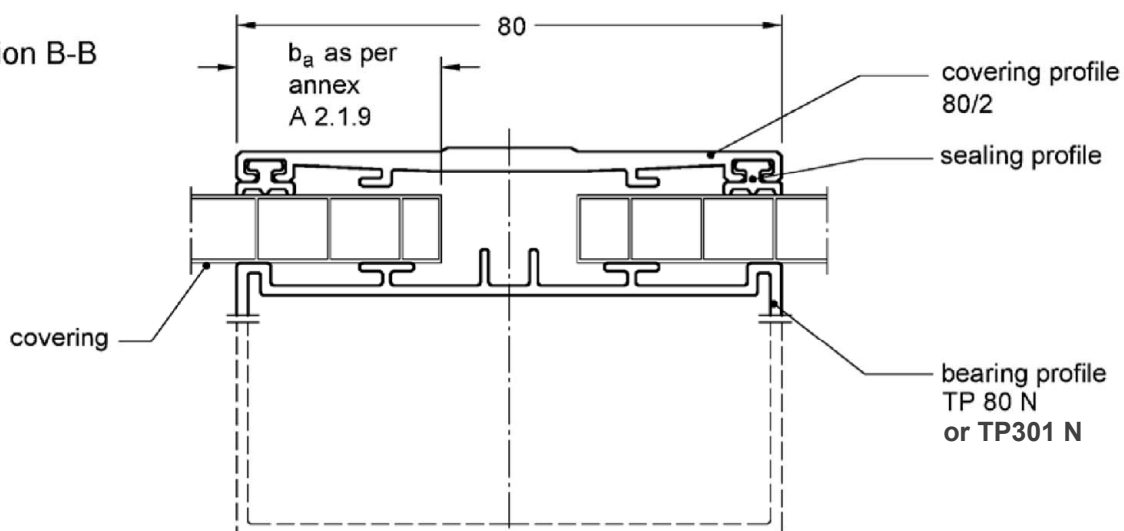
Annex A 2.1.3



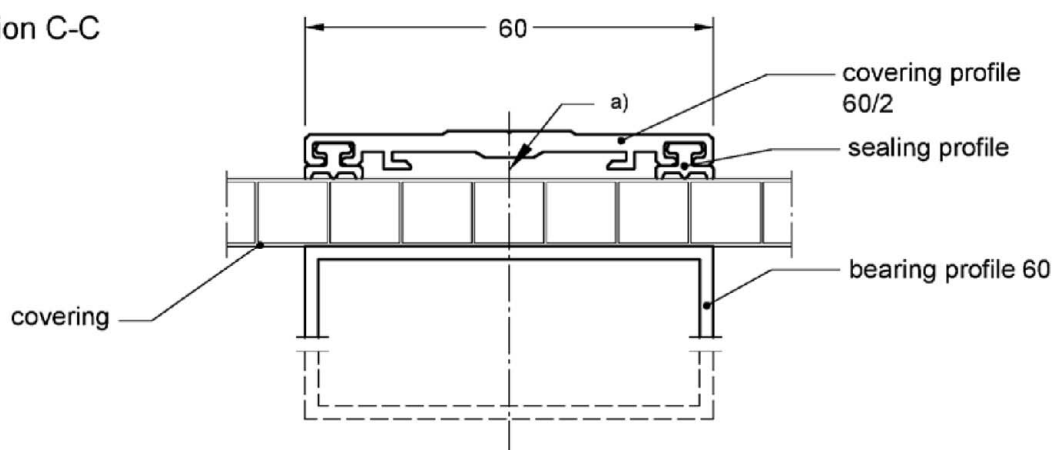
section A-A



section B-B



section C-C



a) The covering has to be secured  
with two symmetrical screws

All dimensions in mm

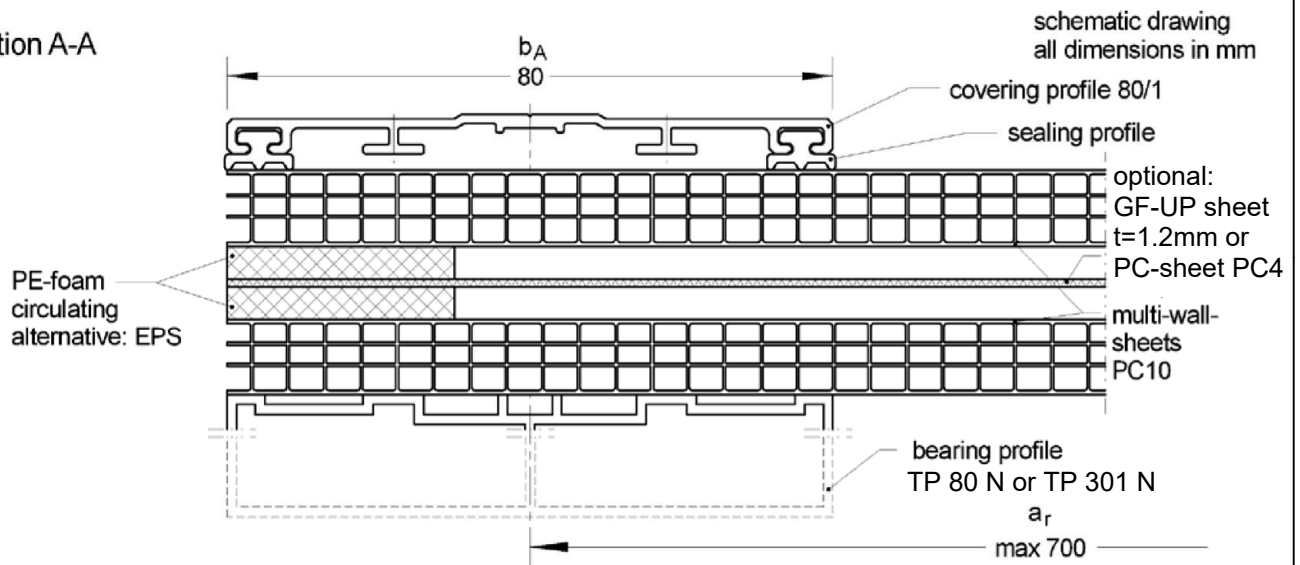
schematic drawing - covering

JET-Vario-Norm

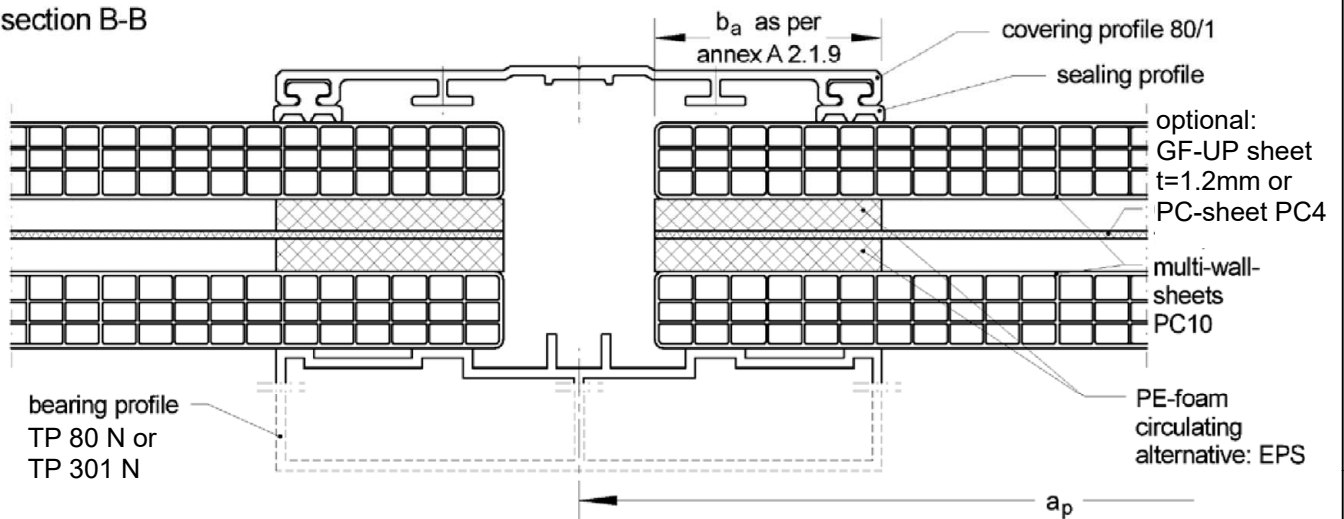
Combinations of arch profiles 2- and 3-span-system  
Section A-A, B-B and C-C

Annex A 2.1.4

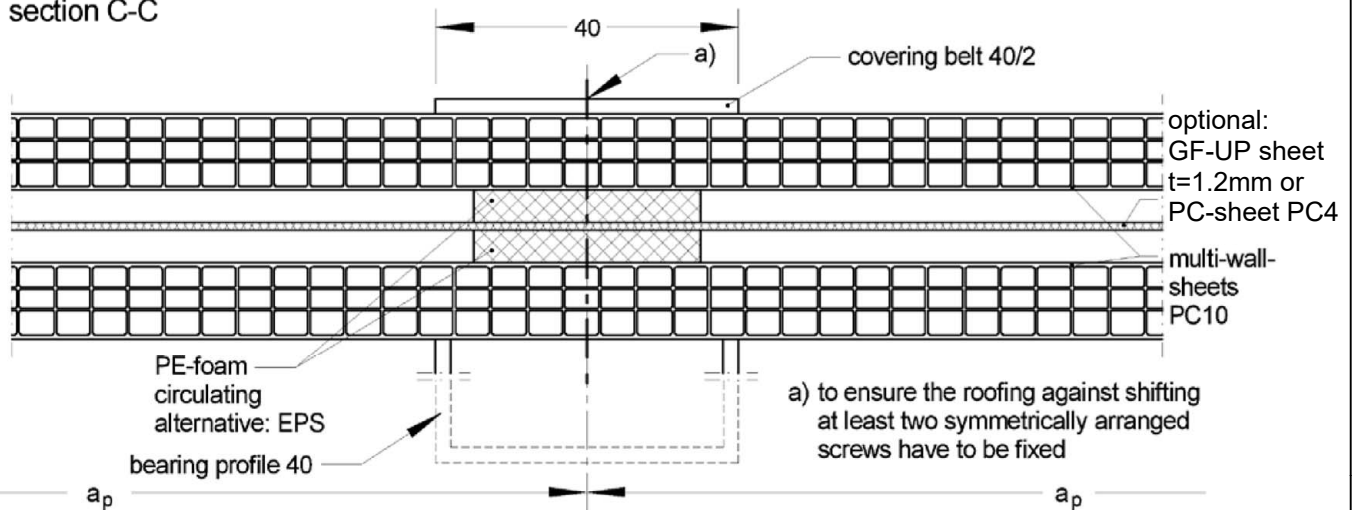
section A-A



section B-B



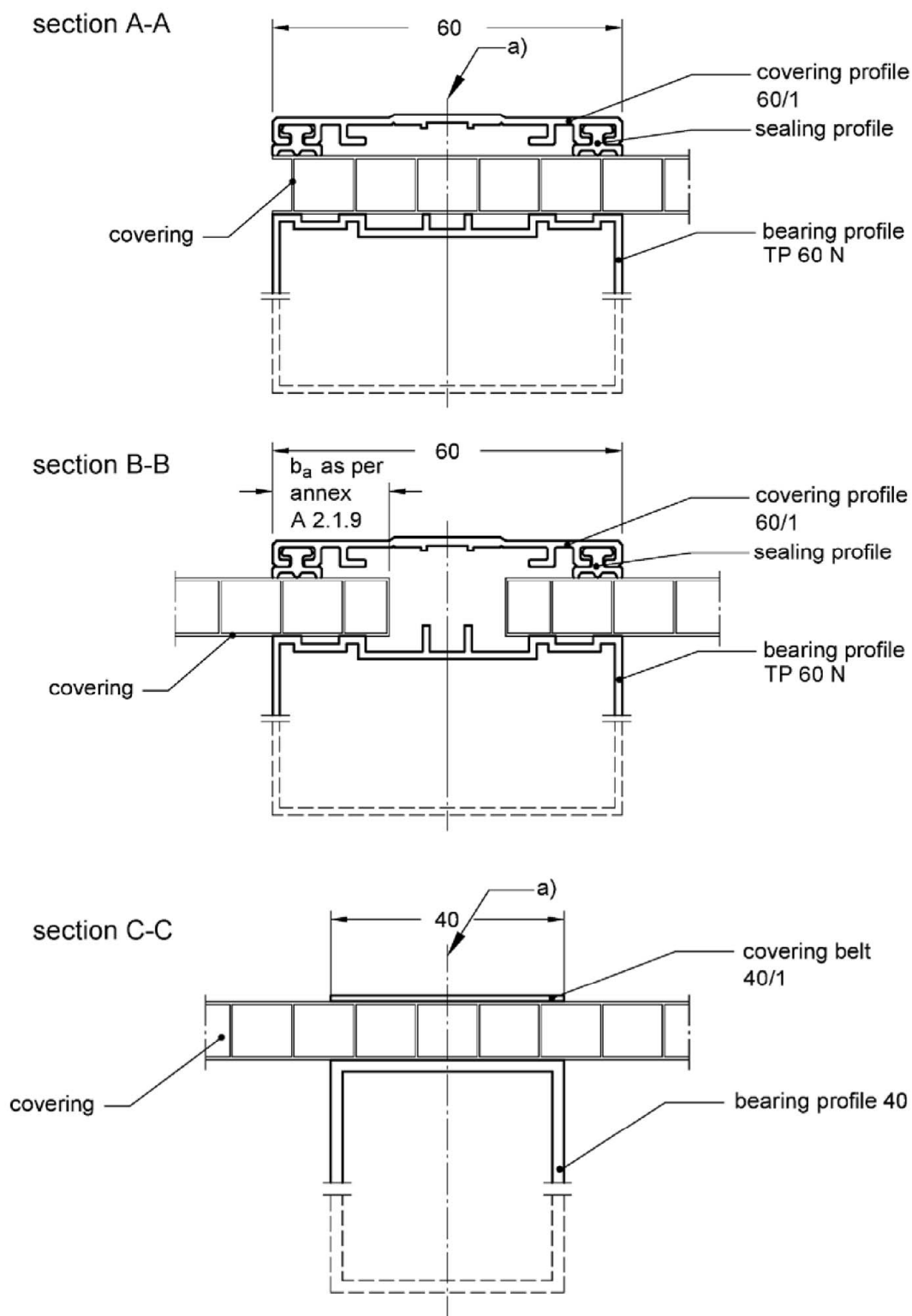
section C-C



JET-Vario-Norm

Combination of arch profiles 1-, 2- and 3-span-system: PC 10 + 10 DI  
section A-A, B-B and C-C

Annex A 2.1.5



a) The covering has to be secured with two symmetrical screws

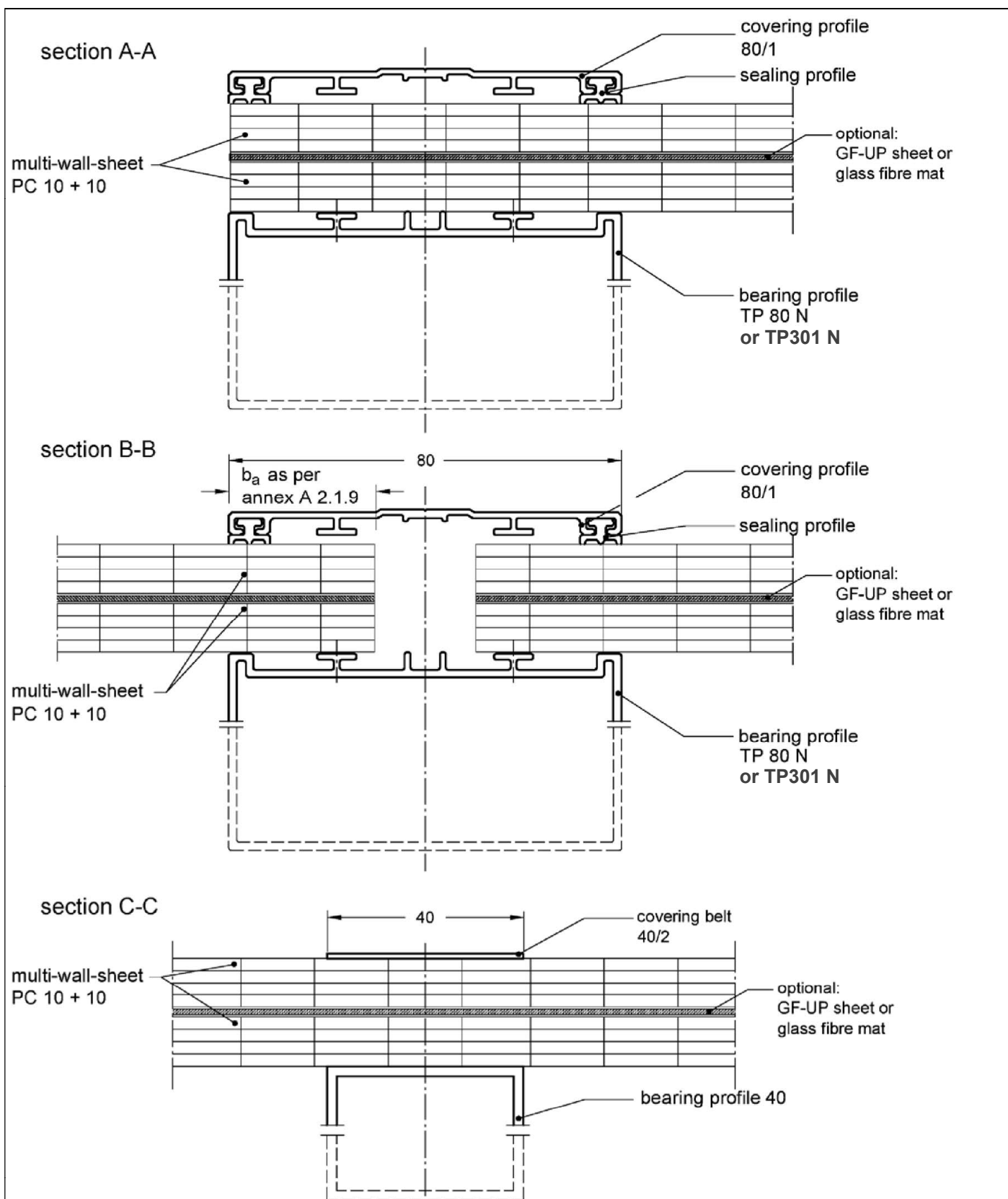
All dimensions in mm

schematic drawing - covering

JET-Vario-Norm

Combinations of arch profiles 1- and 2-span-system  
Section A-A, B-B and C-C

Annex A 2.1.6



All dimensions in mm

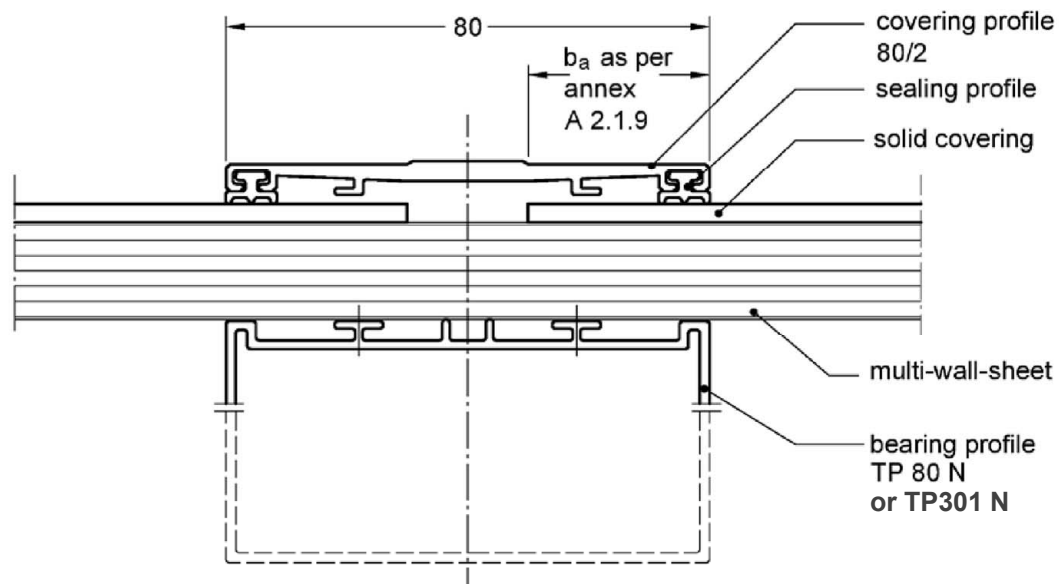
schematic drawing - covering

JET-Vario-Norm

Combinations of arch profiles 1-, 2- and 3-span-system  
Section A-A, B-B and C-C

Annex A 2.1.7

section F-F



All dimensions in mm

schematic drawing - covering

JET-Vario-Norm

Combinations of arch profiles 1-, 2- and 3-span-system  
section F-F/F'-F' for covering "PC UVP 3 mm" + "PC16"

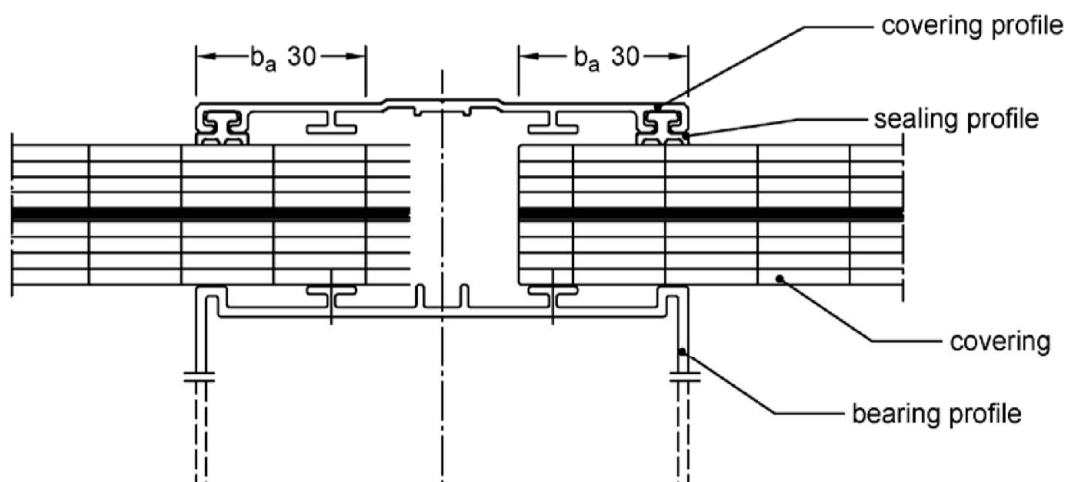
Annex A 2.1.8

Covering	Section B-B or 'F-F' / 'F'-F' as per Annex	Minimum bearing width $b_a$ [mm] for		
		1-span system	2-span system	3-span system
		$a_p \leq 1060$	$a_p \leq 1060$	$a_p \leq 707$
		$l_{es} \text{ or } l_e \leq 1050$	$l_e \leq 2100$	$l_e \leq 2100$
PC 10	2.1.1		20	
	2.1.2	30	30	30
	2.1.3	30	30	30
	2.1.4		30	30
	2.1.6		30	
PC 10+10	2.1.7	30	30	30
PC 10+10 DI	2.1.5	30	30	30
PC 16+GF-UP DI	2.1.10	30	30	
	2.1.11	30	30	
PC 16	2.1.1		20	
	2.1.2	30		30
	2.1.3	23	30	
	2.1.4		30	
PC 20	2.1.6	20	20	
PC 3+16	2.1.8	30	30	30

$a_p$  = spacing of the bearing profiles  
 $l_{es}$  = width of covering  
 $l_e$  = production width

When the sheet edges are cut, the distance between the bearing profile and the last fully preserved rib is considered bearing width  $b_a$ .

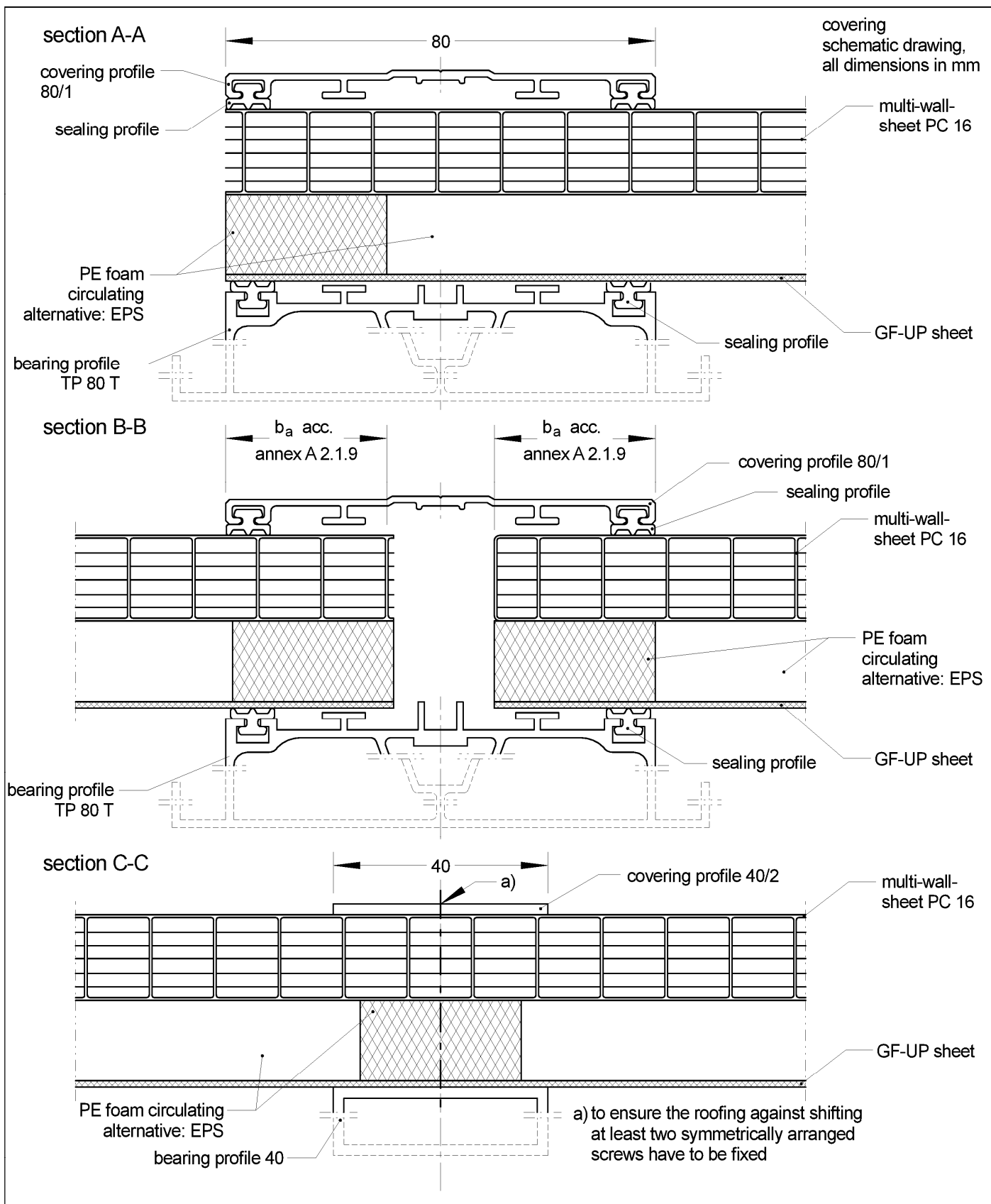
Example:



JET-Vario-Norm

Bearing width at the covering and bearing profile as per sections B-B and F-F' / 'F'-F'

Annex A 2.1.9

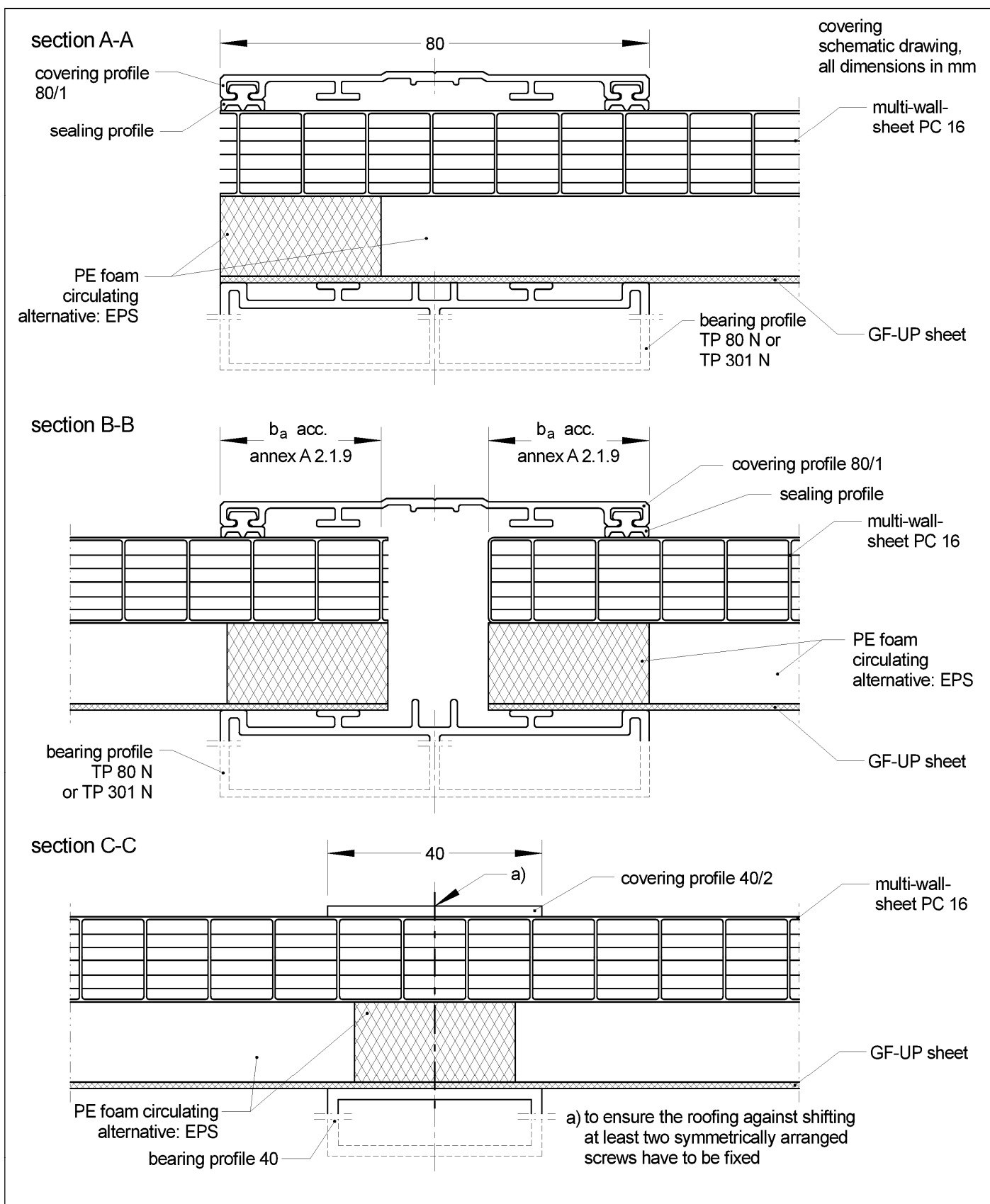


JET-Vario-Norm

Combination of arch profiles 1- and 2-span-system: PC 16 + GF-UP DI  
section A-A, B-B and C-C

Annex A 2.1.10



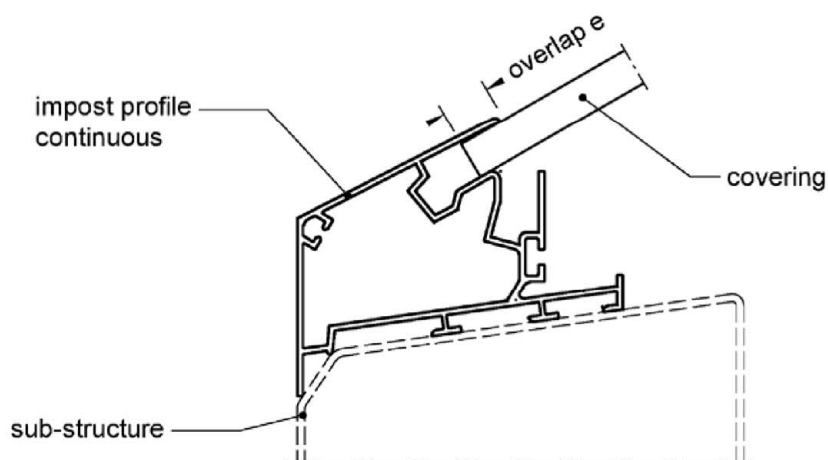


JET-Vario-Norm

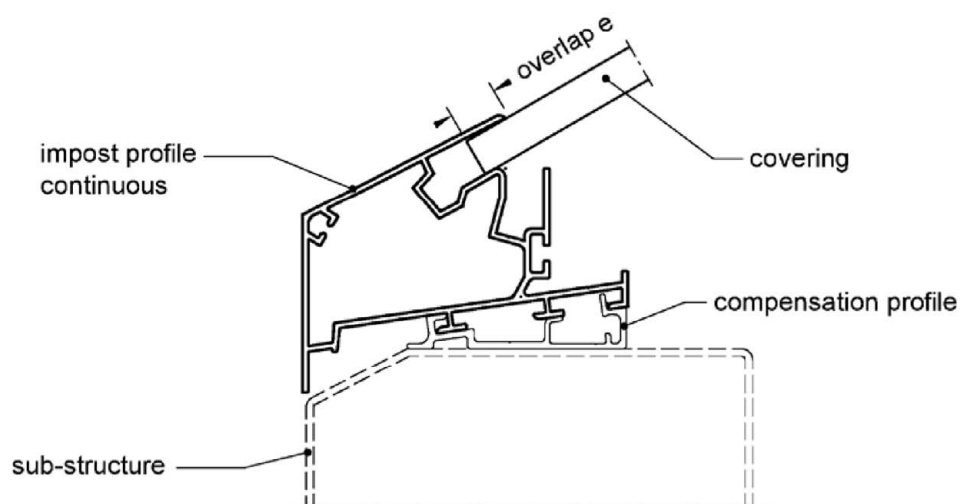
Combinations of arch profiles 1- and 2-span-system: PC 16 + GF-UP DI  
section A-A and B-B and C-C

Annex A 2.1.11





optional mounting

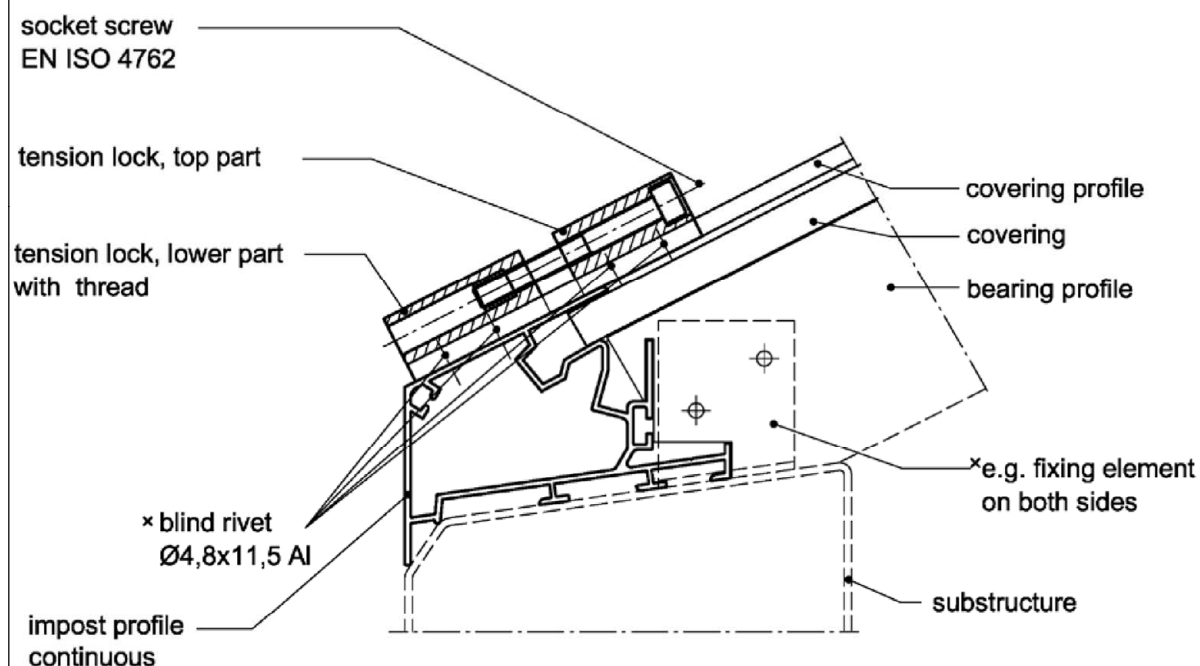


covering	impost as per annex	overlap e
PC 10	3.5.1	≥ 13 mm
PC 16	3.5.1 / 3.6.1	≥ 13 mm
PC 10+10	3.5.2 / 3.6.2	≥ 18 mm
PC 10+10 DI	3.6.3	≥ 27 mm
PC 3+16	3.5.2 / 3.6.2	≥ 30 mm
PC 16 + GF-UP DI	3.6.3	≥ 27 mm

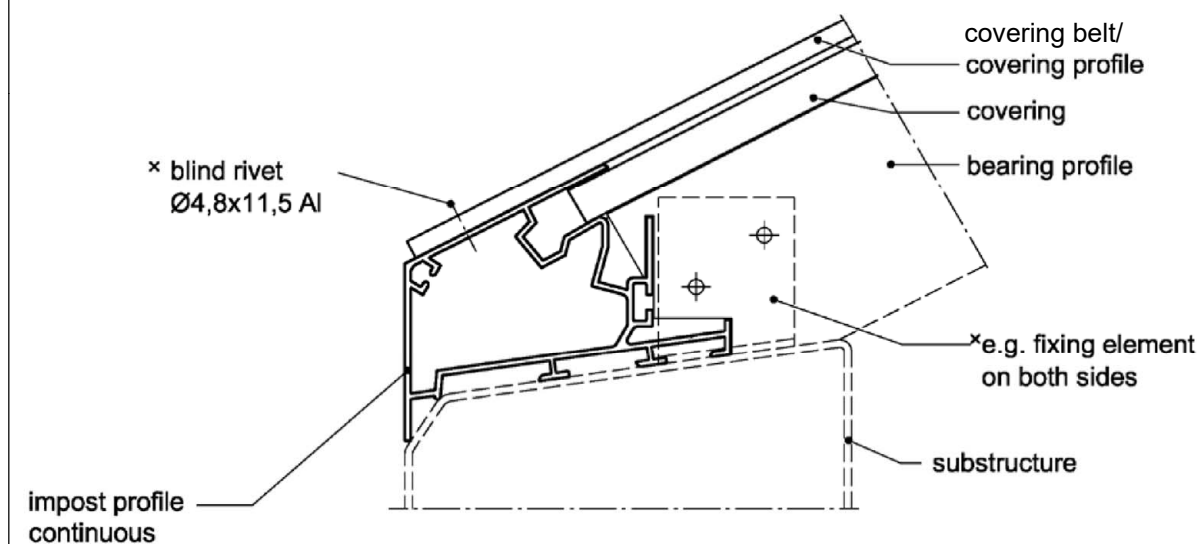
JET-Vario-Norm

Impost profile  
Section D-D

Annex A 2.2



mounting covering belt  
optional mounting covering profile



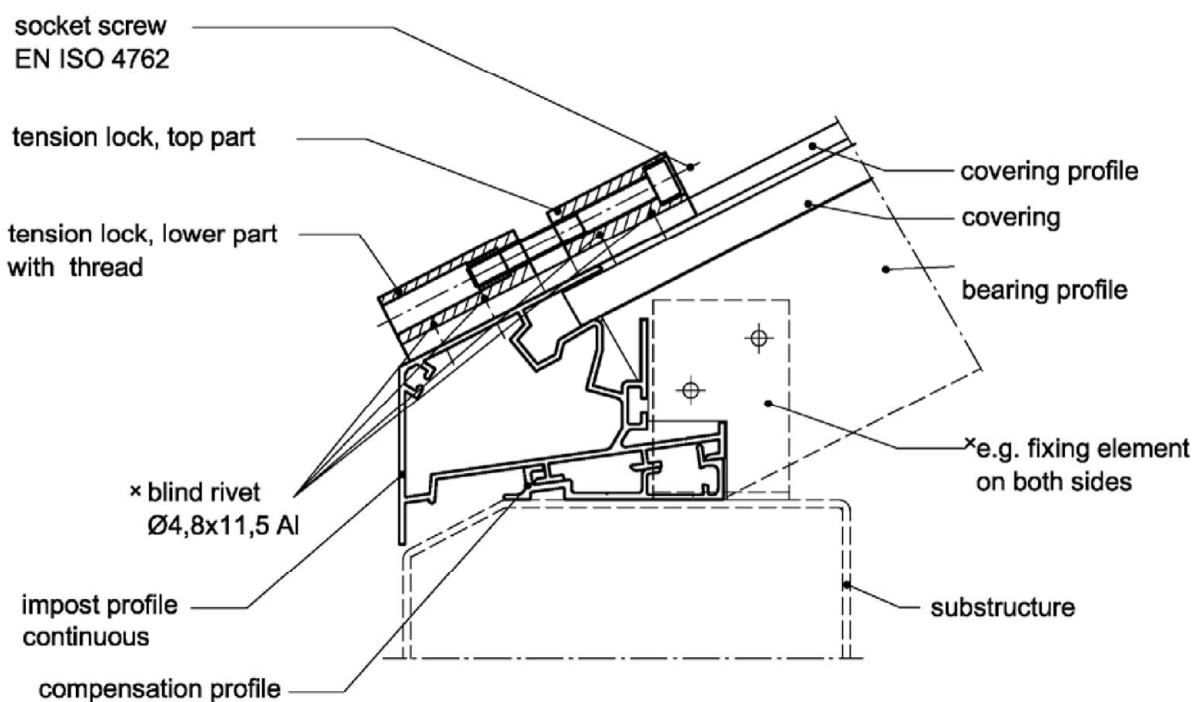
\*type and quantity as per  
structural requirements

connecting profiles  
according structural requirements

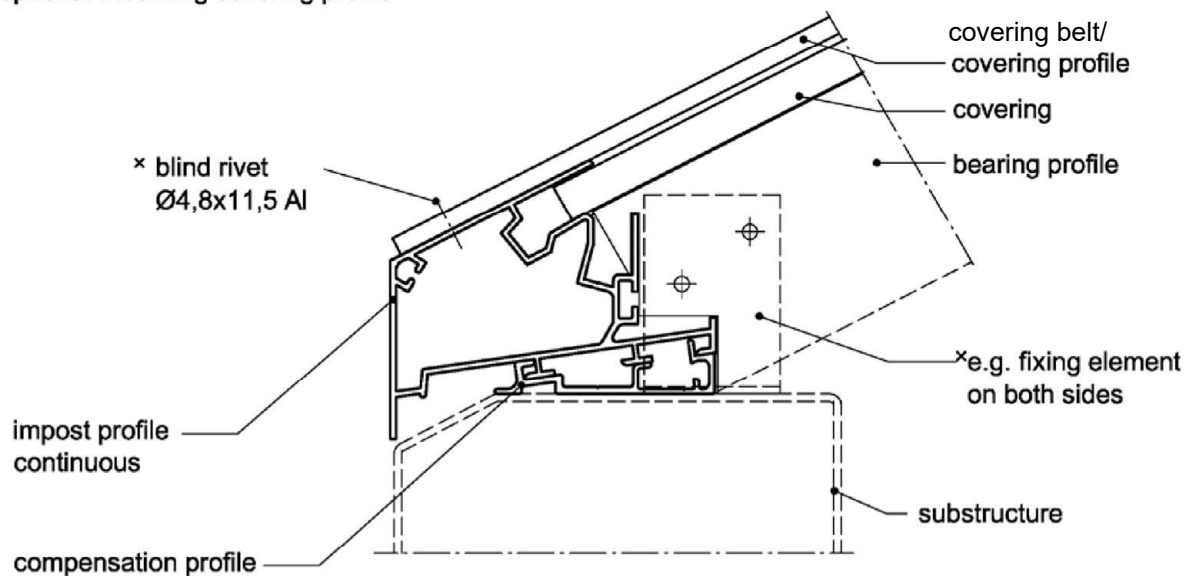
JET-Vario-Norm

Impost profile  
Section E-E

Annex A 2.3.1



mounting covering belt  
optional mounting covering profile



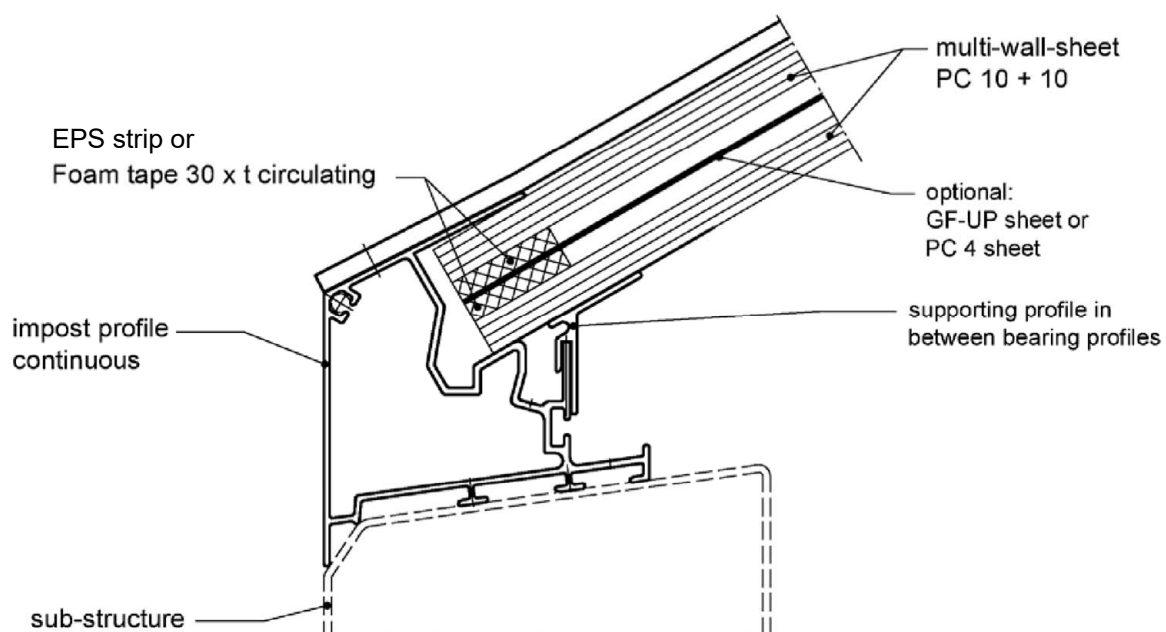
\*type and quantity as per  
structural requirements

connecting profiles  
according structural requirements

JET-Vario-Norm

Impost profile  
Section E-E with optional compensation profile

Annex A 2.3.2



covering	thickness t
PC 10+10 DI	12 mm
PC 10 + GF-UP + 10 DI	5,4 mm
PC 10 + 4 + 10 DI	4 mm

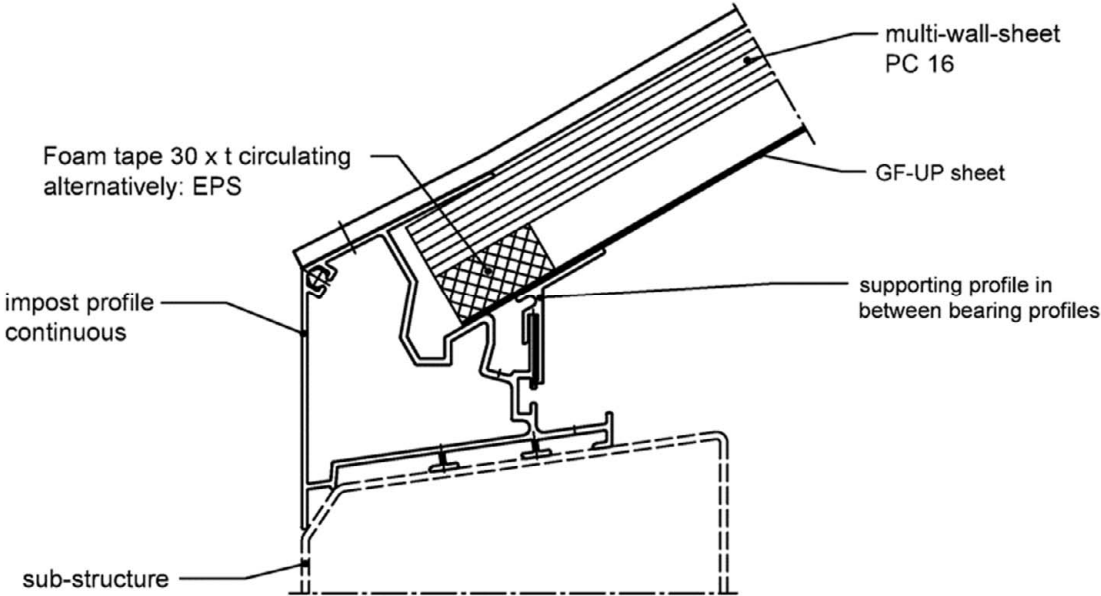
All dimensions in mm

schematic drawing - covering

JET-Vario-Norm

Impost profile  
Section D-D

Annex A 2.3.3



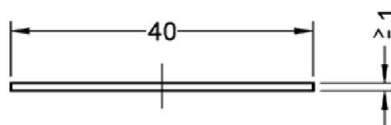
covering	thickness t
PC 16 + GF-UP DI	15 mm

All dimensions in mm

schematic drawing - covering

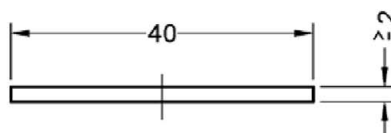
JET-Vario-Norm	Annex A 2.3.4
Impost profile Section D-D	

covering belt  
40/1



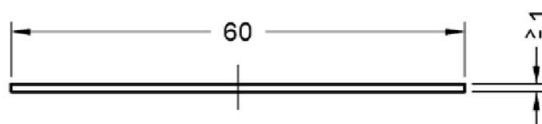
EN AW-6060  
T66

covering belt  
40/2



EN AW-6060  
T66

covering belt  
60/1



EN AW-6060  
T66

Dimensions and tolerances  
as per EN 755-9

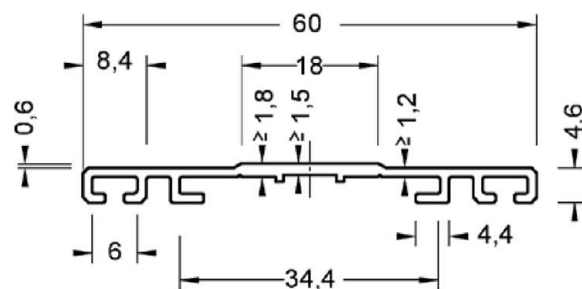
All dimensions in mm

JET-Vario-Norm

Covering profiles  
Sections

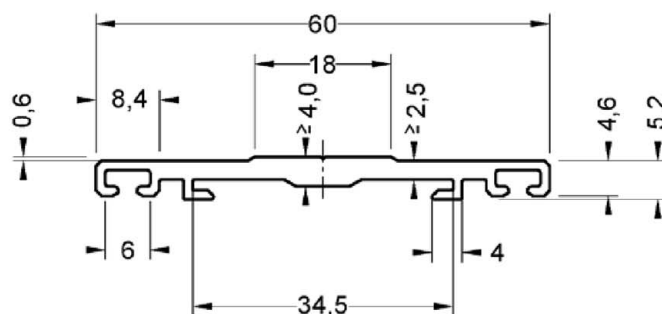
Annex A 3.1

covering profile  
60/1



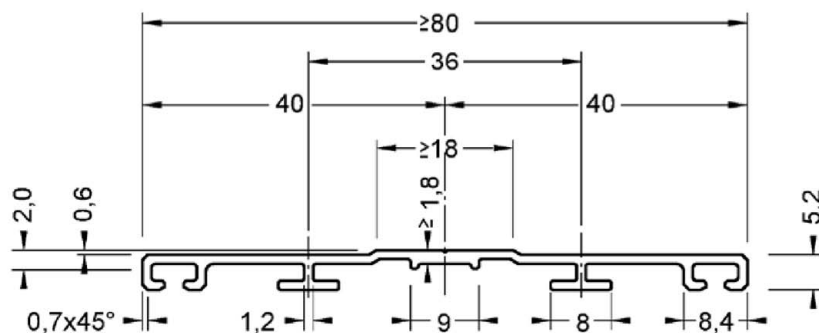
EN AW-6060  
T66

covering profile  
60/2



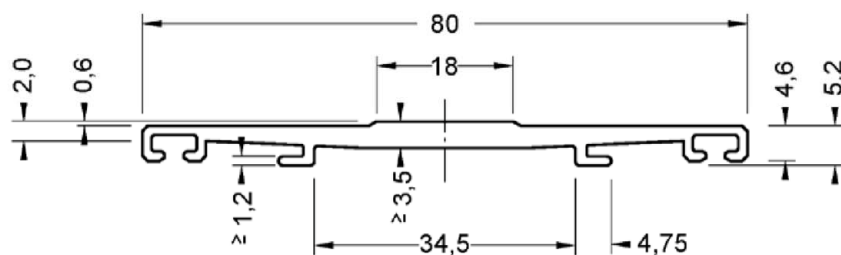
EN AW-6060  
T66

covering profile  
80/1



EN AW-6060  
T66

covering profile  
80/2



EN AW-6060  
T66

Dimensions and tolerances  
as per EN 755-9

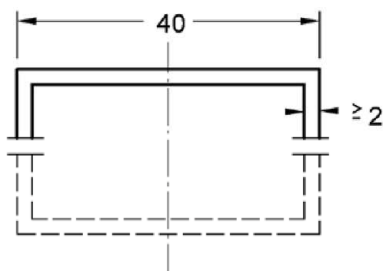
All dimensions in mm

JET-Vario-Norm

Covering profiles  
Sections

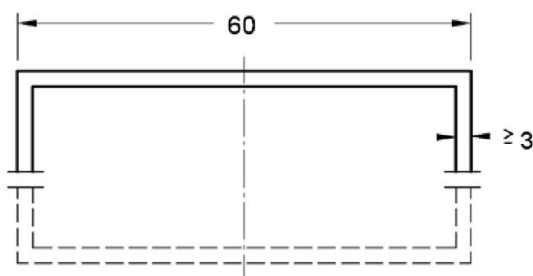
Annex A 3.2

bearing profile 40



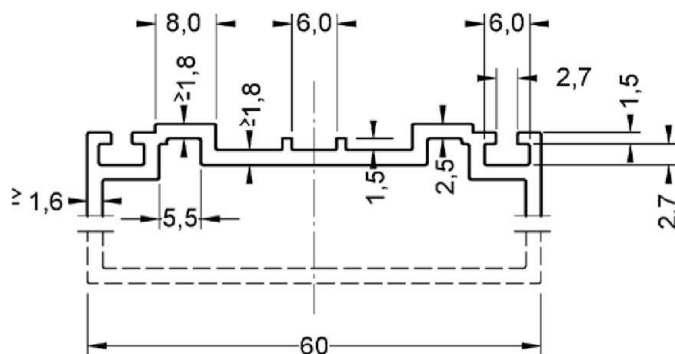
EN AW-6060  
T66

bearing profile 60



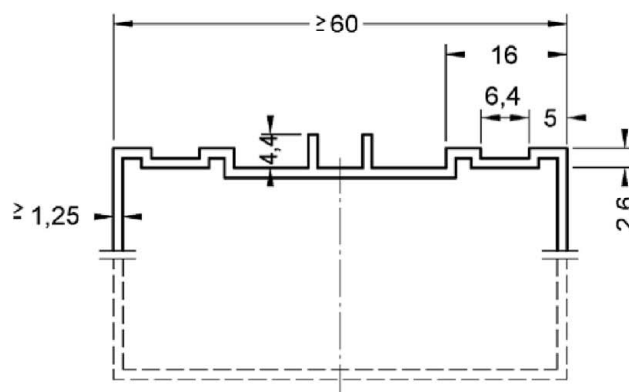
EN AW-6060  
T66

bearing profile  
TP60 T



EN AW-6060  
T66

bearing profile  
TP60 N



EN AW-6060  
T66

Dimensions and tolerances  
as per EN 755-9

All dimensions in mm

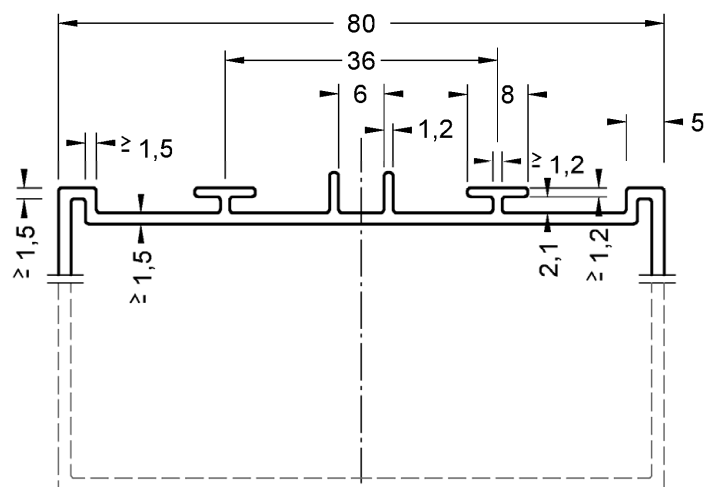
JET-Vario-Norm

Bearing profiles 40 and 60  
Sections

Annex A 3.3

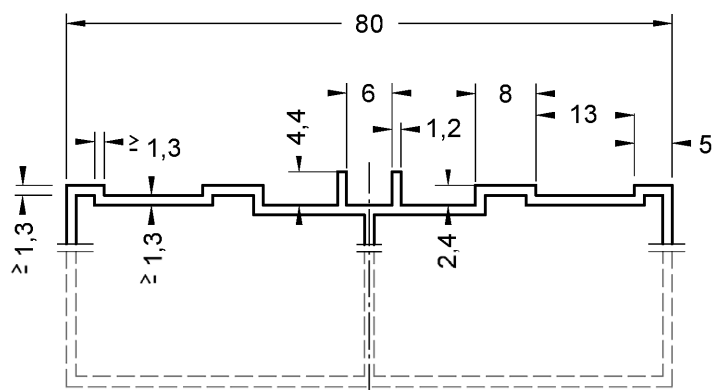


bearing profile  
TP80 N



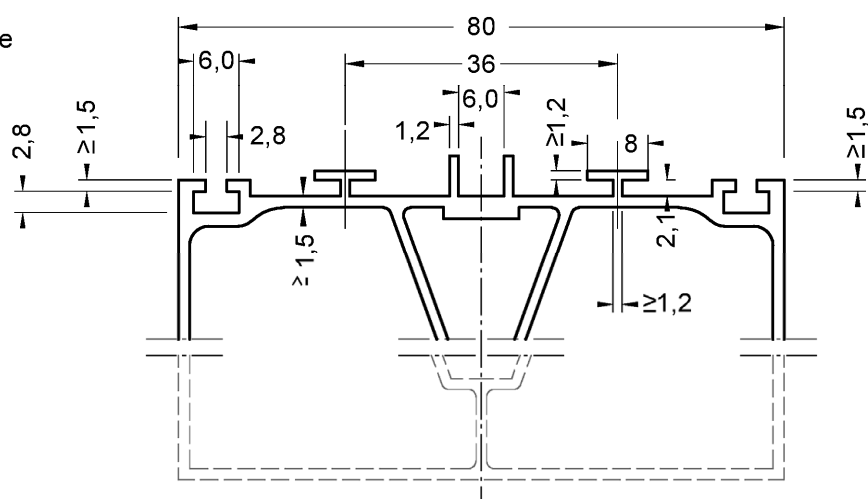
EN AW-6060  
T66

bearing profile  
TP 301 N



EN AW-6060  
T66

bearing profile  
TP80 T



EN AW-6060  
T66

Dimensions and tolerances  
as per EN 755-9

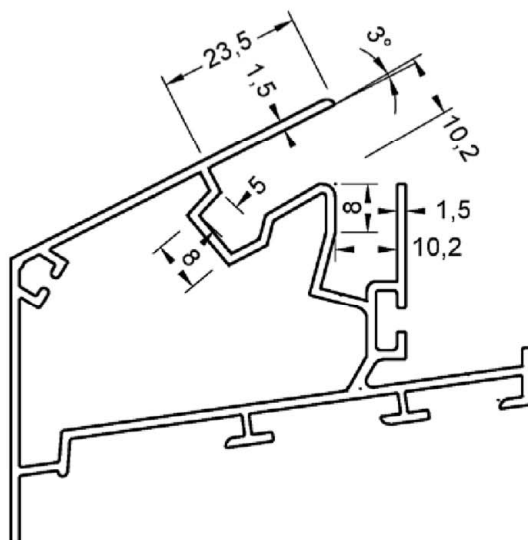
All dimensions in mm

JET-Vario-Norm

Bearing profiles 80 and 301  
Sections

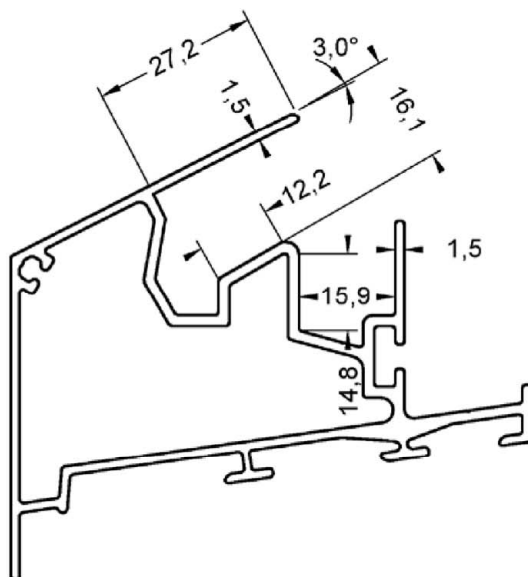
Annex A 3.4

impost profile 10/30°



EN AW-6060  
T66  
as per EN 755-2

impost profile 16/30°



EN AW-6060  
T66  
as per EN 755-2

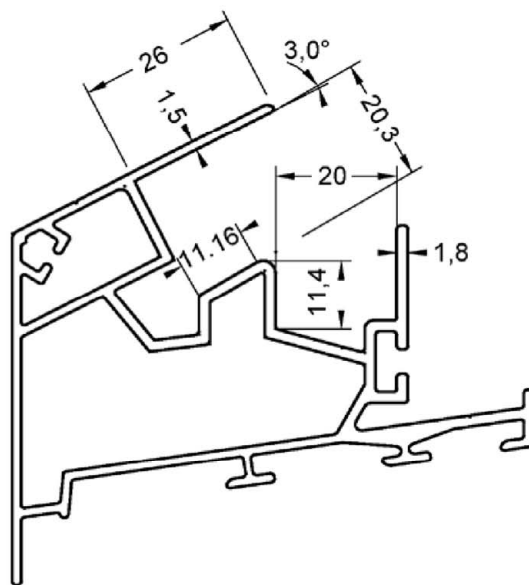
All dimensions in mm

JET-Vario-Norm

Impost profile 10/30° and impost profile 16/30°

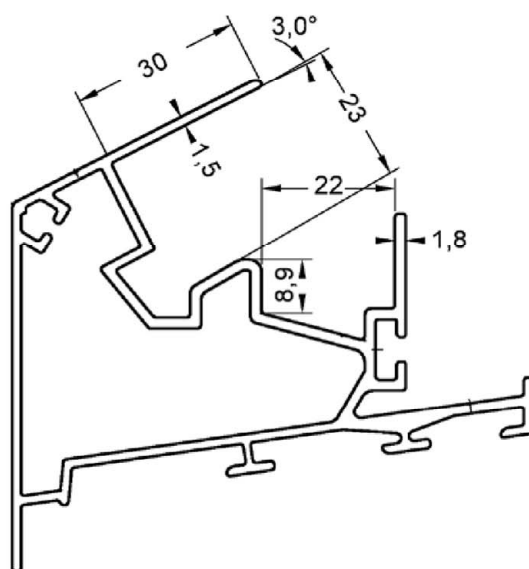
Annex A 3.5.1

impost profile 20/30°



EN AW-6060  
T66  
as per EN 755-2

impost profile 22/30°



EN AW-6060  
T66  
as per EN 755-2

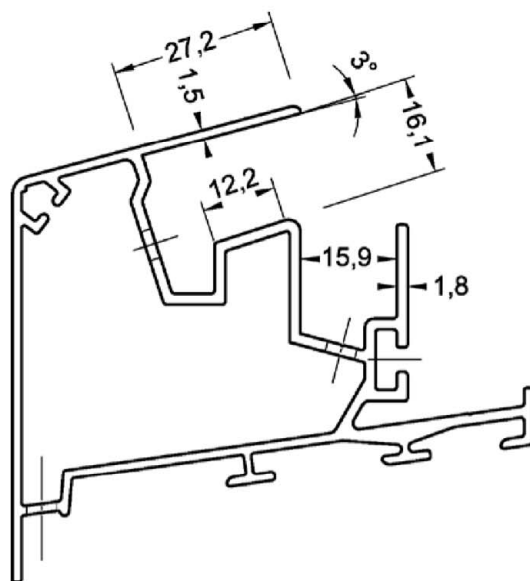
All dimensions in mm

JET-Vario-Norm

Impost profile 20/30° and impost profile 22/30°  
Sections

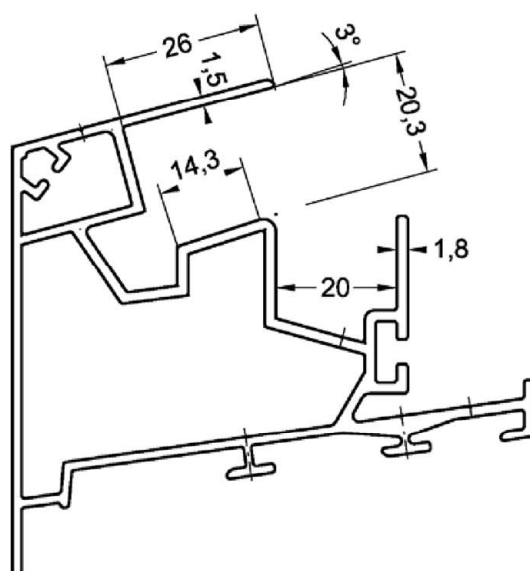
Annex A 3.5.2

impost profile 16/18°



EN AW-6060  
T66  
as per EN 755-2

impost profile 20/18°



EN AW-6060  
T66  
as per EN 755-2

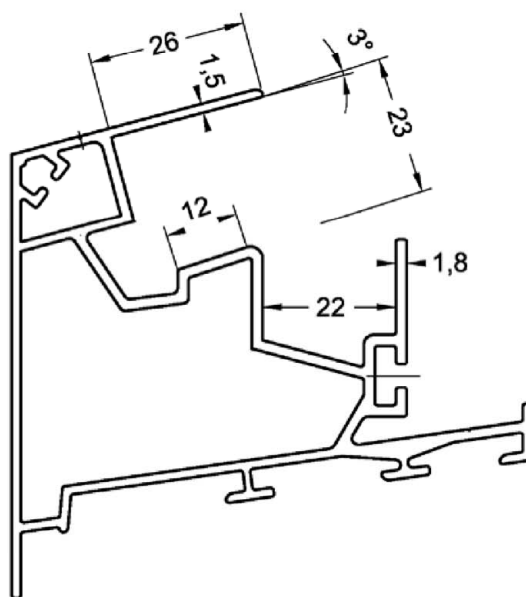
All dimensions in mm

JET-Vario-Norm

Impost profile 16/18° and impost profile 20/18°  
Sections

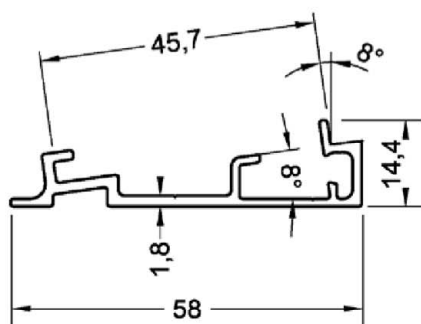
Annex A 3.6.1

impost profile 22/18°



EN AW-6060  
T66  
as per EN 755-2

compensation profile



EN AW-6060  
T66  
as per EN 755-2

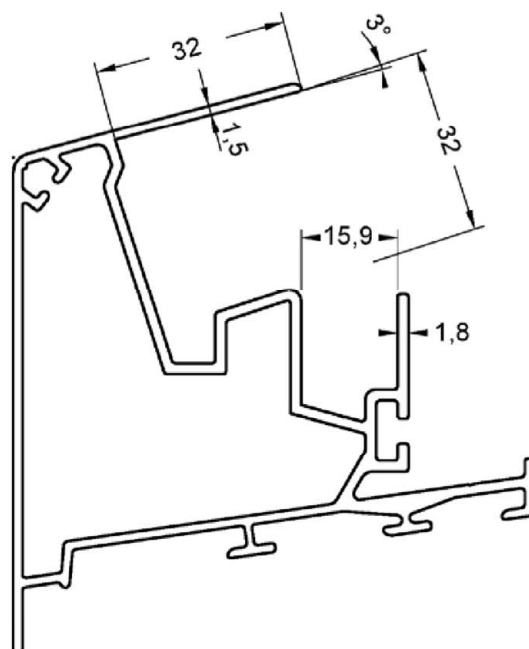
All dimensions in mm

JET-Vario-Norm

Impost profile 22/18° and compensation profile  
Sections

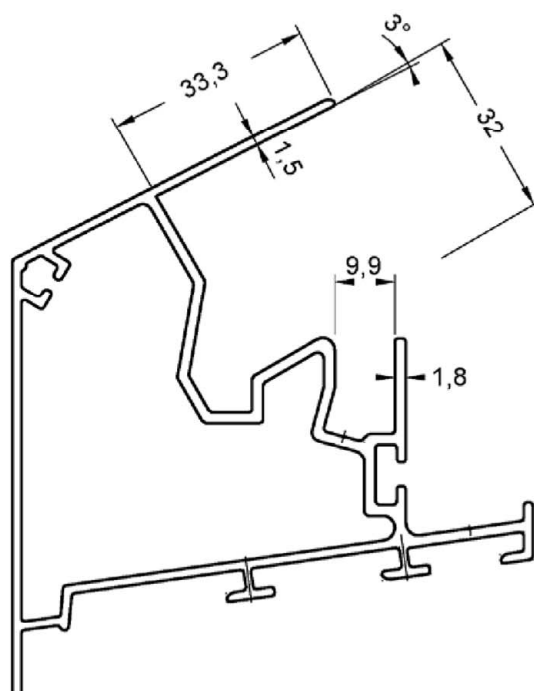
Annex A 3.6.2

impost profile 32/18°



EN AW-6060  
T66  
as per EN 755-2

impost profile 32/30°



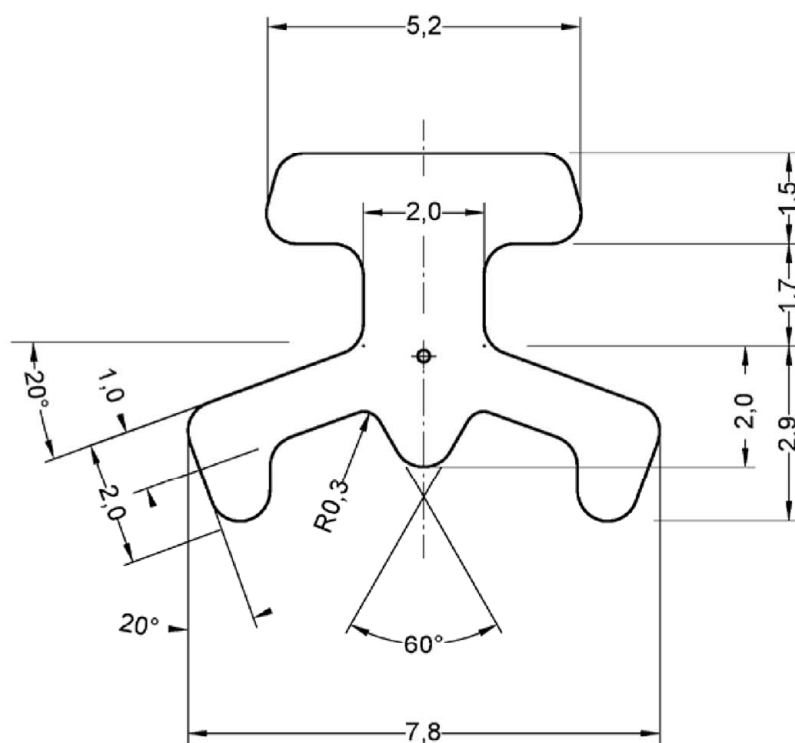
EN AW-6060  
T66  
as per EN 755-2

All dimensions in mm

JET-Vario-Norm

Impost profile 32/18° and 32/20°  
Sections

Annex A 3.6.3



undimensioned radius = R 0,5 mm

EPDM  
(60±5) Shore A  
as per EN ISO 868

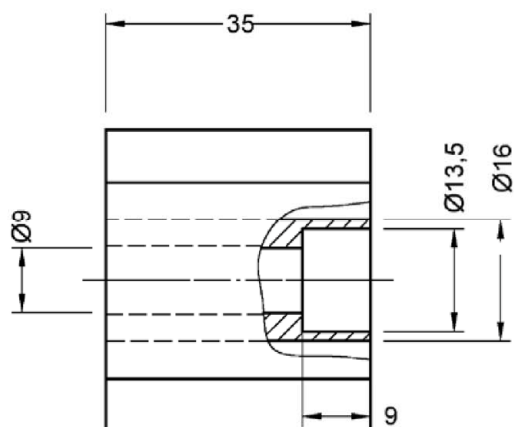
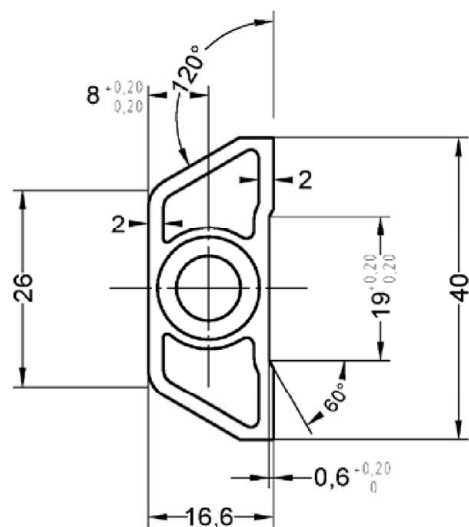
All dimensions in mm

JET-Vario-Norm

Sealing profile  
Section

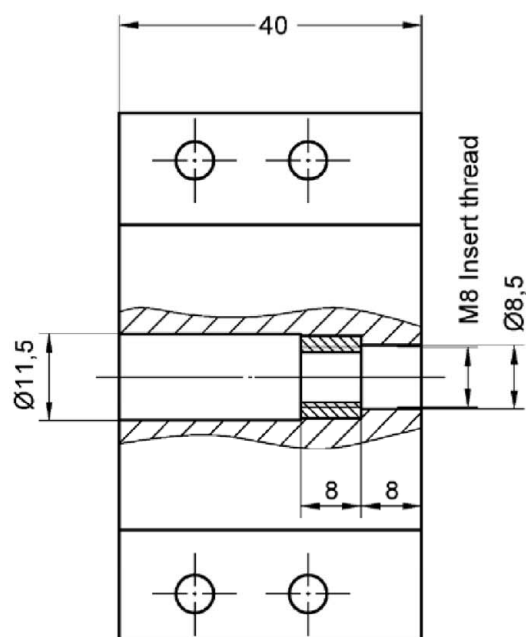
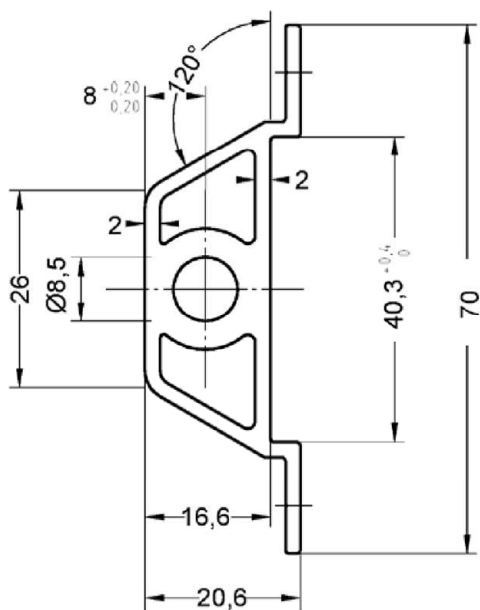
Annex A 3.7

tension lock, top part 40



EN AW-6060  
T66

tension lock, lower part 40



EN AW-6060  
T66

All dimensions in mm

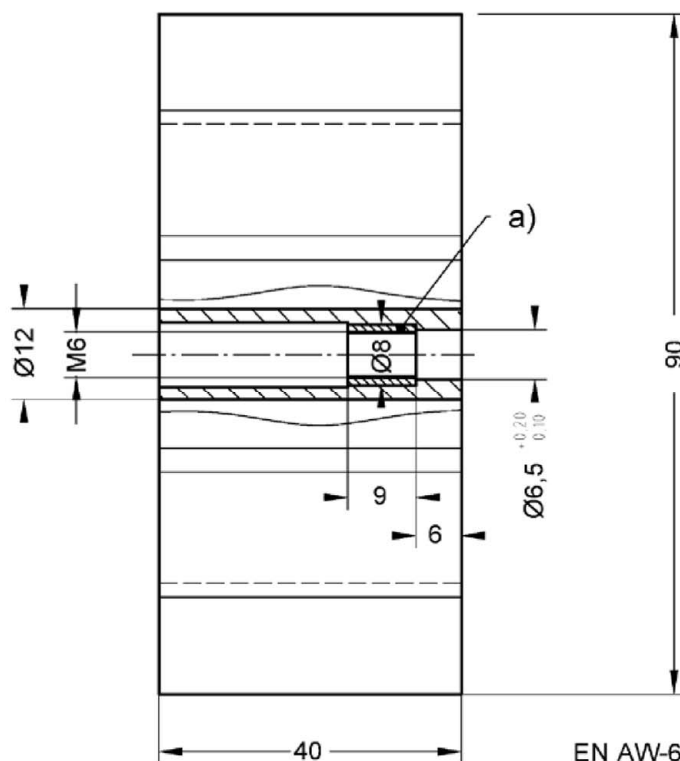
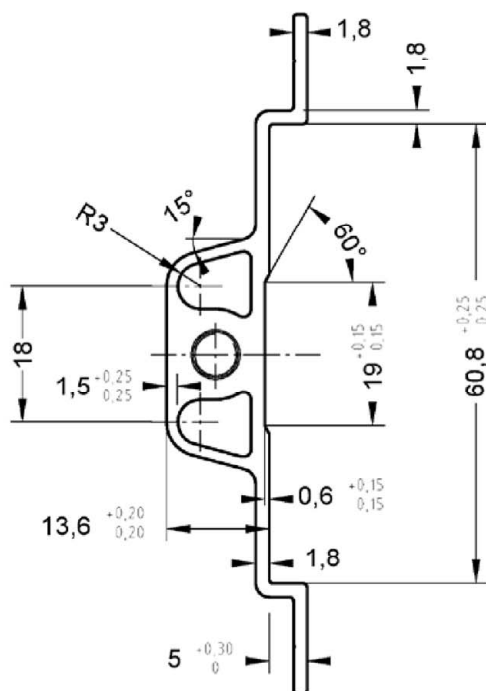
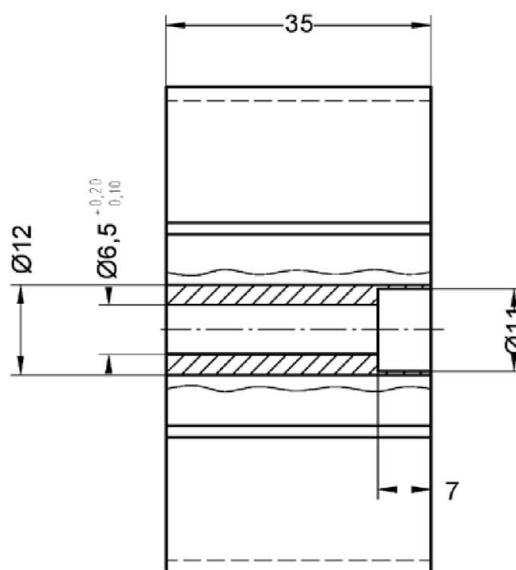
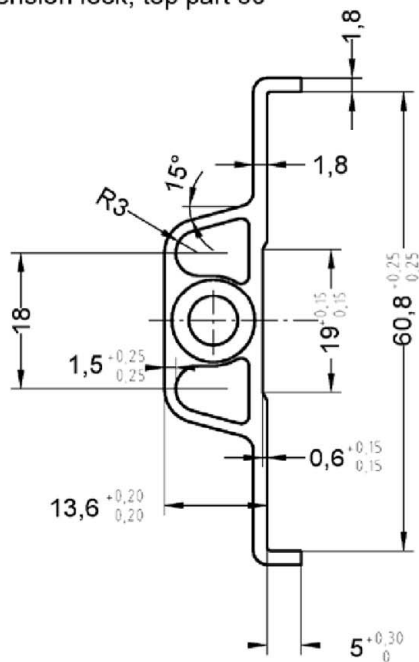
Dimensions and tolerances  
as per EN 755-9

JET-Vario-Norm

Tension lock  
Top part and lower part 40

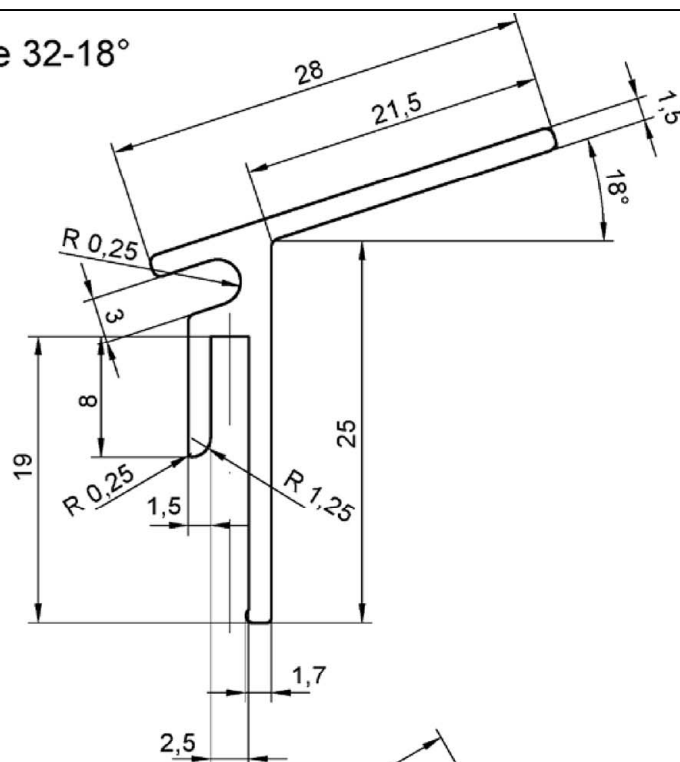
Annex A 3.8.1





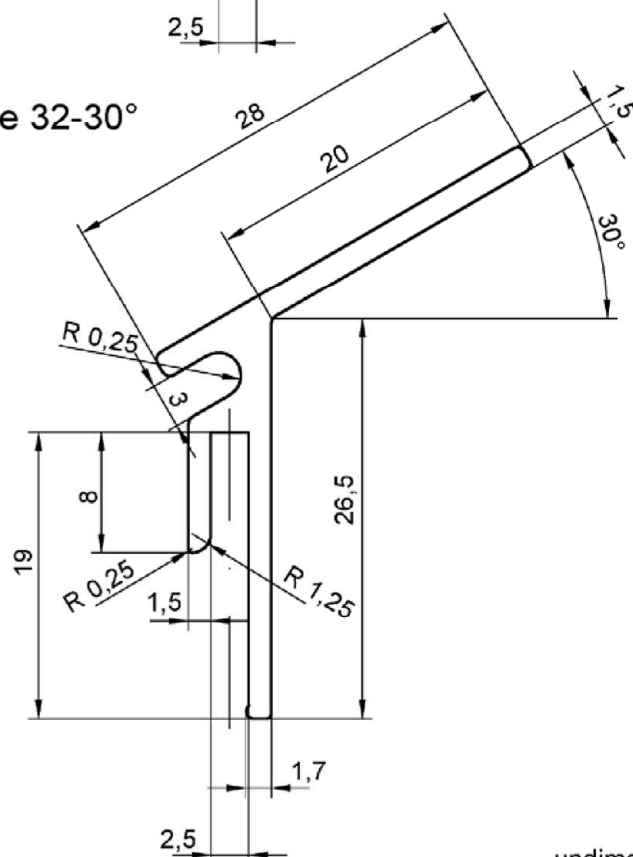
<p>tension lock, top part 80</p>	<p>EN AW-6060 T66</p>
<p>tension lock, lower part 80</p>	<p>EN AW-6060 T66</p> <p>a)</p>
<p>All dimensions in mm</p>	<p>Dimensions and tolerances as per EN 755-9</p> <p>a) insert thread as per 1.4104 EN 10088-3</p>
<p>JET-Vario-Norm</p> <p>Tension lock Top part and lower part 80</p>	<p>Annex A 3.8.3</p>

supporting profile 32-18°



EN AW-6060  
T66  
as per EN 755-2

supporting profile 32-30°



undimensioned wall thickness 1,5<sup>+0,1</sup><sub>-0,2</sub>  
undimensioned edges R0.5 mm

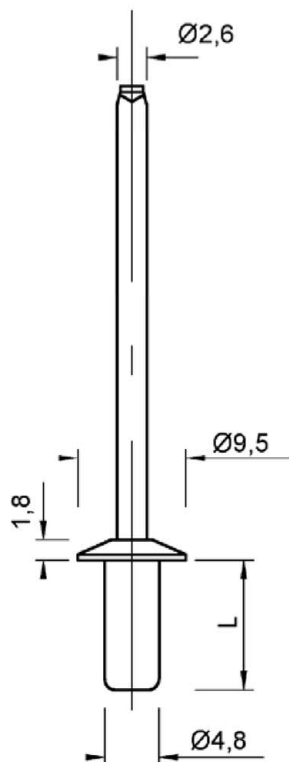
Dimensions and tolerances  
as per EN 755-9

All dimensions in mm

JET-Vario-Norm

Supporting profile  
Sections

Annex A 3.8.4



Joint component: Cup-blind-rivet Ø4,8 x L; Al

Material: Body:  
AlMg5 (EN AW 5019) EN 573  
Material number 3.3555

Mandrel:  
Steel galvanized EN 10016-2  
or stainless steel EN 10088  
Material number 1.4541

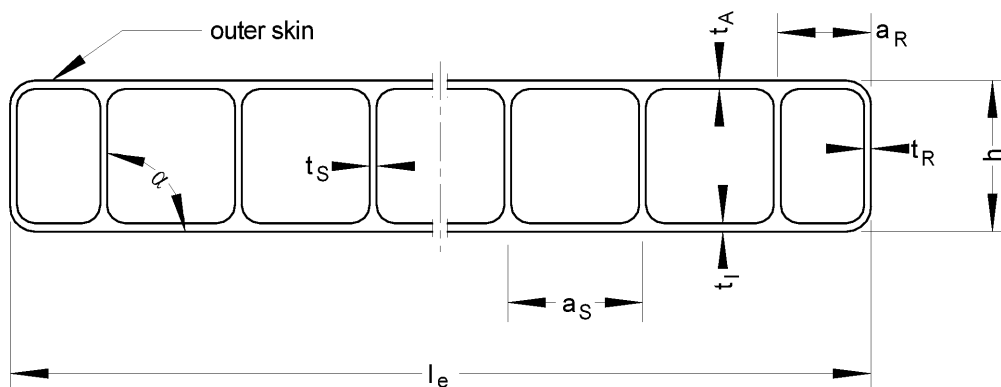
All dimensions in mm

JET-Vario-Norm

Blind rivet connecting element

Annex A 3.9

Sheet: Makrolon multi UV 2/10-10,5  
Manufacturer: Exolon Group S.p.A., Nera Montoro  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$a_s$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_S$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
2100	10,3	10,9	4,5	0,49	0,54	0,37	0,27	1,76	
+ 6 - 2	± 0,5	+ 0,2	+ 1,8	- 0,06	- 0,04	- 0,08	- 0,08	+ 0,11 - 0,03	≤ 7°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
64,0 Nm <sup>2</sup> /m	30,9 Nm <sup>2</sup> /m	2362 N/m	36,8 Nm/m	43,9 Nm/m

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

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

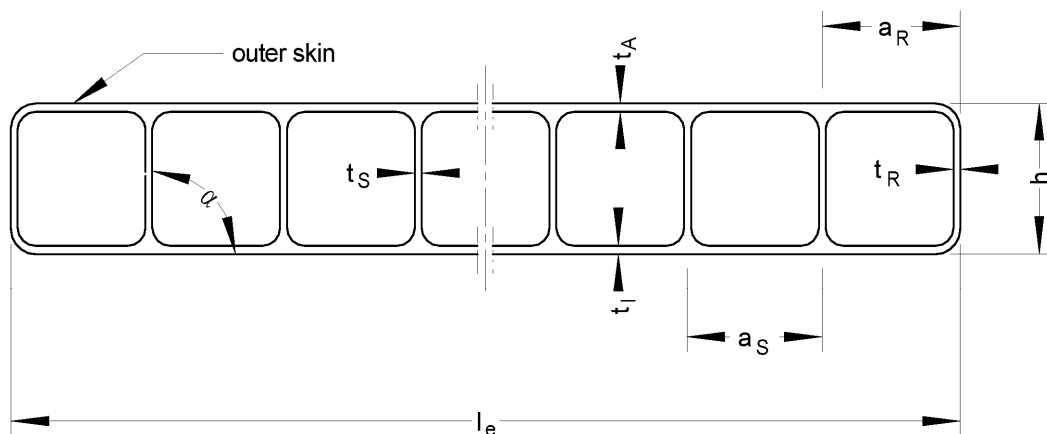
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Makrolon multi UV 2/10-10,5"

Annex A 4.1

Sheet: Akyver Sun Type 10  
Manufacturer: CORPLEX, Kaysersberg  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$a_s$ mm	$a_R$ mm	$t_A$ mm	$t_l$ mm	$t_s$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
2100	10,3	10,9	10,1	0,46	0,46	0,47	0,37	1,70	
+ 6 - 2	± 0,5	+ 0,75	+ 1,9	- 0,06	- 0,04	- 0,12	- 0,08	+ 0,10 - 0,07	≤ 7°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
58,1 Nm <sup>2</sup> /m	35,1 Nm <sup>2</sup> /m	2756 N/m	35,2 Nm/m	36,1 Nm/m

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

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

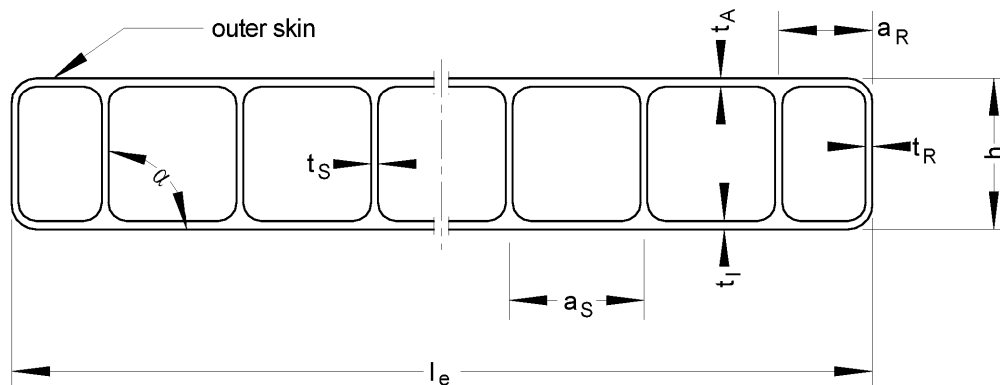
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Akyver Sun Type 10"

Annex A 4.2

Sheet: Makrolon multi UV 2/10-10,5 ES  
Manufacturer: Exolon Group S.p.A., Nera Montoro  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$a_s$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_S$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
2100	10,1	10,7	4,3	0,61	0,59	0,46	0,44	1,98	
+6 -2	± 0,5	+ 0,2	+ 0,85	- 0,04	- 0,06	- 0,05	- 0,05	+ 0,12 - 0,10	≤ 4°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
70,3 Nm <sup>2</sup> /m	32,6 Nm <sup>2</sup> /m	3291 N/m	60,7 Nm/m	51,9 Nm/m

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

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

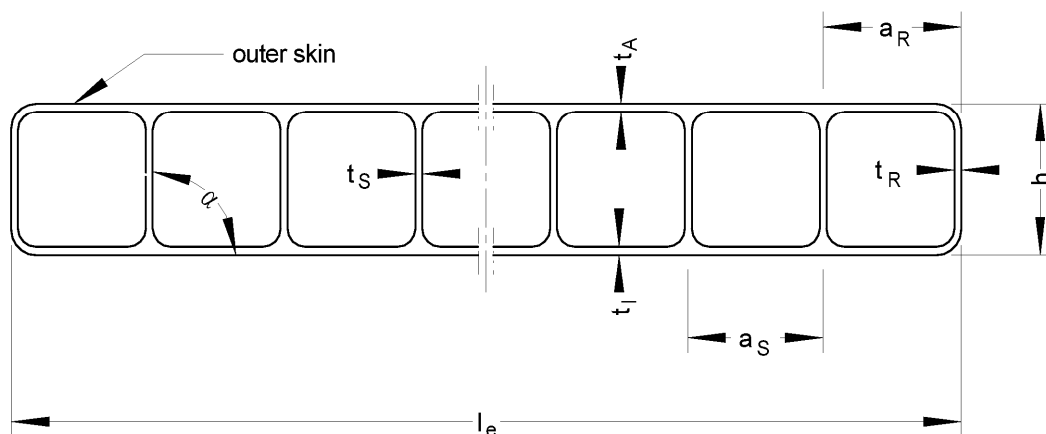
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements Minimum performance levels or classes in accordance with EN 16153 for the "Makrolon multi UV 2/10-10,5 ES"

Annex A 4.3

Sheet: Akyver Sun Type 10/2000  
Manufacturer: CORPLEX, Kayserberg  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$a_s$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_S$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
2100	10,4	11,0	10,3	0,54	0,56	0,57	0,41	1,99	
+ 6 - 2	± 0,5	+ 0,65	+ 1,55	- 0,07	- 0,05	- 0,12	- 0,14	+ 0,12 - 0,10	≤ 5°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
68,4 Nm <sup>2</sup> /m	41,6 Nm <sup>2</sup> /m	4645 N/m	58,6 Nm/m	56,0 Nm/m

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

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

durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

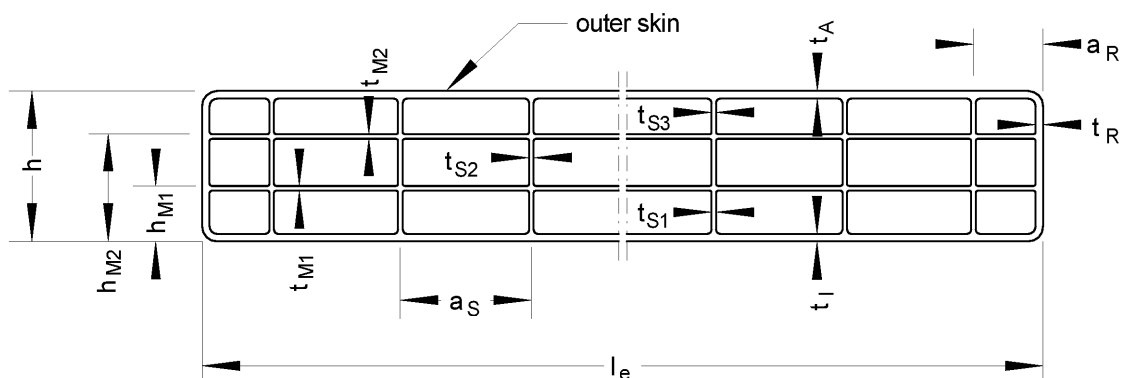
JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Akyver Sun Type 10/2000"

Annex A 4.4



Sheet: Akyver Sun Type 10/4W-7  
Manufacturer: CORPLEX, Kayserberg  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_{S1}$ mm	$t_{S2}$ mm	$t_{S3}$ mm
2100	10,1	3,8	7,1	7,3	4,6	0,44	0,43	0,31	0,21	0,22
+ 6 - 2	+ 0,5 - 0,5	+ 0,1 - 0,1	+ 0,1 - 0,1	+ 0,1	+ 0,2	- 0,04	- 0,05	- 0,02	- 0,02	- 0,01

$t_{M1}$ mm	$t_{M2}$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,08	0,05	0,48	1,72	
- 0,01	- 0,01	- 0,05	+0,10 - 0,01	≤ 6°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
54,9 Nm <sup>2</sup> /m	40,2 Nm <sup>2</sup> /m	1858 N/m	39,6 Nm/m	39,6 Nm/m

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

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

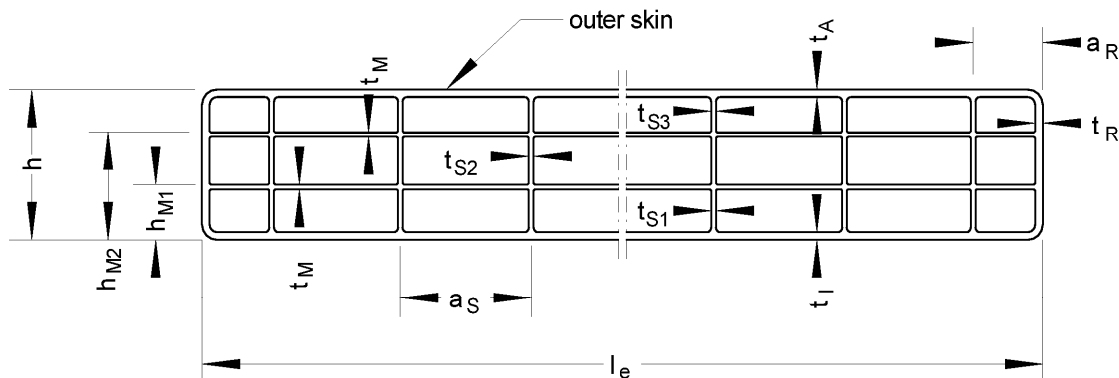
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Akyver Sun Type 10/7W-4"

Annex A 4.5

Sheet: Macrolux Multiwall LL 4W - 10 mm  
Manufacturer: Stabilit Suisse S.A., Stabio  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_{S1}$ mm	$t_{S2}$ mm	$t_{S3}$ mm
2100	9,9	2,9	7,8	9,1	7,5	0,41	0,49	0,33	0,25	0,36
+ 6 - 2	$\pm 0,5$	+ 0,15 - 0,3	+ 0,3 - 0,3	+ 0,6	+ 1,7	- 0,08	- 0,12	- 0,04	- 0,07	- 0,07

$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,04	0,56	1,69	
- 0,01	- 0,20	+ 0,16 - 0,10	$\leq 8^\circ$

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
49,7 Nm <sup>2</sup> /m	17,3 Nm <sup>2</sup> /m	2129 N/m	41,2 Nm/m	44,0 Nm/m

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

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

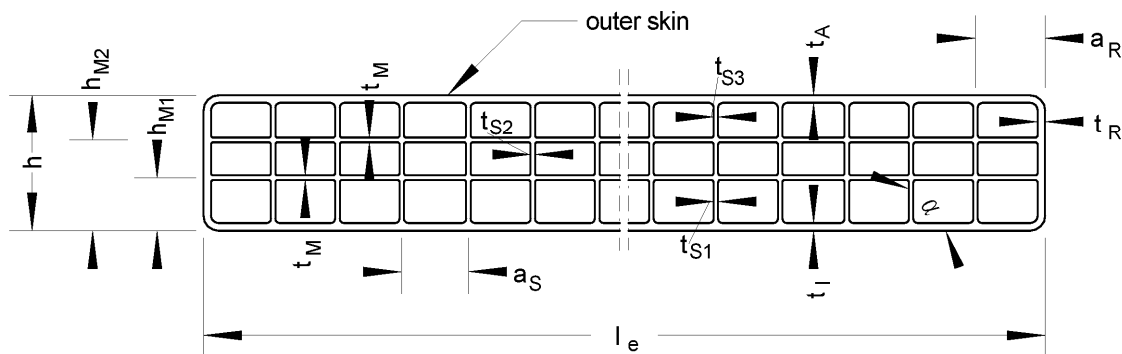
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Macrolux Multiwall LL 4W - 10 mm"

Annex A 4.6

Sheet: Makrolon multi UV 4/10-6  
Manufacturer: Exolon Group S.p.A., Nera Montoro  
Resin: ISO 21305-PC,X, EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm	$t_{S1}$ mm	$t_{S2}$ mm	$t_{S3}$ mm
2100	10,0	3,4	6,8	6,0	3,2	0,44	0,44	0,23	0,16	0,20
+ 6 - 2	+ 0,5 - 0,5	+ 0,4 - 0,3	+ 0,35 - 0,45	+ 0,25	+ 0,3	- 0,04	- 0,05	- 0,04	- 0,05	- 0,03

$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,08	0,26	1,73	to 90°
- 0,02	- 0,08	+0,10 - 0,02	≤ 8°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
49,0 Nm <sup>2</sup> /m	23,1 Nm <sup>2</sup> /m	2152 N/m	47,4 Nm/m	39,6 Nm/m

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

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

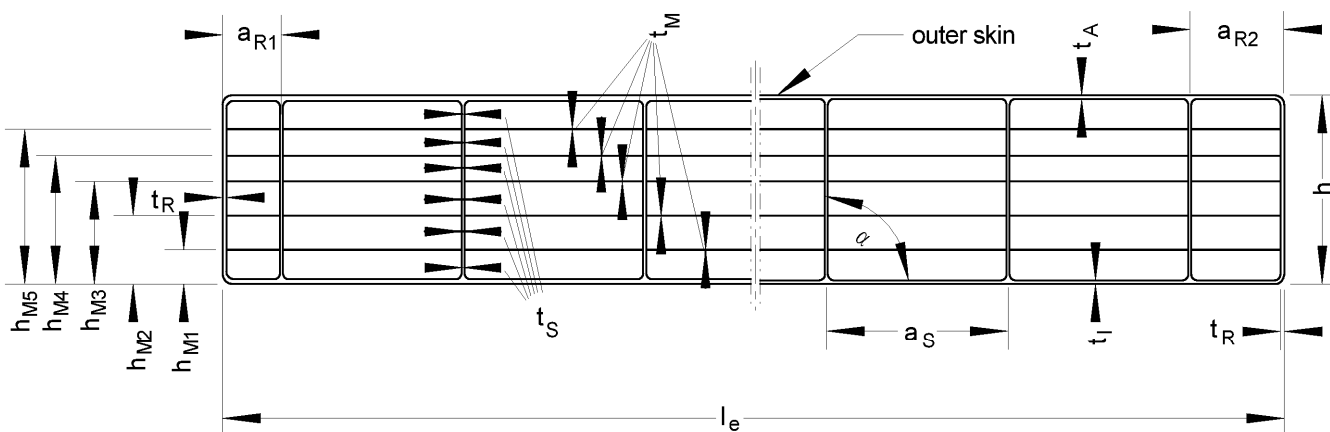
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Makrolon multi UV 4/10-6"

Annex A 4.7

Sheet: Makrolon multi UV 7/16-14  
Manufacturer: Exolon Group S.p.A., Nera Montoro  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$h_{M3}$ mm	$h_{M4}$ mm	$h_{M5}$ mm	$a_S$ mm	$a_{R1}$ mm	$a_{R2}$ mm	weight per area kg/m <sup>2</sup>
2100	16,0	3,2	5,7	8,2	10,7	13,2	13,9	7,4	9,6	2,63
+6 -2	± 0,5	+ 0,5 - 0,4	+ 0,5 - 0,6	+ 0,6 - 0,6	+ 0,6 - 0,5	+ 0,5 - 0,3	+ 0,2	+ 1,7	+ 1,5	+ 0,13 - 0,05

$t_A$ mm	$t_I$ mm	$t_S$ mm	$t_M$ mm	$t_R$ mm	deviation $ \Delta\alpha $ to 90°
0,59	0,61	0,39	0,08	0,67	
- 0,07	- 0,10	- 0,14	- 0,02	- 0,30	≤ 8°

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
176,9 Nm <sup>2</sup> /m	45,7 Nm <sup>2</sup> /m	2254 N/m	64,6 Nm/m	62,9 Nm/m

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

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

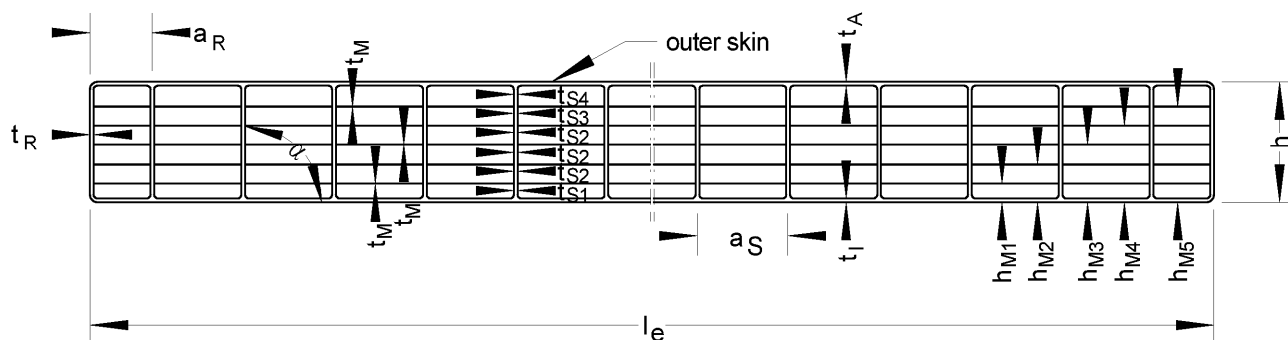
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Makrolon multi UV 7/16-14"

Annex A 4.8

Sheet: Akyver Sun Type 16/7w-12 2600  
Manufacturer: CORPLEX, Kayzersberg  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$h_{M3}$ mm	$h_{M4}$ mm	$h_{M5}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm
2100	16,0	2,4	4,9	7,7	10,4	12,9	12,0	6,5	0,56	0,52
+6 -2	$\pm 0,5$	+ 0,5 - 0,25	+ 0,45 - 0,4	+ 0,4 - 0,55	+ 0,25 - 0,3	+ 0,3 - 0,3	+ 0,40	+ 2,5	- 0,10	- 0,08

$t_{S1}$ mm	$t_{S2}$ mm	$t_{S3}$ mm	$t_{S4}$ mm	$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,41	0,39	0,44	0,44	0,06	0,58	2,56	
- 0,10	- 0,12	- 0,09	- 0,10	- 0,02	- 0,27	+ 0,15 - 0,09	$\leq 4^\circ$

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
176,5 Nm <sup>2</sup> /m	58,8 Nm <sup>2</sup> /m	2703 N/m	68,8 Nm/m	59,1 Nm/m

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

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

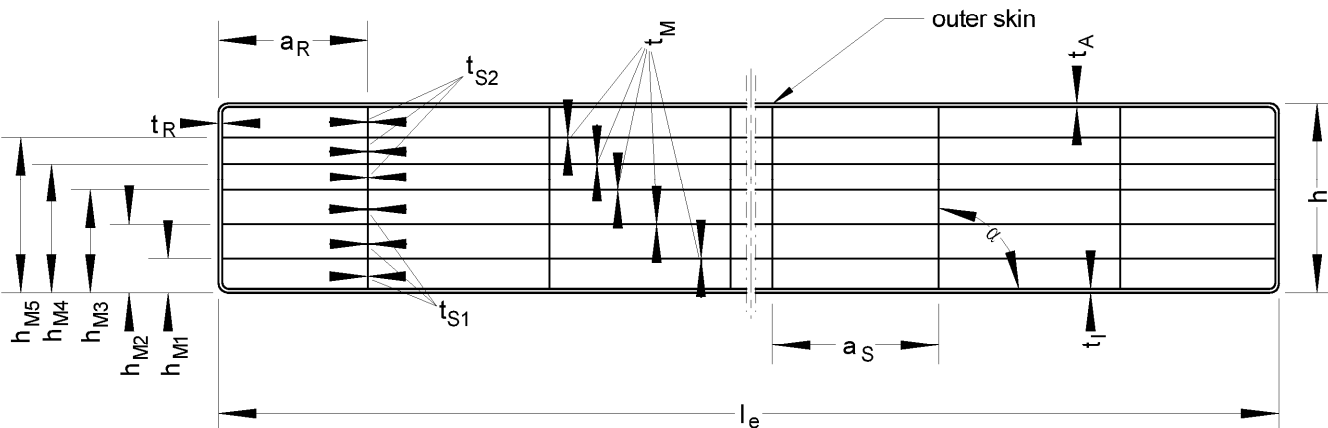
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Akyver Sun Type 16/7W-12 2600"

Annex A 4.9

Sheet: Macrolux Multiwall LL 7W - 16 mm  
Manufacturer: Stabilit Suisse S.A., Stabio  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$h_{M3}$ mm	$h_{M4}$ mm	$h_{M5}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm
2100	16,2	2,8	5,0	7,4	10,3	13,0	15,8	13,7	0,56	0,60
+6 -2	$\pm 0,5$	+ 0,35 - 0,2	+ 0,4 - 0,3	+ 0,4 - 0,25	+ 0,3 - 0,4	+ 0,35 - 0,25	+ 0,55	+ 2,30	- 0,05	- 0,08

$t_{S1}$ mm	$t_{S2}$ mm	$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,59	0,43	0,08	0,56	2,70	
- 0,18	- 0,10	- 0,03	- 0,07	+ 0,16 - 0,08	$\leq 5^\circ$

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
158,6 Nm <sup>2</sup> /m	74,8 Nm <sup>2</sup> /m	2761 N/m	60,7 Nm/m	63,1 Nm/m

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

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

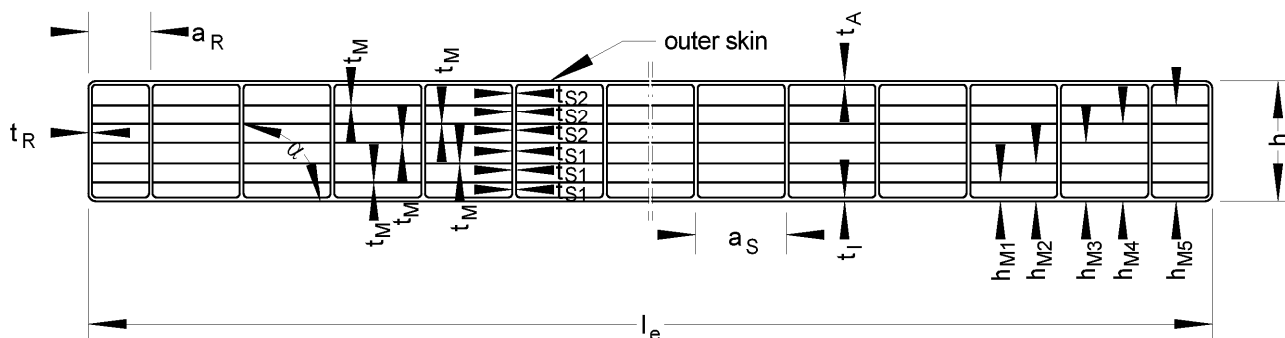
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Macrolux Multiwall LL 7W - 16 mm"

Annex A 4.10

Sheet: Akyver Sun Type 20/7w-12  
Manufacturer: CORPLEX, Kayzersberg  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$h_{M3}$ mm	$h_{M4}$ mm	$h_{M5}$ mm	$a_S$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm
2100	20,0	3,9	7,0	9,9	12,4	16,3	12,3	8,9	0,65	0,63
+ 6 - 2	$\pm 0,5$	+ 0,15 - 0,15	+ 0,25 - 0,25	+ 0,25 - 0,25	+ 0,3 - 0,3	+ 0,15 - 0,15	+ 0,1	+ 0,35	- 0,05	- 0,05

$t_{S1}$ mm	$t_{S2}$ mm	$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,41	0,37	0,07	0,79	2,85	
- 0,02	- 0,04	- 0,01	- 0,04	+ 0,17 - 0,04	$\leq 3^\circ$

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
317,7 Nm <sup>2</sup> /m	100,1 Nm <sup>2</sup> /m	2401 N/m	68,4 Nm/m	68,4 Nm/m

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

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

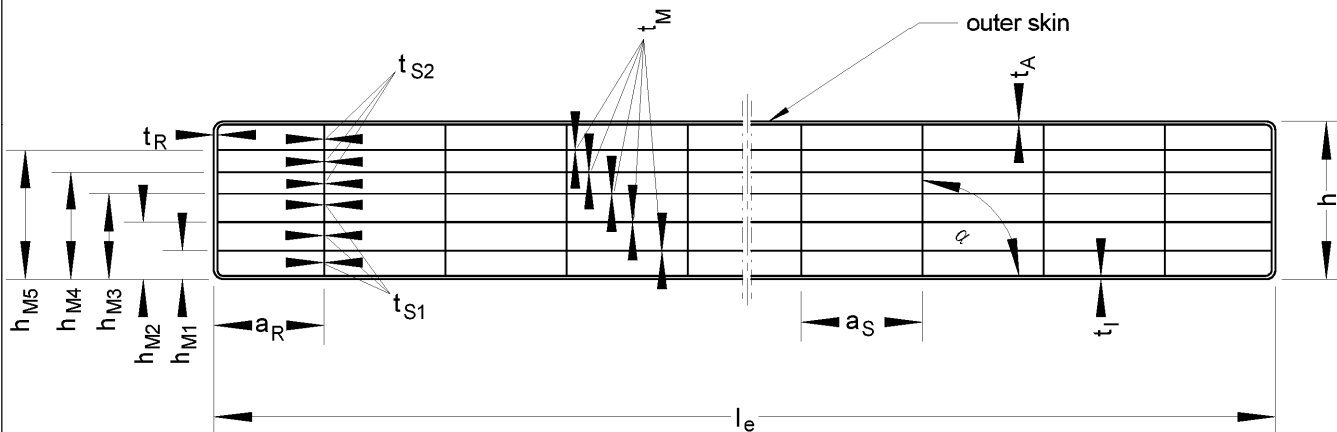
durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Akyver Sun Type 20/w-12"

Annex A 4.11

Sheet: Macrolux Multiwall LL 7W - 20 mm  
Manufacturer: Stabilit Suisse S.A., Stabio  
Resin: ISO 21305-PC,X,EGL,03-09



$l_e$ mm	$h$ mm	$h_{M1}$ mm	$h_{M2}$ mm	$h_{M3}$ mm	$h_{M4}$ mm	$h_{M5}$ mm	$a_s$ mm	$a_R$ mm	$t_A$ mm	$t_I$ mm
2100	20,2	3,3	6,0	8,7	12,3	16,2	15,8	13,8	0,67	0,71
+ 6 - 2	$\pm 0,5$	+ 0,55 - 0,3	+ 0,7 - 0,6	+ 0,75 - 0,6	+ 0,7 - 0,8	+ 0,3 - 0,4	+ 0,35	+ 2,9	- 0,07	- 0,11

$t_{S1}$ mm	$t_{S2}$ mm	$t_M$ mm	$t_R$ mm	weight per area kg/m <sup>2</sup>	deviation $ \Delta\alpha $ to 90°
0,52	0,36	0,09	0,60	3,08	
- 0,14	- 0,09	- 0,03	- 0,10	+ 0,18 - 0,11	$\leq 3^\circ$

Minimum performance levels or classes for the sheets  
(as declared in the DoP in accordance with EN 16153)

mechanical resistance (deformation behavior)				
$B_x$	$B_y$	$S_y$	$M_{b,pos}$	$M_{b,neg}$
292,7 Nm <sup>2</sup> /m	75,1 Nm <sup>2</sup> /m	2843 N/m	81,9 Nm/m	76,5 Nm/m

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

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

durability, as variation (after aging)			
of yellowness index	of the light transmittance	of deformation flexural modulus	of tensile strenght
10 ( $\Delta A$ )	5 % ( $\Delta A$ )	Cu 1	Ku 1

JET-Vario-Norm

Cross section geometry, weight per area, mechanical performance requirements  
Minimum performance levels or classes in accordance with EN 16153  
for the "Macrolux Multiwall LL 7W - 20 mm"

Annex A 4.12



## JET-Vario-Norm

## 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 and B 2. 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 C).

### **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 Section 1.1.1 in the translucent roof kit shall correspond to the specifications given in Annexes A 1 to A 4. The design specifications (see Section 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 action duration and based on load.

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  $\psi$  coefficient defined in EN 1990 may be applied. In design situations where the wind is applied as the dominant variable action, the  $\psi$  coefficient may be considered in the design value of the structural resistance  $R_d$  (see Section B.1.3).

If the roof kit is installed with a substructure 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 and DIN EN 1991-1-4/NA.

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 region H, I or N in accordance with Sections 7.2.3 to 7.2.7 of EN 1991-1-4:2010-12 the external pressure coefficient is  $c_{pe} = -0.7$ .

If the roof kit is installed on the ridge of a mono-gable roof or a hipped end roof in the region J or K in accordance with Section 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 region F, G, L or M in accordance with Sections 7.2.3 to 7.2.7 of EN 1991-1-4:2010-12 the verifications shall be done applying special loads (see Section 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  $\gamma_M$ , the factor taking into account the effects of media  $C_u$  and the temperature factor  $C_\theta$  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 taking into account the effects of media and ageing $C_u$		1.10
Temperature factor $C_\theta$	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 $\gamma_{MR}$	Material safety factor $\gamma_{MC}$
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  $\psi$  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 direction of loading.

## B 2 Characteristic structural resistances of the covering

### Covering "PC 10" – Annexes A 4.1 – A 4.7

Multi-wall sheet in accordance with Annex	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.1 Makrolon multi UV 2/10-10,5	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	3,98	3,19	1,75	1,36
	1,50 ≤ R ≤ 5,20		A 2.1.3	2,14	1,16	0,76	0,76
	1,50 ≤ R ≤ 3,85	3-span	A 2.1.2	4,35	4,35	2,99	2,99
	1,50 ≤ R ≤ 5,20		A 2.1.3	4,43	3,60	1,71	1,71
	1,50 ≤ R ≤ 9,00		A 2.1.4	3,21	3,11	2,92	2,32
A 4.2 Akyver Sun Type 10/1700	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	3,98	3,20	1,75	1,36
	1,50 ≤ R ≤ 5,20		A 2.1.3	2,14	1,16	0,76	0,76
	1,50 ≤ R ≤ 3,85	3-span	A 2.1.2	4,35	4,35	2,99	2,99
	1,50 ≤ R ≤ 5,20		A 2.1.3	4,43	3,60	1,71	1,71
	1,50 ≤ R ≤ 9,00		A 2.1.4	3,21	3,11	2,92	2,32
A 4.3 Makrolon Multi UV 2/10-10,5 ES	1,50 ≤ R ≤ 3,85	1-span	A 2.1.2	1,84	1,79	1,72	1,60
	1,50 ≤ R ≤ 5,20		A 2.1.3	1,79	1,79	0,97	0,97
	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	4,26	2,59	2,33	2,33
	1,50 ≤ R ≤ 3,85		A 2.1.2	2,20	2,17	1,80	1,72
	1,50 ≤ R ≤ 5,20		A 2.1.3	2,26	2,00	1,04	1,04
	1,50 ≤ R ≤ 9,00		A 2.1.4	1,80	1,52	1,64	1,64
A 4.4 Akyver Sun Type 10/2000	1,50 ≤ R ≤ 3,85	1-span	A 2.1.2	1,84	1,79	1,72	1,60
	1,50 ≤ R ≤ 5,20		A 2.1.3	1,79	1,79	0,97	0,97
	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	4,26	2,59	2,33	2,33
	1,50 ≤ R ≤ 3,85		A 2.1.2	2,20	2,17	1,80	1,72
	1,50 ≤ R ≤ 5,20		A 2.1.3	2,26	2,00	1,04	1,04
	1,50 ≤ R ≤ 9,00		A 2.1.4	1,80	1,52	1,64	1,64
A 4.5 Akyver Sun Type 10/4W-7	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	3,95	3,17	1,74	1,35
			A 2.1.6	1,69	1,69	1,53	1,53
			A 2.1.2	1,52	1,52	1,00	0,82
	1,50 ≤ R ≤ 5,20	3-span	A 2.1.3	2,13	1,15	0,75	0,75
	1,50 ≤ R ≤ 3,85		A 2.1.2	4,31	4,31	2,97	2,97
	1,50 ≤ R ≤ 5,20		A 2.1.3	4,40	3,57	1,70	1,70
	1,50 ≤ R ≤ 9,00		A 2.1.4	3,18	3,08	2,90	2,30

Multi-wall sheet in accordance with Annex	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.6 Macrolux LL 4W10	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	3,37	2,71	1,48	1,15
			A 2.1.6	1,67	1,67	1,56	1,56
			A 2.1.2	1,56	1,56	1,05	0,91
	1,50 ≤ R ≤ 5,20	3-span	A 2.1.3	1,82	0,98	0,65	0,65
			A 2.1.2	3,69	3,69	2,53	2,53
			A 2.1.3	3,76	3,05	1,45	1,45
	1,50 ≤ R ≤ 9,00		A 2.1.4	2,72	2,64	2,48	1,97
A 4.7 Makrolon Multi UV 4/10-6	1,50 ≤ R ≤ 2,60	2-span	A 2.1.1	3,41	2,40	1,50	1,17
			A 2.1.6	1,86	1,86	1,56	1,56
			A 2.1.2	1,68	1,68	1,01	0,84
	1,50 ≤ R ≤ 5,20	3-span	A 2.1.3	1,84	0,99	0,65	0,65
			A 2.1.2	3,74	3,74	2,57	2,57
			A 2.1.3	3,81	3,08	1,47	1,47
	1,50 ≤ R ≤ 9,00		A 2.1.4	2,76	2,66	2,51	1,98

**Covering "PC 10+10" – Annexes A 4.5 – A 4.7**

Multi-wall sheet in accordance with Annex (double configuration)	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.5 Akyver Sun Type 10/4W-7	1,50 ≤ R ≤ 1,90	1-span	A 2.1.7	5,70	5,62	4,06	3,82
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.7	5,29	4,91	3,16	3,09
	1,50 ≤ R ≤ 5,27		A 2.1.7	3,39	3,32	1,55	1,55
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.7	11,0	9,59	6,22	6,14
	1,50 ≤ R ≤ 3,85		A 2.1.7	7,53	6,62	2,53	2,53
A 4.6 Macrolux LL 4W10	1,50 ≤ R ≤ 1,90	1-span	A 2.1.7	5,42	5,33	4,17	3,93
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.7	5,05	4,50	3,25	3,18
	1,50 ≤ R ≤ 5,27		A 2.1.7	3,24	3,18	1,60	1,58
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.7	10,5	9,18	6,40	6,32
	1,50 ≤ R ≤ 3,85		A 2.1.7	7,09	7,09	2,95	2,95
A 4.7 Makrolon Multi UV 4/10-6	1,50 ≤ R ≤ 1,90	1-span	A 2.1.7	5,43	5,36	4,13	3,90
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.7	5,04	4,68	3,22	3,15
	1,50 ≤ R ≤ 5,27		A 2.1.7	3,23	3,16	1,58	1,56
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.7	10,4	9,14	6,34	6,26
	1,50 ≤ R ≤ 3,85		A 2.1.7	9,12	7,38	2,58	2,58

**Covering "PC 16" – Annexes 4.8 - 4.10 (incl. "PC 3+16" – Section as per Annex A 2.1.8)**

Multi-wall sheet in accordance with Annex	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.8 Makrolon Multi UV 7/16-14	2,40 ≤ R ≤ 3,85	1-span	A 2.1.2	2,10	1,47	1,45	1,45
	2,40 ≤ R ≤ 5,20		A 2.1.3	2,64	1,41	1,31	1,31
	2,40 ≤ R ≤ 2,60	2-span	A 2.1.1	3,85	2,88	2,51	2,51
	2,40 ≤ R ≤ 3,85		A 2.1.2	2,16	1,85	1,43	1,43
	2,40 ≤ R ≤ 5,20		A 2.1.3	2,66	1,39	1,18	1,18
	2,40 ≤ R ≤ 9,00		A 2.1.4	1,99	1,82	1,49	1,47
	2,40 ≤ R ≤ 3,85	3-span	A 2.1.2	5,23	4,73	1,82	1,82
A 4.9 Akyver Sun Type 16/7W-12	2,40 ≤ R ≤ 3,85	1-span	A 2.1.2	2,38	1,67	1,65	1,65
	2,40 ≤ R ≤ 5,20		A 2.1.3	2,99	1,60	1,48	1,48
	2,40 ≤ R ≤ 2,60	2-span	A 2.1.1	4,36	3,26	2,84	2,84
	2,40 ≤ R ≤ 3,85		A 2.1.2	2,45	2,10	1,62	1,62
	2,40 ≤ R ≤ 5,20		A 2.1.3	3,01	1,57	1,34	1,34
	2,40 ≤ R ≤ 9,00		A 2.1.4	2,66	2,06	1,69	1,67
	2,40 ≤ R ≤ 3,85	3-span	A 2.1.2	5,64	5,64	1,74	1,74
A 4.10 Macrolux LL 7W16	2,40 ≤ R ≤ 3,85	1-span	A 2.1.2	2,29	1,60	1,59	1,59
	2,40 ≤ R ≤ 5,20		A 2.1.3	2,88	1,54	1,42	1,42
	2,40 ≤ R ≤ 2,60	2-span	A 2.1.1	4,20	3,14	2,74	2,74
	2,40 ≤ R ≤ 3,85		A 2.1.2	2,36	2,02	1,56	1,56
	2,40 ≤ R ≤ 5,20		A 2.1.3	2,90	1,51	1,29	1,29
	2,40 ≤ R ≤ 9,00		A 2.1.4	2,17	1,99	1,63	1,60
	2,40 ≤ R ≤ 3,85	3-span	A 2.1.2	5,70	5,15	1,96	1,96

**Covering "PC 20" – Annexes 4.11 - 4.12**

Multi-wall sheet in accordance with Annex	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.11 Akyver Sun Type 20/7W-12	3,00 ≤ R ≤ 3,85	1-span	A 2.1.6	1,61	1,61	2,29	2,29
	3,00 ≤ R ≤ 4,40		A 2.1.6	1,23	1,23	2,00	2,00
	3,00 ≤ R ≤ 3,85	2-span	A 2.1.6	1,61	1,61	2,29	2,29
	3,00 ≤ R ≤ 4,40		A 2.1.6	1,23	1,23	2,00	2,00
A 4.12 Macrolux LL 7W20	3,00 ≤ R ≤ 3,85	1-span	A 2.1.6	1,93	1,93	2,29	2,29
	3,00 ≤ R ≤ 4,40		A 2.1.6	1,48	1,48	2,00	2,00
	3,00 ≤ R ≤ 3,85	2-span	A 2.1.6	1,93	1,93	2,29	2,29
	3,00 ≤ R ≤ 4,40		A 2.1.6	1,48	1,48	2,00	2,00

Covering "PC 10+10 DI" – Annexes A 4.5 – A 4.7

Multi-wall sheet in accordance with Annex (double configuration)	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.5 Akyver Sun Type 10/4W-7	1,50 ≤ R ≤ 1,90	1-span	A 2.1.5	5,70	5,62	4,06	3,82
	1,50 ≤ R ≤ 2,62		A 2.1.5	2,94	2,42	3,58	3,00
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.5	5,29	4,91	3,16	3,09
	1,50 ≤ R ≤ 5,27		A 2.1.5	3,39	3,32	1,55	1,55
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.5	11,0	9,59	6,22	6,14
	1,50 ≤ R ≤ 3,85		A 2.1.5	7,53	6,62	2,53	2,53
A 4.6 Macrolux LL 4W10	1,50 ≤ R ≤ 1,90	1-span	A 2.1.5	5,42	5,33	4,17	3,93
	1,50 ≤ R ≤ 2,62		A 2.1.5	2,94	2,42	3,58	3,00
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.5	5,05	4,50	3,25	3,18
	1,50 ≤ R ≤ 5,27		A 2.1.5	3,24	3,18	1,60	1,58
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.5	10,5	9,18	6,40	6,32
	1,50 ≤ R ≤ 3,85		A 2.1.5	7,09	7,09	2,95	2,95
A 4.7 Makrolon Multi UV 4/10-6	1,50 ≤ R ≤ 1,90	1-span	A 2.1.5	5,43	5,36	4,13	3,90
	1,50 ≤ R ≤ 2,62		A 2.1.5	2,94	2,42	3,58	3,00
	1,50 ≤ R ≤ 2,62	2-span	A 2.1.5	5,04	4,68	3,22	3,15
	1,50 ≤ R ≤ 5,27		A 2.1.5	3,23	3,16	1,58	1,56
	1,50 ≤ R ≤ 2,62	3-span	A 2.1.5	10,4	9,14	6,34	6,26
	1,50 ≤ R ≤ 3,85		A 2.1.5	9,12	7,38	2,58	2,58

Covering "PC 16+GF-UP DI " – Annexes 4.8 - 4.10

Multi-wall sheet in accordance with Annex	Radius  R [m]	System	Section as per Annex	Characteristics values of structural resistance [kN/m <sup>2</sup> ]			
				downward load		uplift load	
				R <sub>k</sub>	C <sub>k</sub>	R <sub>k</sub>	C <sub>k</sub>
A 4.8 Makrolon Multi UV 7/16-14	2,40 ≤ R ≤ 5,20	1-span	A 2.1.11	1,07	1,00	1,63	1,63
			A 2.1.10	1,26	1,17	1,63	1,63
		2-span	A 2.1.11	1,07	1,00	1,63	1,63
			A 2.1.10	1,26	1,17	1,63	1,63
A 4.9 Akyver Sun Type 16/7W-12	2,40 ≤ R ≤ 5,20	1-span	A 2.1.11	1,22	1,14	1,86	1,86
			A 2.1.10	1,44	1,34	1,86	1,86
		2-span	A 2.1.11	1,22	1,14	1,86	1,86
			A 2.1.10	1,44	1,34	1,86	1,86
A 4.10 Macrolux LL 7W16	2,40 ≤ R ≤ 5,20	1-span	A 2.1.11	1,13	1,05	1,74	1,74
			A 2.1.10	1,33	1,23	1,74	1,74
		2-span	A 2.1.11	1,13	1,05	1,74	1,74
			A 2.1.10	1,33	1,23	1,74	1,74

## JET-Vario-Norm

## Annex C

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

#### C 1 Installation

The fixing of the roof kit on the substructure is not the subject of this ETA. The stability shall be verified for the respective substructure in accordance with the valid 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 exhibits a rectangular footprint. The compliance of the existing substructure with the substructure applied during the planning and verification of its load-bearing capacity 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 of 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 may not be filled.

If the translucent roof kit can systematically come into contact with chemical substances, the resistance to these substances of the multi-wall sheets in particular shall be checked.

The impost profiles are placed on the frame and fixed by means of the load converters and the provided threaded connections. If required, the supporting profiles are placed in between the bearing profiles. During installation, the multi-wall sheets are placed on the pre-installed bearing profiles and pushed into the impost profiles. At the butt joints between sheets as well as for the intermediate support arches, the covering profiles which act as tension straps are placed above the bearing profiles if applicable including sealing profiles and fixed to the impost profile, if necessary, with the help of the tension locks. A tensioning distance of 5 mm shall be adhered to. The bearing width as described in Annex A 2.1.9 shall be adhered to at the longitudinal butt joints between the multi-wall sheets. At the impost profiles, the multi-wall sheets shall be kept adjustable in accordance with the specifications given in Annex A 2.2. Connection of the translucent roof kit to the substructure shall be carried out in accordance with the structural analysis. The translucent roof kit shall be installed and connected to the adjacent structure in a manner ensuring that no moisture can penetrate into it and avoiding thermal bridges. These details shall be evaluated on a case-by-case basis.

#### C 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.

#### C 3 Use, maintenance, repair

The roof kit in installed condition 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 tensioning direction of the bearing profiles.

Within the scope of 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 exhibit surface cracks or damage or if they are strongly discoloured. The aluminium components of the roof kit shall be examined for pronounced corrosion within the scope of a 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.