



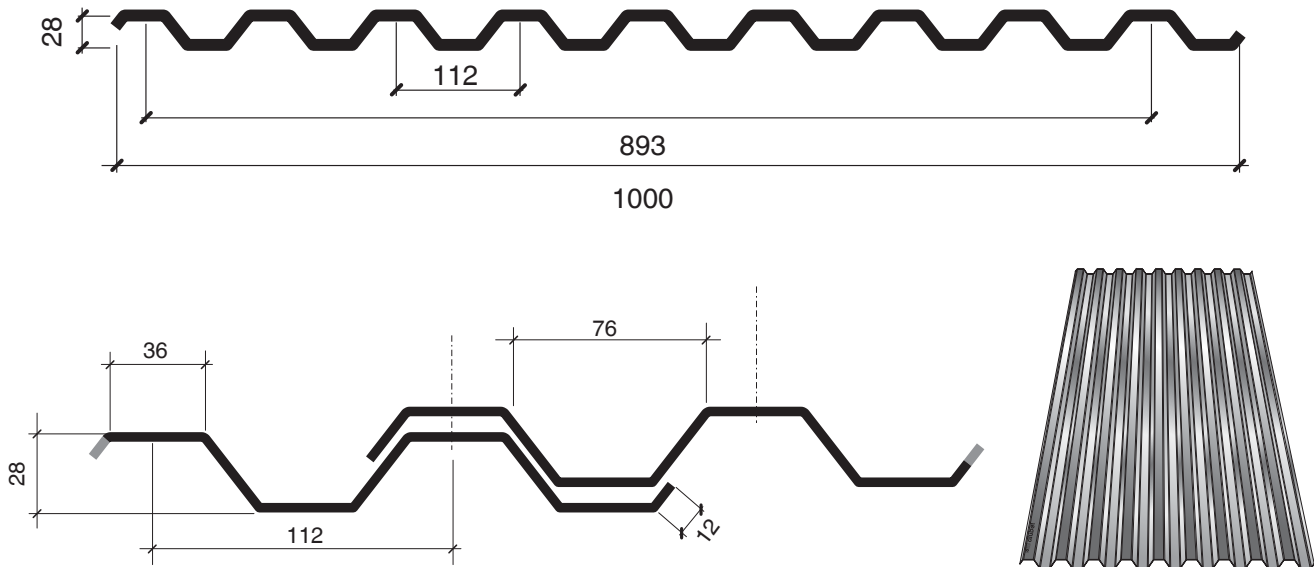
SISTEMA
Alubel 28



Alubel 28 profile

Made in: **Aluminium**

TECHNICAL DATA SHEET



TECHNICAL SPECIFICATIONS OF THE ALUBEL 28 ALUMINIUM PROFILE

s	p	J	W	EJ	M max	Symbols s = sheet thickness p = unit weight J = moment of inertia W = modulus of bending resistance EJ = bending stiffness M max = permitted bending moment ($\sigma_{perm.} = 6,5 \text{ kN/cm}^2$) i = centre distance between supports $\sigma_{perm.}$ = unit safety load $f_{perm.}$ = maximum permitted straining
[mm]	[kg/m ²]	[cm ⁴ /m]	[cm ³ /m]	[kN cm ² /m]	[kN cm/m]	
0,6	2,05	9,22	6,83	63.536	44,39	
0,7	2,39	10,76	7,97	74.136	51,81	
0,8	2,73	12,30	9,11	84.747	59,21	
1,0	3,42	15,38	11,39	105.968	74,03	

PERMITTED UNIFORM LOAD [kg/m²] ON 4 SUPPORTS*

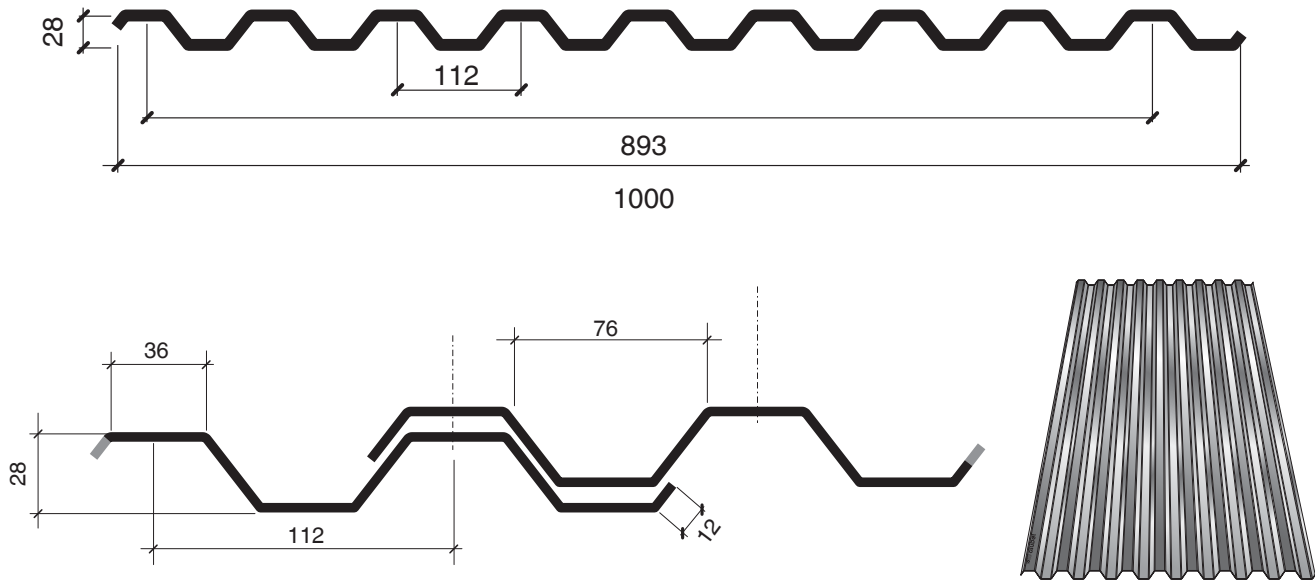
i [m]	1.00		1.20		1.40		1.60		1.80	
	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}
0,6	452	414	314	240	231	151	177	101	139	71
0,7	527	483	366	280	269	176	206	118	163	83
0,8	603	553	419	320	308	201	235	135	186	95
1,0	754	691	523	400	385	252	294	169	233	118

*(it is calculated in the dual hypothesis of $\sigma_{perm.} = 6,5 \text{ kN/cm}^2$ and $f_{perm.} = i/200$)

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question

Alubel 28 profile

Made in: **Steel**



TECHNICAL DATA SHEET

TECHNICAL SPECIFICATIONS OF THE ALUBEL 28 STEEL PROFILE

s	p	J	W	EJ	M max	Symbols
[mm]	[kg/m ²]	[cm ⁴ /m]	[cm ³ /m]	[kN cm ² /m]	[kN cm/m]	
0,5	4,88	7,68	3,58	158.208	49,15	s = sheet thickness p = unit weight J = moment of inertia W = modulus of bending resistance EJ = bending stiffness M max = permitted bending moment ($\sigma_{perm.} = 13,73 \text{ kN/cm}^2$) i = centre distance between supports $\sigma_{perm.}$ = unit safety load $f_{perm.}$ = maximum permitted straining
0,6	5,85	9,22	4,84	189.932	66,45	
0,7	6,83	10,76	6,27	221.656	86,09	
0,8	7,81	12,30	7,88	253.380	108,19	
1,0	9,76	15,38	11,19	316.828	153,64	

PERMITTED UNIFORM LOAD [kg/m²] ON 4 SUPPORTS*

i [m]	1.00		1.25		1.50		1.75		2.00		2.25		2.50		2.75		3.00	
	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}	σ_{perm}	f_{perm}
0,5	501	1.032	321	528	223	306	164	193	126	129	99	91	80	66	66	50	56	38
0,6	678	1.239	434	634	301	367	221	231	169	155	134	109	108	79	90	60	75	46
0,7	878	1.446	562	740	390	428	287	270	219	181	173	127	140	93	116	70	98	54
0,8	1.103	1.653	706	846	490	490	360	308	276	207	218	145	177	106	146	79	123	61
1,0	1.567	2.067	1.003	1.058	696	612	512	386	392	258	309	181	251	132	207	99	174	76

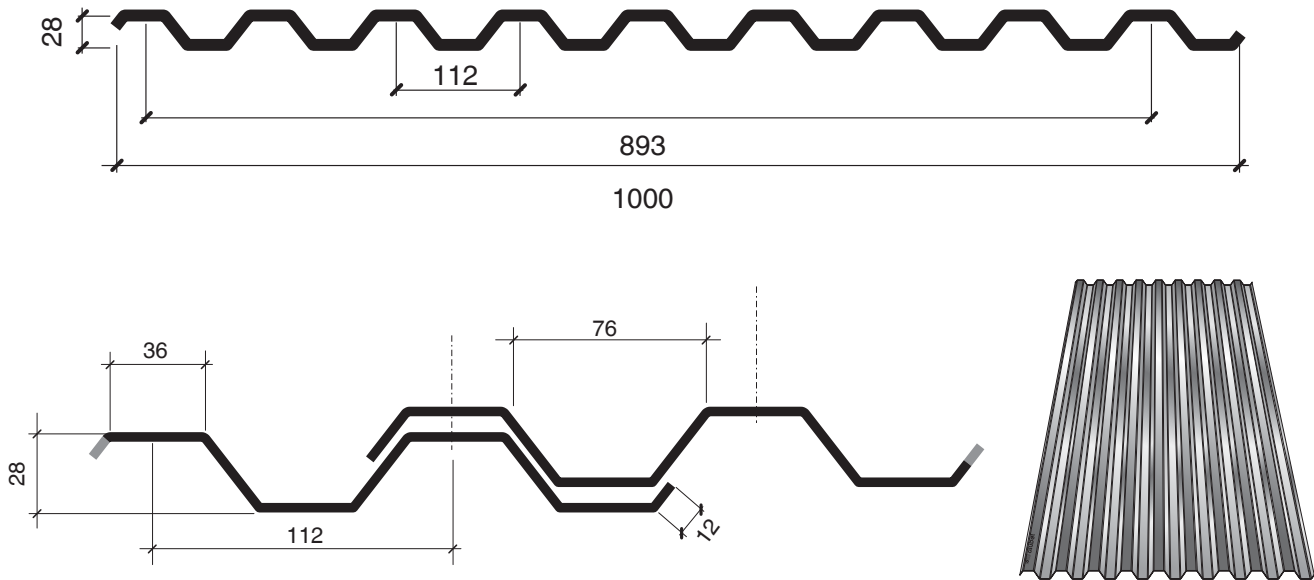
*(it is calculated in the dual hypothesis of $\sigma_{perm.} = 1.400 \text{ kg/cm}^2 = 13,73 \text{ kN/cm}^2$ and $f_{perm.} = i/200$)

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question

Alubel 28 profile

Made in: **Copper**

TECHNICAL DATA SHEET



TECHNICAL SPECIFICATIONS OF THE ALUBEL 28 COPPER PROFILE

s	p	J	W	EJ	M max	Symbols
[mm]	[kg/m ²]	[cm ⁴ /m]	[cm ³ /m]	[kN cm ² /m]	[kN cm/m]	
0,5	5,57	7,68	3,58	90.393	35,1	s = sheet thickness p = unit weight J = moment of inertia W = modulus of bending resistance EJ = bending stiffness M max = permitted bending moment ($\sigma_{perm.} = 9,8 \text{ kN/cm}^2$) i = centre distance between supports $\sigma_{perm.}$ = unit safety load f perm. = maximum permitted straining
0,6	6,69	9,22	4,84	108.519	47,4	
0,7	7,80	10,76	6,27	126.645	61,4	
0,8	8,92	12,30	7,88	144.771	77,2	
1,0	11,15	15,38	11,19	181.022	109,6	

PERMITTED UNIFORM LOAD [kg/m²] ON 4 SUPPORTS*

i [m]	1,00		1,20		1,40		1,60		1,80	
	σ_{perm}	f _{perm}	σ_{perm}	f _{perm}	σ_{perm}	f _{perm}	σ_{perm}	f _{perm}	σ_{perm}	f _{perm}
0,5	358	590	248	341	183	215	140	144	111	101
0,6	484	708	336	410	247	258	189	173	149	121
0,7	627	826	435	478	320	301	245	202	194	142
0,8	788	944	547	547	402	344	308	230	244	162
1,0	1.119	1.181	777	683	571	430	437	288	345	202

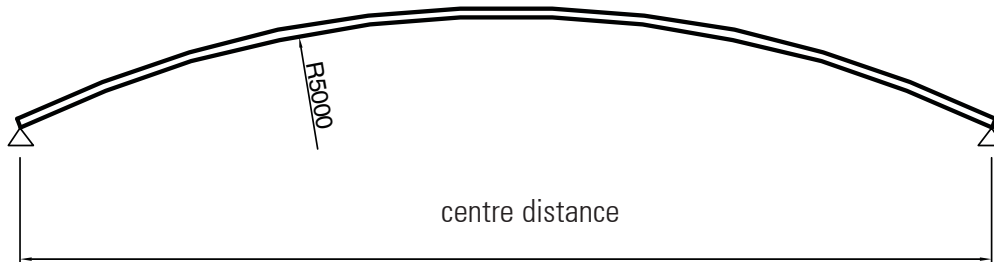
*(it is calculated in the dual hypothesis of $\sigma_{perm.} = 1.000 \text{ kg/cm}^2$ and $f_{perm.} = i/200$)

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question

Alubel 28 profile

LOAD TABLE FOR THE RADIUS 5 CURVED ALUBEL 28 PROFILE SHEET

Steel

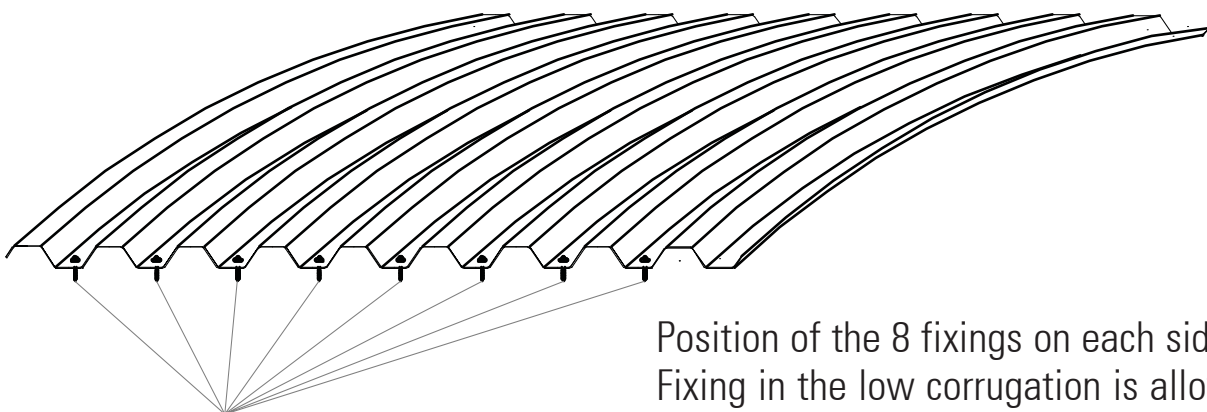


PERMITTED UNIFORM LOAD IN kg/m²

thickness	centre distance of the supports (i)	
	3,0 m	3,5 m
0,7 mm	180	-
0,8 mm	220	210
1,0 mm	270	250

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question

N.B.: The loads have been calculated considering 8 steel fixings, diam. 6 mm, on each side, in the way shown here.

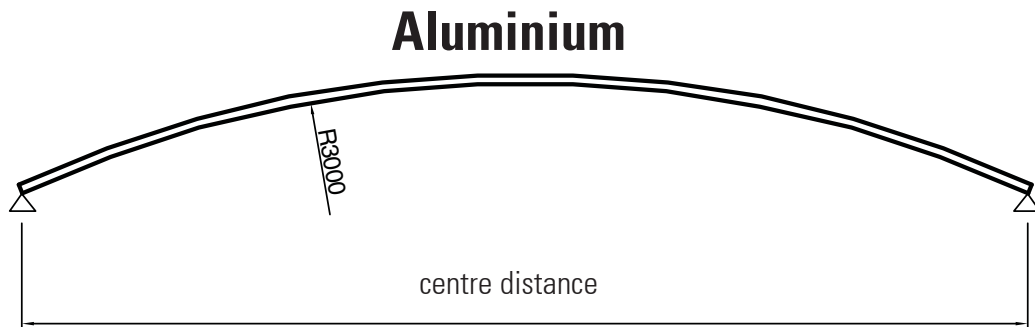


Position of the 8 fixings on each side.
Fixing in the low corrugation is allowed only on "Y" beam type structures

Alubel 28 profile

TECHNICAL DATA SHEET

LOAD TABLE FOR RADIUS 3 CURVED ALUBEL 28 PROFILE SHEET



PERMITTED LOAD TABLE FOR A CURVED ALUMINIUM ALUBEL 28 PROFILE R = 3 M WITH 4 PREDEFINED FIXINGS ON EACH SIDE

thickness	Clear span (m)			
	1,5 m	2,0 m	2,5 m	3,0 m
0,7 mm	106	-	-	-
0,8 mm	120*	113	-	-
1,0 mm	153*	150*	143	140

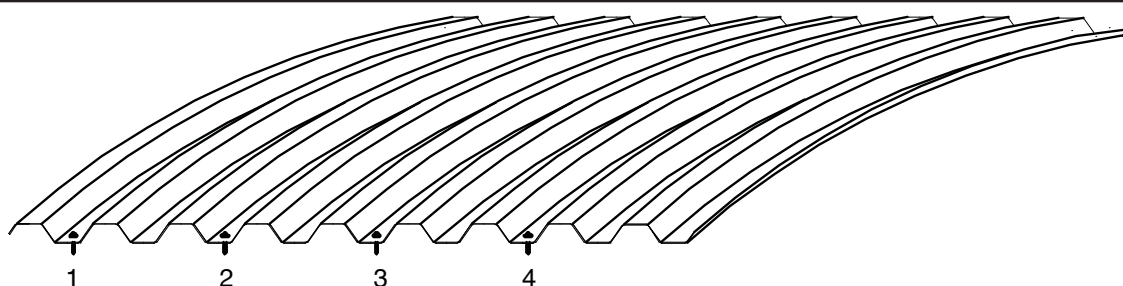
Uniformly distributed load, expressed in kg/m²

σ perm. = 6,5 kN/cm²

number of fixings on each side (to be put on the low part of the corrugation) with 6,3 mm \varnothing steel fixings necessary to support the permitted load (predefined as 4 fixings on each side).

The treadable surface has been verified as per Italian Ministerial Decree 16/01/1996 par. 5.2.

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question.

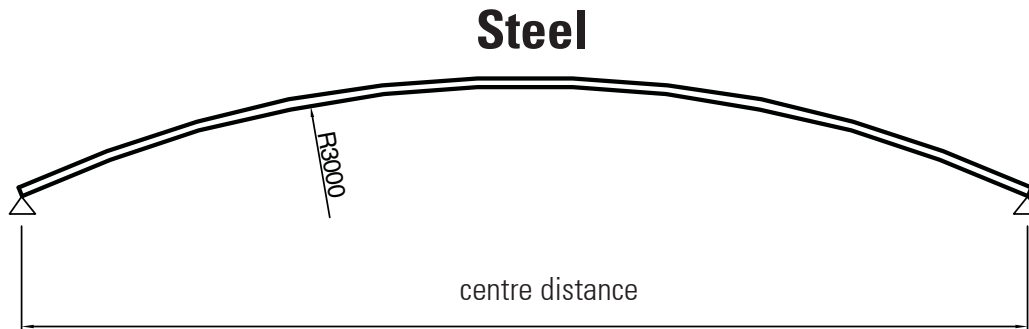


Position of the 4 fixings on each side.

Fixing in the low corrugation is allowed only on "Y" beam type structures

Alubel 28 profile

LOAD TABLE FOR THE RADIUS 3 CURVED ALUBEL 28 PROFILE SHEET



PERMITTED LOAD TABLE FOR A CURVED STEEL ALUBEL 28 PROFILE R = 3 M WITH 4 PREDEFINED FIXINGS ON EACH SIDE

thickness	Clear span (m)					
	1,5 m	2,0 m	2,5 m	3,0 m	3,5 m	4,0 m
0,5 mm	135	131	-	-	-	-
0,6 mm	162*	158	154	-	-	-
0,7 mm	189*	184*	180*	175	-	-
0,8 mm	216*	210*	205*	200*	194*	-
1.0 mm	271*	263*	257*	250*	243*	234

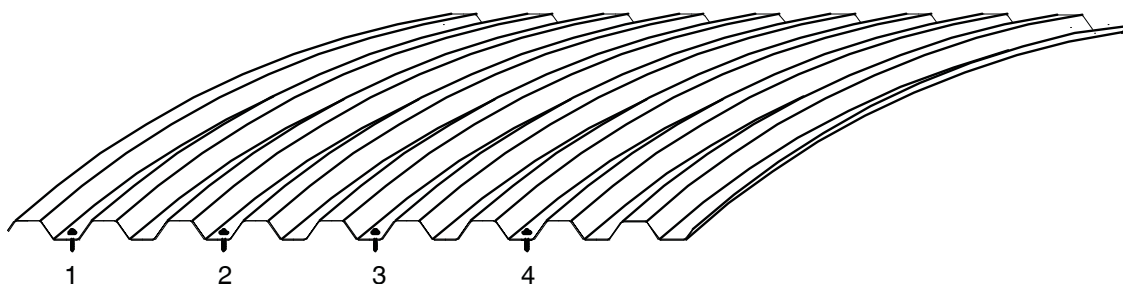
Uniformly distributed load, expressed in kg/m²

σ perm. = 1400 kg/cm²

number of fixings on each side (to be put on the low part of the corrugation) with 6,3 mm \varnothing steel fixings necessary to support the permitted load (predefined as 4 fixings on each side).

The treadable surface has been verified as per Italian Ministerial Decree 16/01/1996 par. 5.2.

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question.



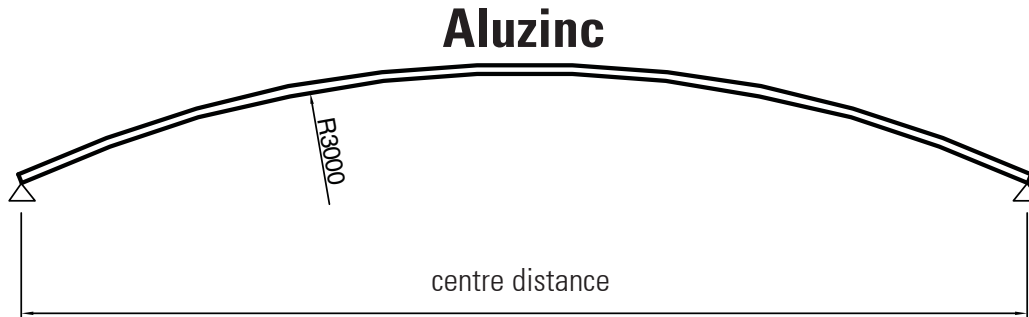
Position of the 4 fixings on each side.

Fixing in the low corrugation is allowed only on "Y" beam type structures

Alubel 28 profile

TECHNICAL DATA SHEET

LOAD TABLE FOR THE RADIUS 3 CURVED ALUBEL 28 PROFILE SHEET



PERMITTED LOAD TABLE FOR A CURVED ALUZINC ALUBEL 28 PROFILE R = 3 M WITH 4 PREDEFINED FIXINGS ON EACH SIDE

thickness	Clear span (m)					
	1,5 m	2,0 m	2,5 m	3,0 m	3,5 m	4,0 m
0,5 mm	135	131	-	-	-	-
0,6 mm	162*	158	154	-	-	-
0,7 mm	189*	184*	180*	175	-	-
0,8 mm	216*	210*	205*	200*	194*	-
1,0 mm	271*	263*	257*	250*	243*	234

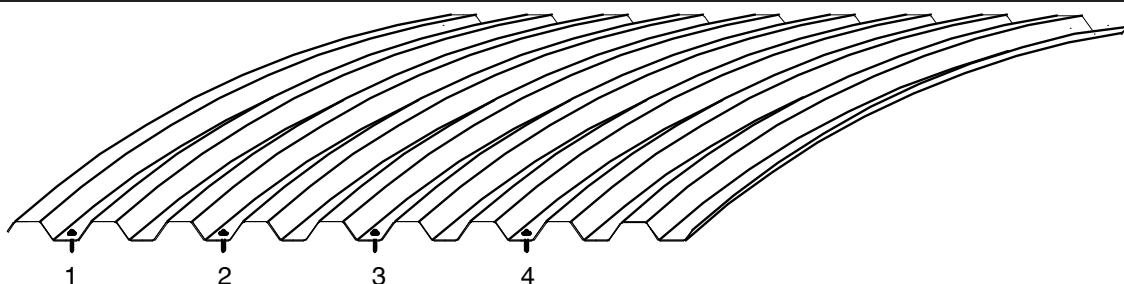
Uniformly distributed load, expressed in kg/m²

σ perm. = 1400 kg/cm²

number of fixings on each side (to be put on the low part of the corrugation) with 6,3 mm \varnothing steel fixings necessary to support the permitted load (predefined as 4 fixings on each side).

The treadable surface has been verified as per Italian Ministerial Decree 16/01/1996 par. 5.2.

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case that also has to determine the application design specifications for the roofing in question.

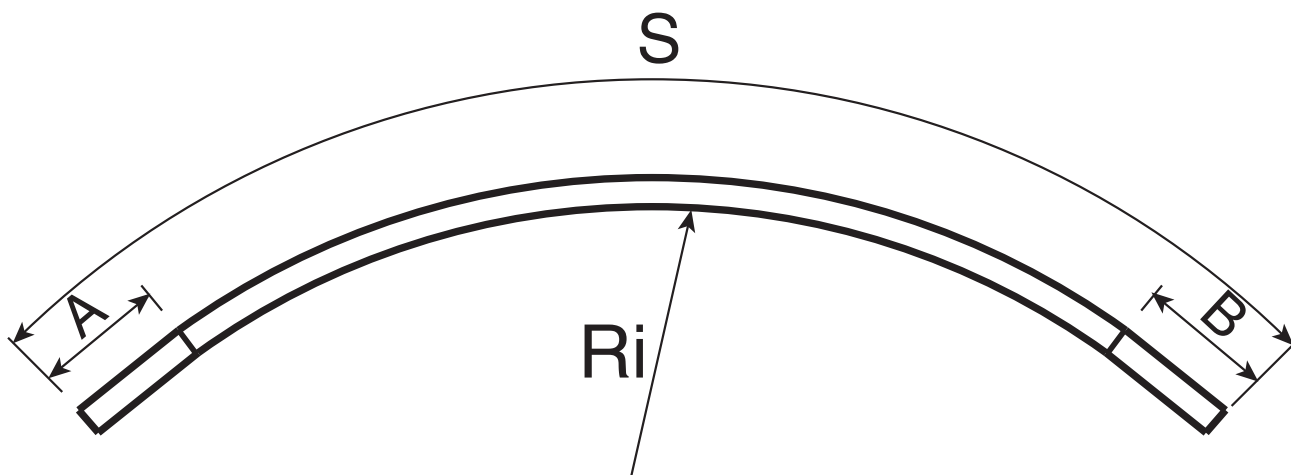


Position of the 4 fixings on each side.

Fixing in the low corrugation is allowed only on "Y" beam type structures

Alubel 28 profile

CURVATURE BY SINGLE CURVING



CURVATURE BY SINGLE CURVING

Ri	S max sheet length		
	aluminium 0,7 - 0,8 mm	copper and steel 0,6 - 0,8 mm	stainless steel 0,6 - 0,8 mm
from 6 to 8 m	max 8 m	-	6 m*
from 8 to 10 m	max 9 m	-	max 7 m*
from 10 to 14 m	max 10 m*	max 10 m*	max 8 m*
from 14 to 16 m	max 11 m*	max 9 m*	max 9 m*
from 16 to 20 m	max 12 m*	max 10 m*	max 9 m*
over 20 m	max 12 m*	max 11 m*	max 10 m*

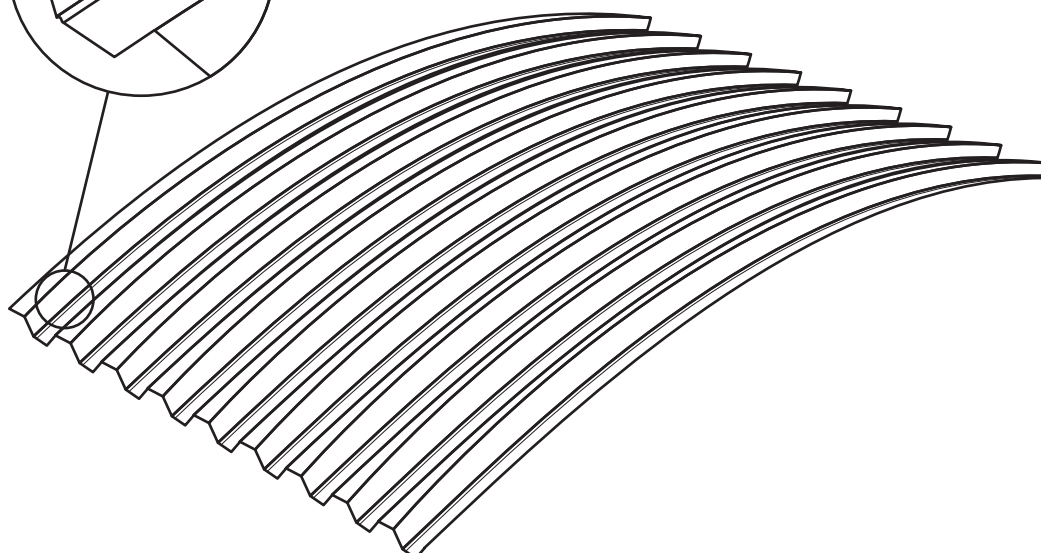
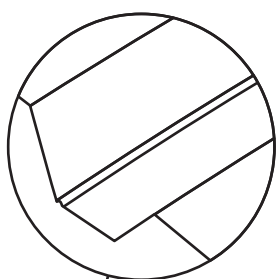
A = min 200 mm

B = min 50 mm

or

A = min 50 mm

B = min 200 mm

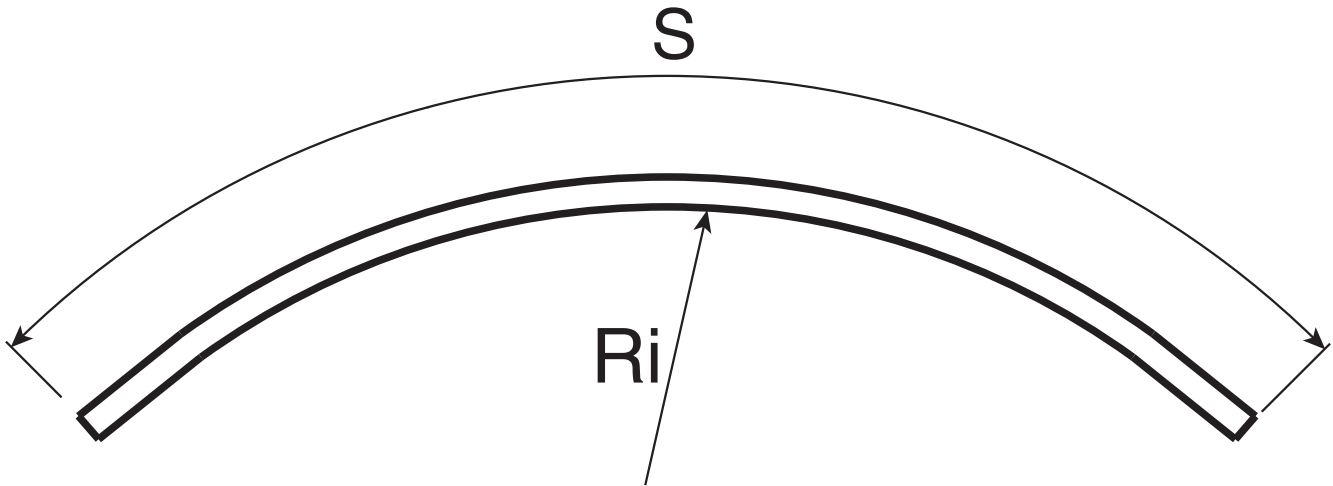


* non standard toolings

Alubel 28 profile

SHEET TOOLING

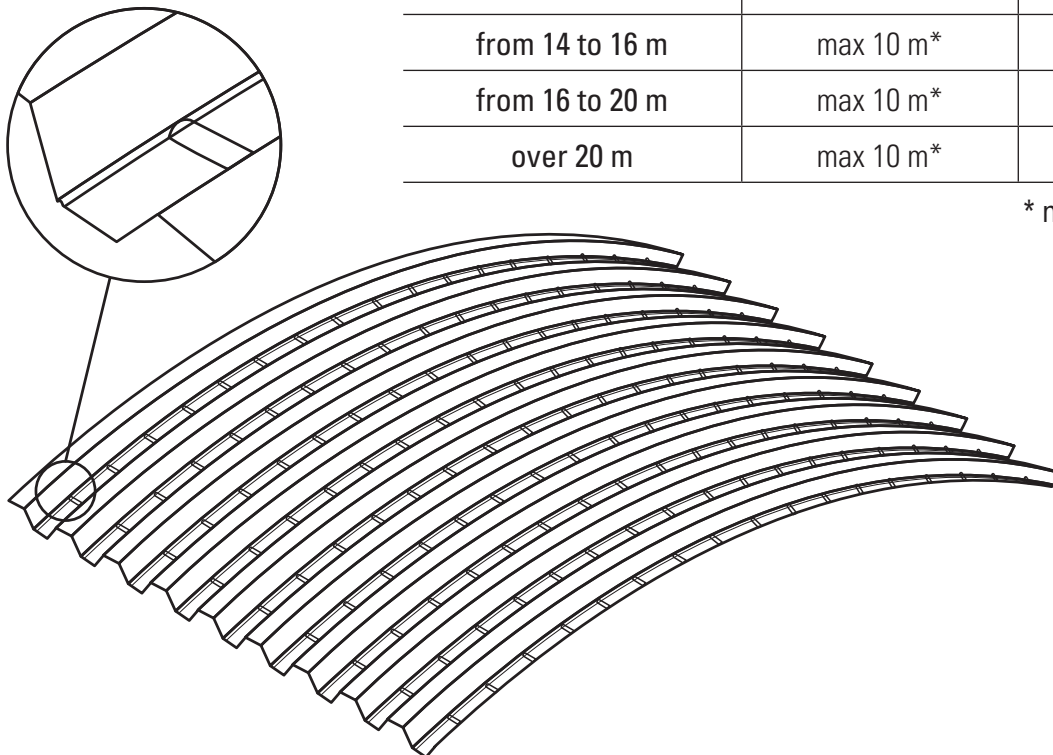
CURVATURE BY MICRO ROLLER CURVING



CURVATURE BY MICRO ROLLER CURVING

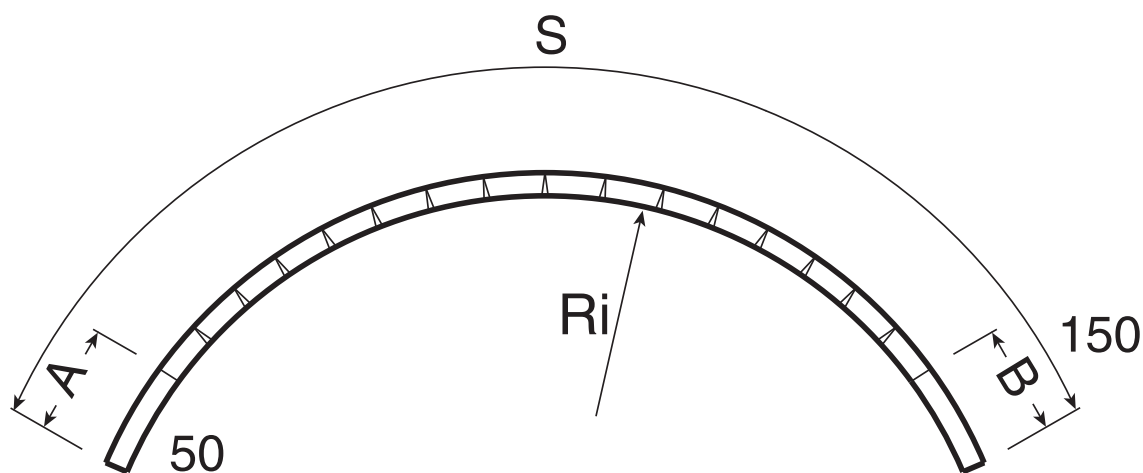
R_i	S max sheet length	
	aluminium	other materials
from 3 to 4 m	max 5 m	max 4 m
from 5 a 6 m	max 7 m	max 6 m
from 6 to 8 m	max 8 m	max 6 m
from 8 to 10 m	max 9 m*	max 6 m
from 10 to 14 m	max 10 m*	max 7 m*
from 14 to 16 m	max 10 m*	max 8 m*
from 16 to 20 m	max 10 m*	max 9 m*
over 20 m	max 10 m*	max 10 m*

* non standard toolings



Alubel 28 profile

UNIFORM CURVATURE BY NOTCHING

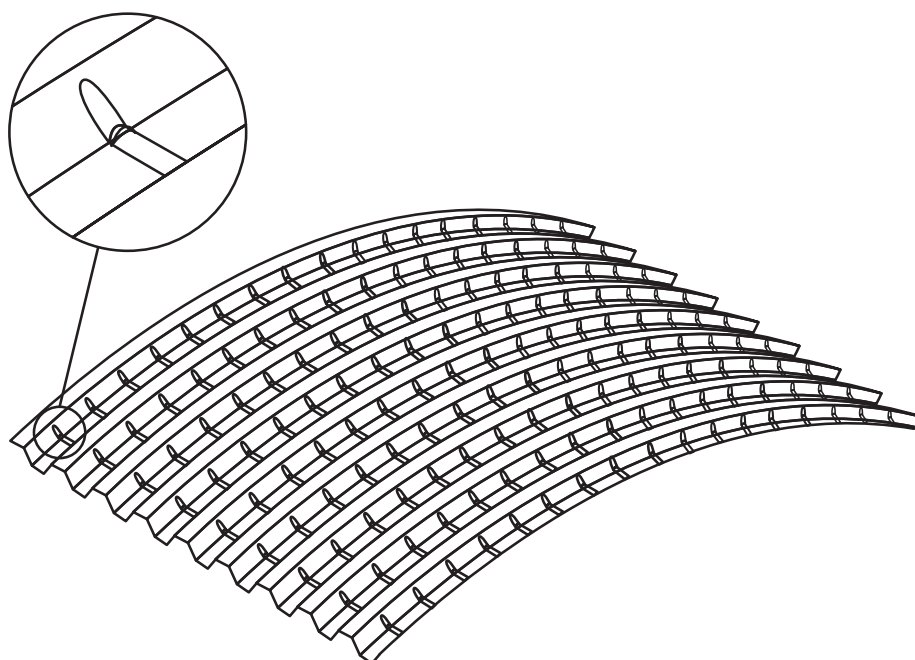


A = min 150 mm
 B = min 50 mm
 or
 A = min 50 mm
 B = min 150 mm

UNIFORM CURVATURE BY NOTCHING

Ri	S max sheet length	
	aluminium	other materials
1 m	max 3 m	max 3 m
from 2 to 3 m	max 4 m	max 4 m
from 3 to 4 m	max 5 m	max 5 m
from 4 to 6 m	max 6 m	max 6 m
from 6 to 7 m	max 8 m	max 8 m*

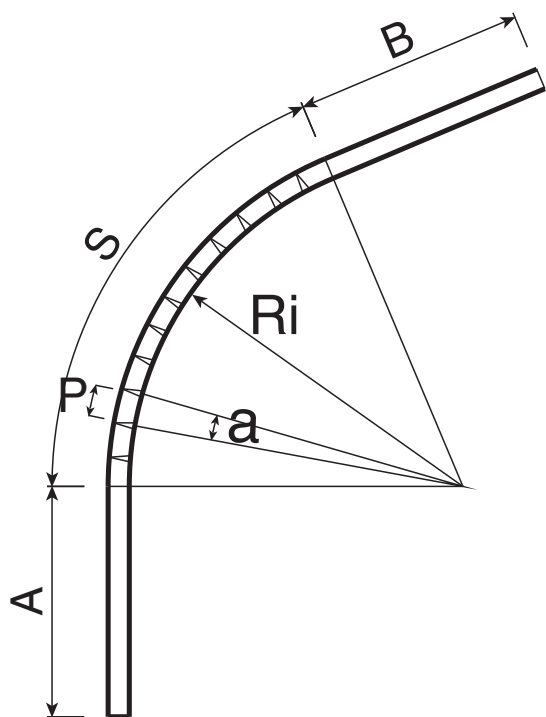
* non standard toolings



Alubel 28 profile

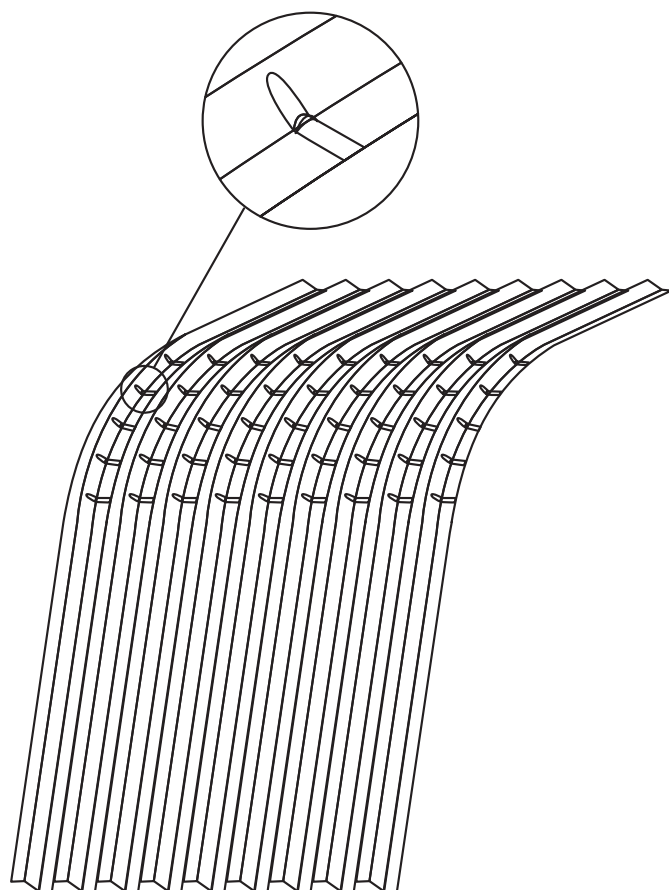
SHEET TOOLING

PARTIAL CURVATURE BY NOTCHING



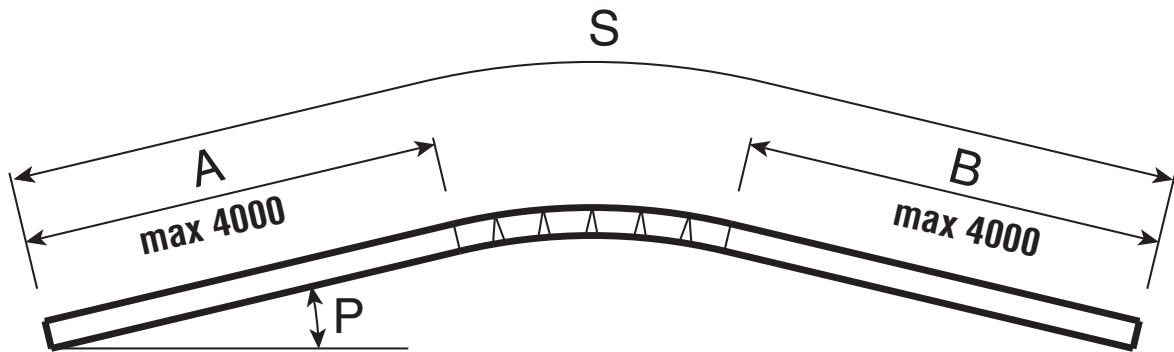
Symbols		
A	initial section	min 50 max 2000 mm
B	end section	min 50 max 2000 mm
S	curve development	min 100 mm
A+B+S	total development (aluminium)	max 5000* mm
A+B+S	total development (other material)	max 5000* mm
Ri	inside radius	min 230 mm
P	impression distance	min 25 mm
a	deflection angle	min 1° max 6°

*total variable development based on the inside radius



Alubel 28 profile

NOTCHING IN THE MIDDLE

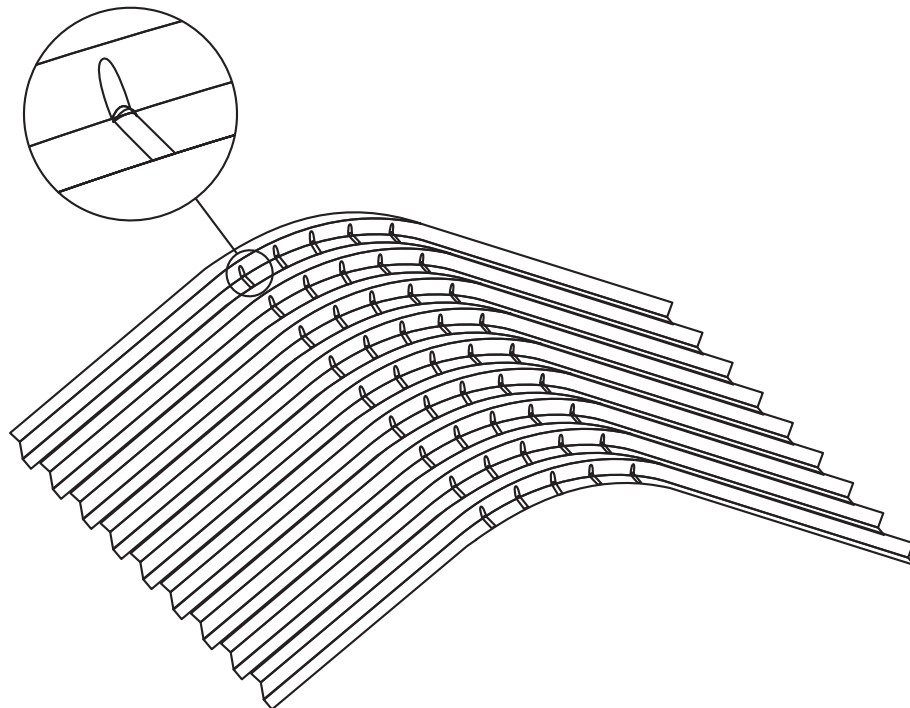


SHEET TOOLING

Sheet curved only in the centre to form the ridge and the joining of two pitches (achieved by means of a set of impressions in the middle of the sheet).

The length of the straight segments A and B varies from a minimum of 50 mm to a maximum of 4000 mm.

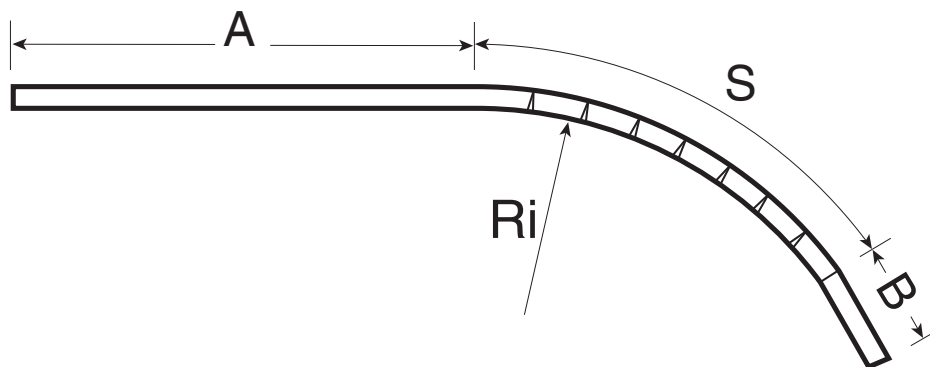
P	S max sheet length	
	aluminium	other materials
from 6 to 12%	max 10 m	max 6 m
from 12 to 15%	max 10 m	max 6 m
from 15 to 20%	max 8 m	max 6 m
from 20 to 25%	max 8 m	max 4 m



Alubel 28 profile

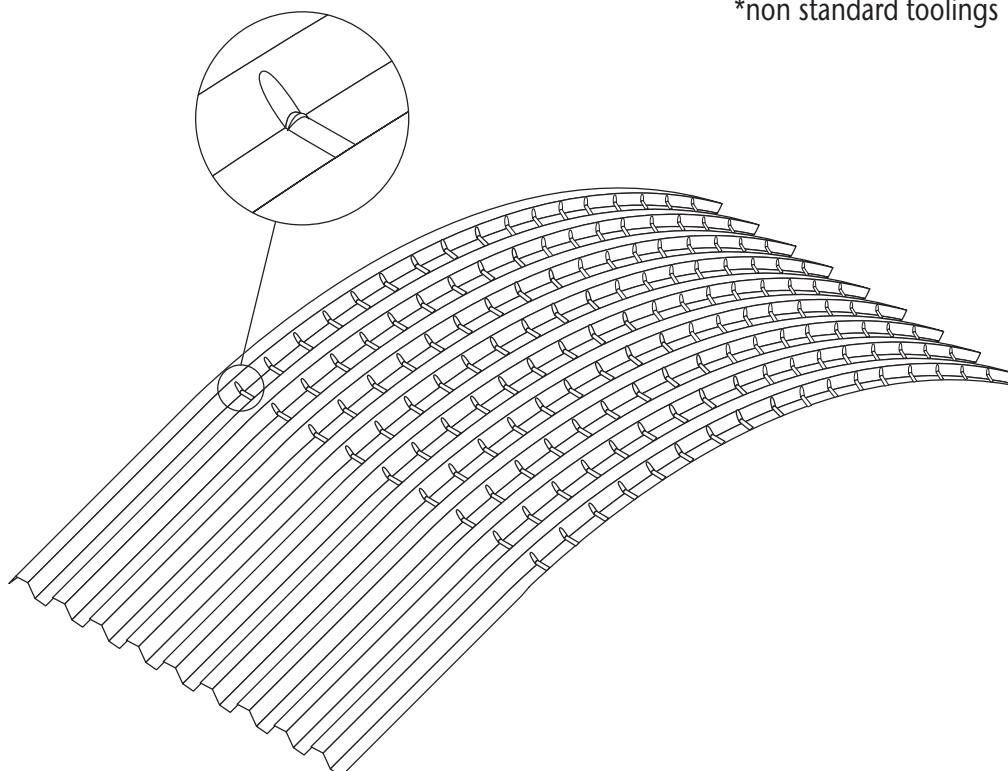
LATERAL NOTCHING

SHEET TOOLING



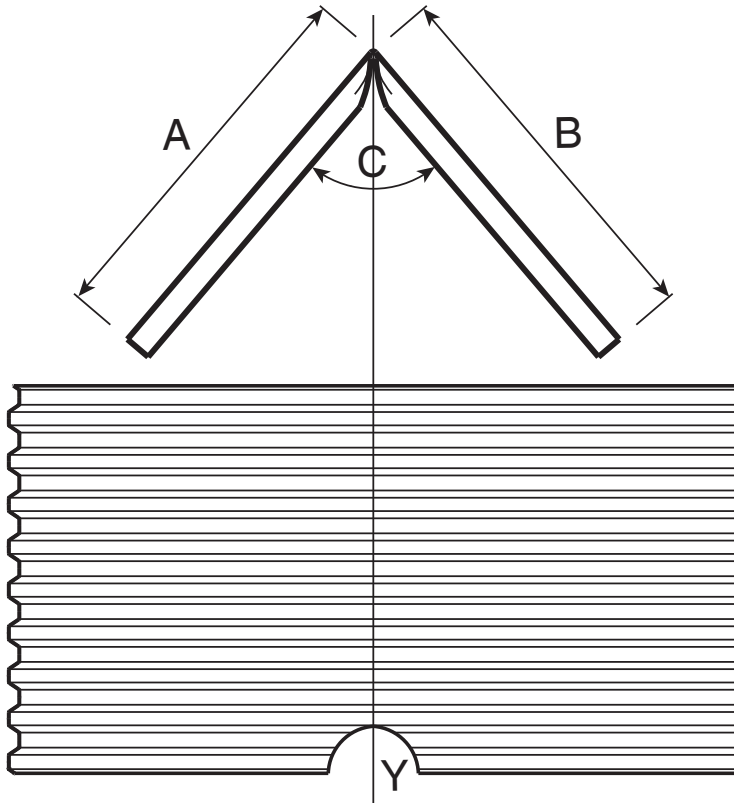
Symbols		
A	initial section	min 50 max 2000 mm
B	end section	min 50 max 8000 mm
S	curve development	min 400 mm based on the radius
A+B+S	total development (aluminium)	max 8000 mm
A+B+S	total development (other mater.)	max 8000 mm*
Ri	inside radius	min 230 mm
P	impression distance	min 25 mm
a	deflection angle	min 1° max 6°

*non standard toolings

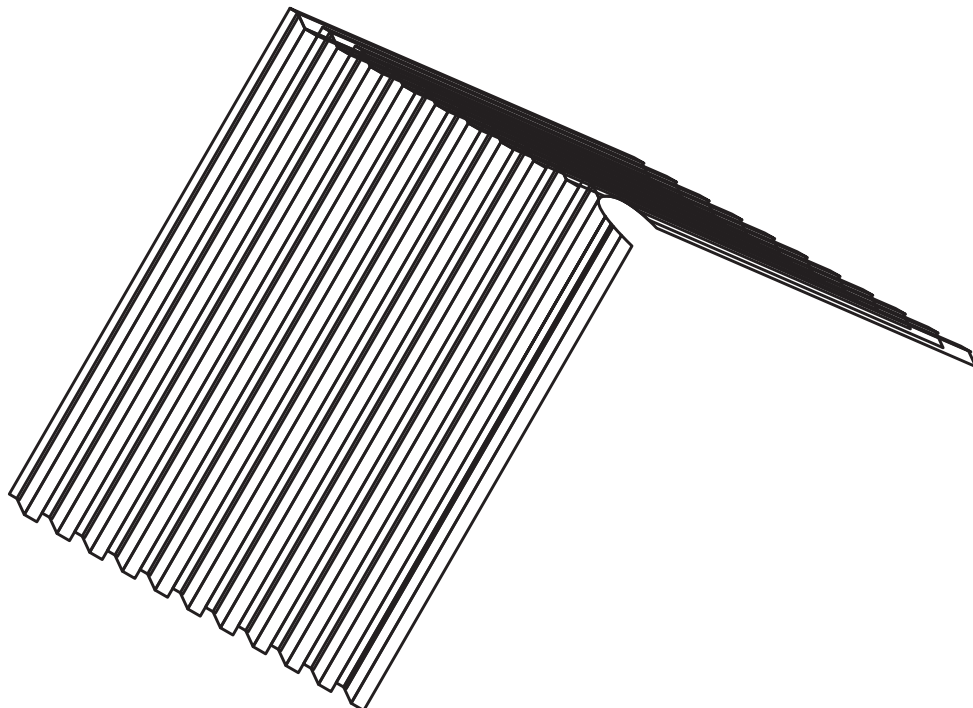


Alubel 28 profile

CONTROLLED STRAINING



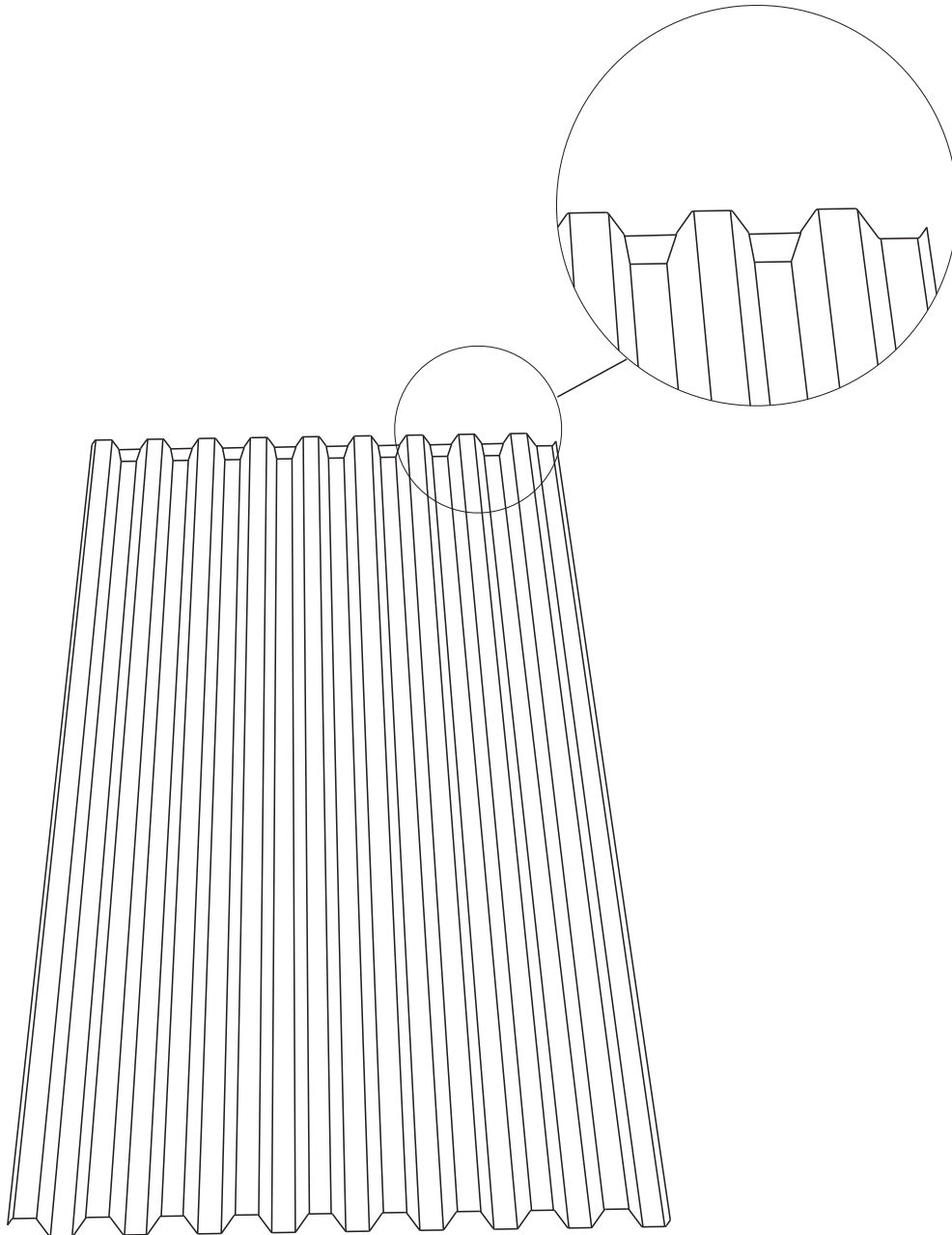
	Tooling dimensions	
	minimum	maximum
A	200 mm	4000 mm
B	200 mm	4000 mm
A + B	--	6000 mm
C	90°	160°
Y	bevelled sheet	



Alubel 28 profile

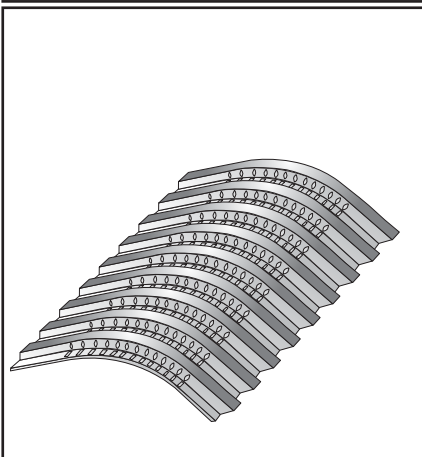
ANTI-REFLUX BEND

SHEET TOOLING

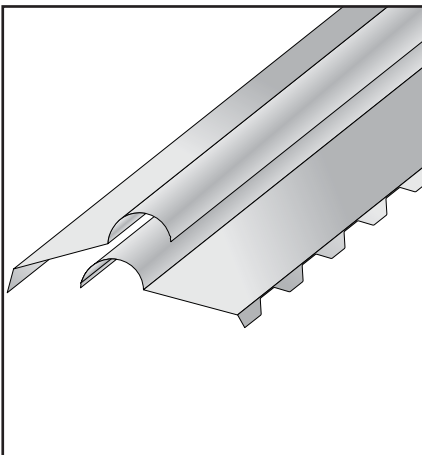
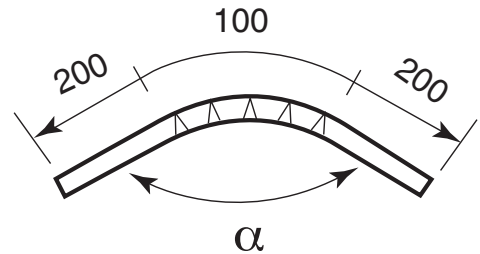


The anti-reflux bend is made automatically in the bottom corrugation, on the end of the profile 28 sheet
Max. sheet length 8 m

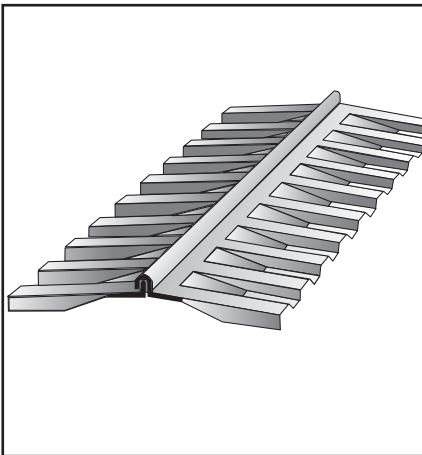
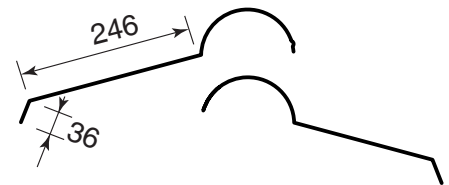
Alubel 28 profile



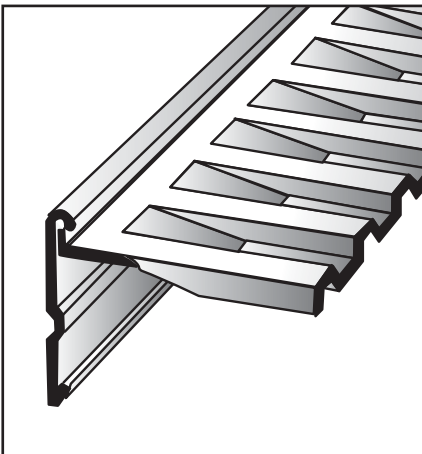
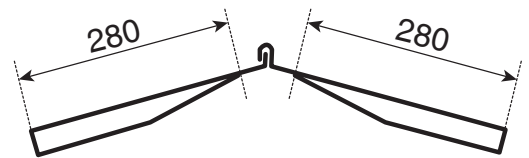
Curved ridge
minimum development
500 mm



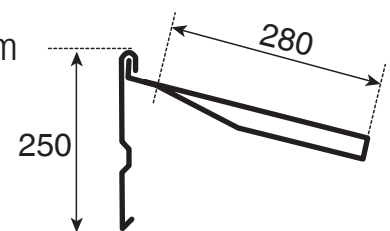
Notched, hinged ridge
development 834 mm
length 2800 mm



Pressed hinged ridge
minimum development 625 mm

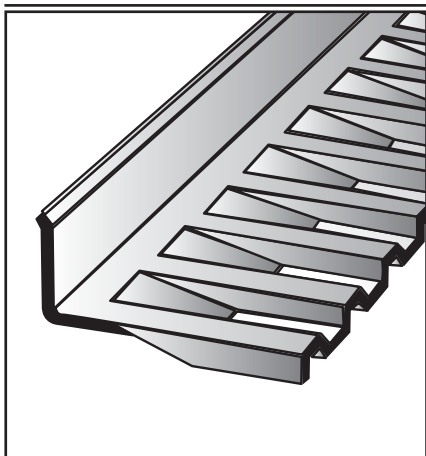


Pressed shed ridge
minimum development 625 mm

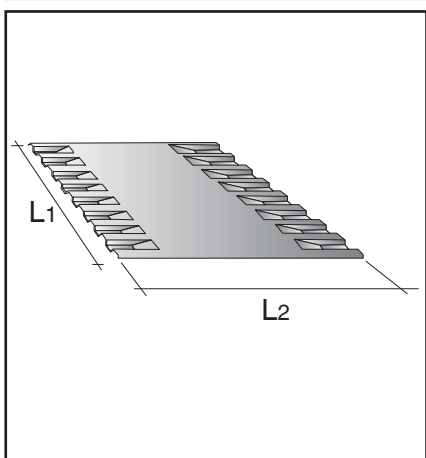
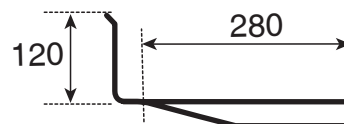


Alubel 28 profile

ACCESSORIES

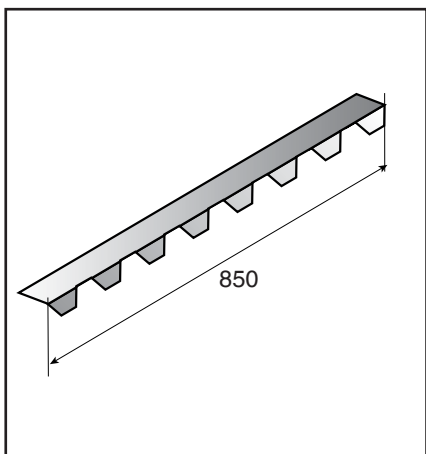


Pressed wall pitch connection
minimum development 417 mm

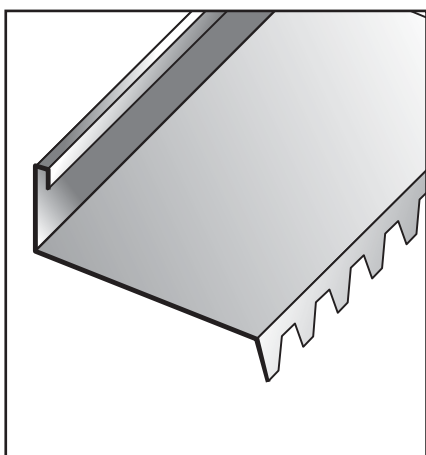
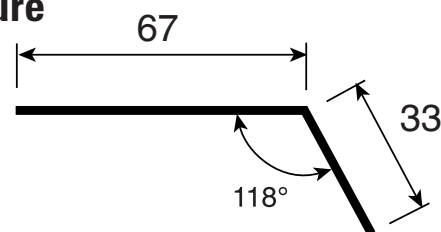


Chimney converse base element

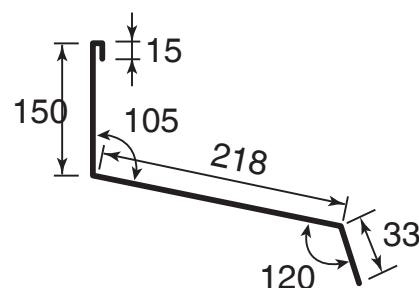
In aluminium $L_1 = 1000$ mm
 $L_2 = 1250$ mm
 $L_2 = 1500$ mm
 In stainless steel $L_1 = 510$ mm
 $L_2 = 1000$ mm



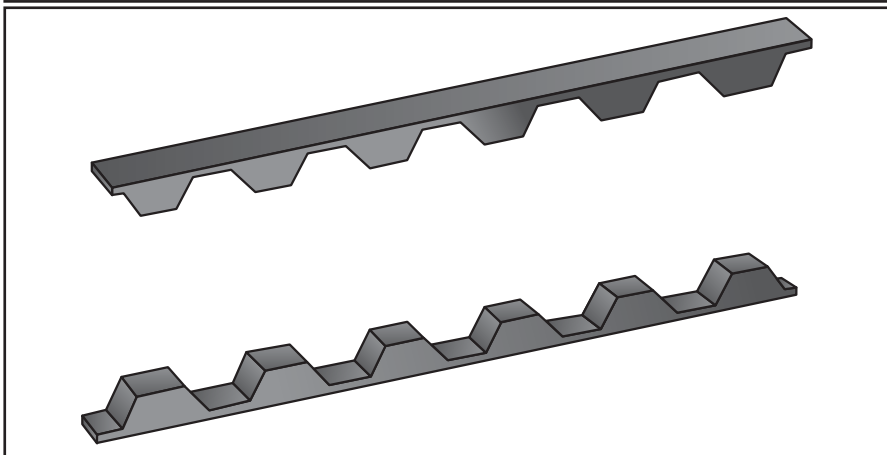
Metal corrugation closure
development 100 mm



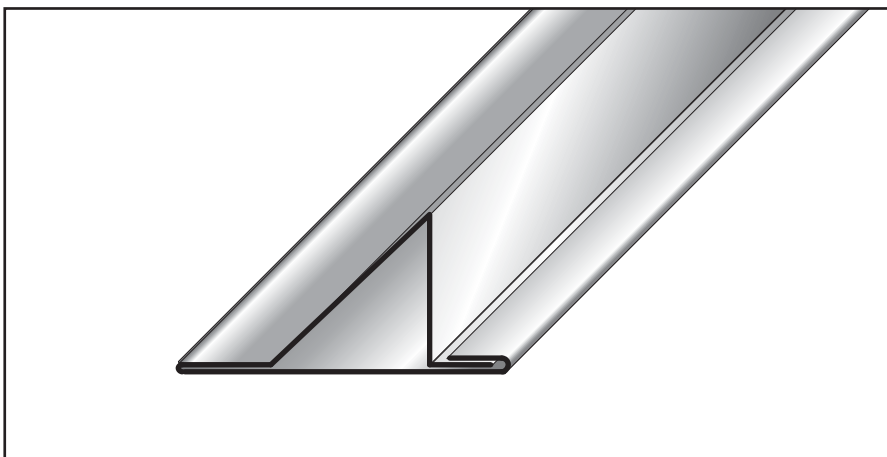
Notched wallpitch connection
minimum development 417 mm



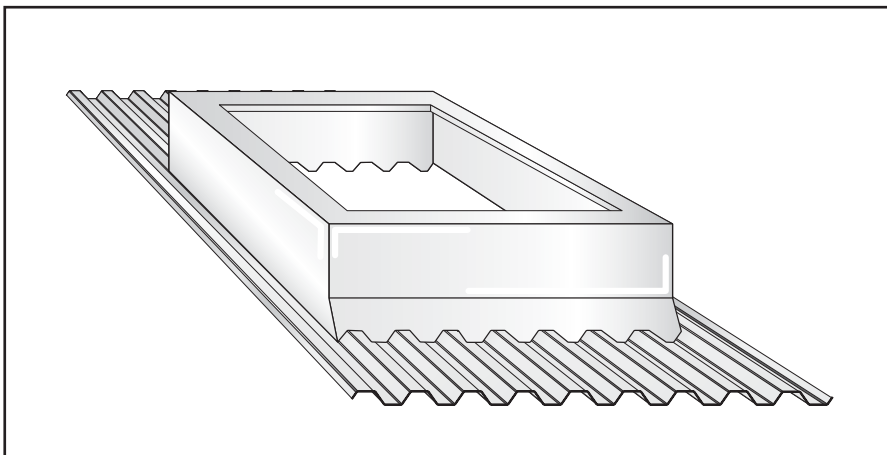
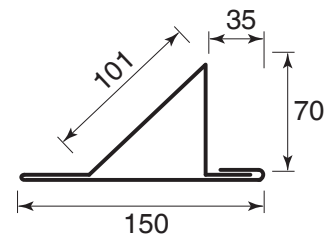
Alubel 28 profile



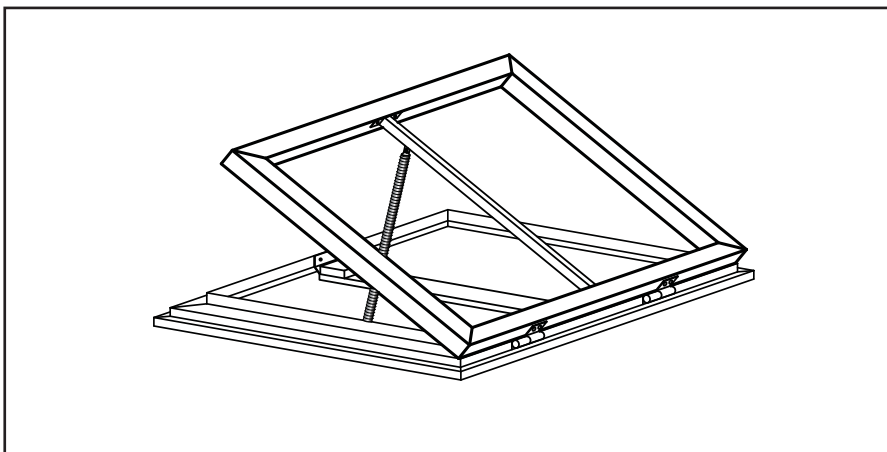
Under/over corrugation seal
in closed cell polyethylene foam 10x30 thick



Press formed snow stop
development 417 mm



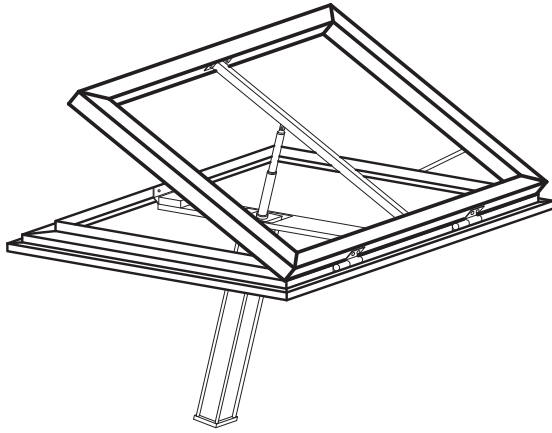
Basic element for skylights
In fibreglass



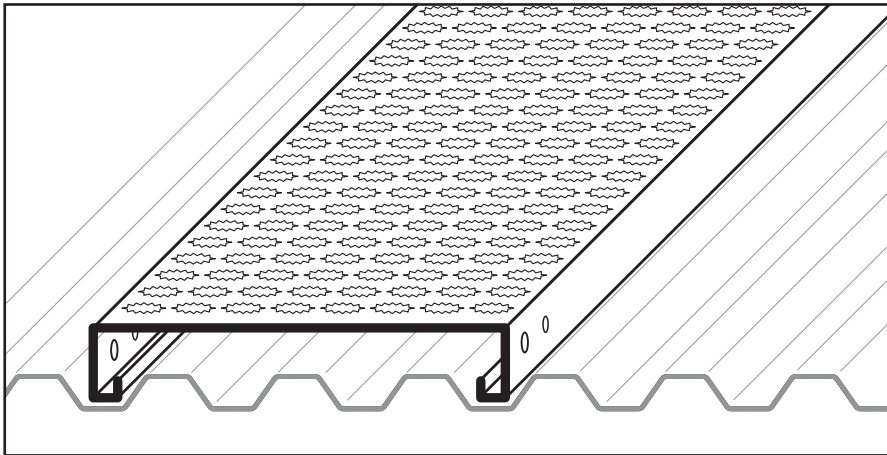
Openable frame
Manual

Alubel 28 profile

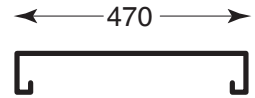
ACCESSORIES



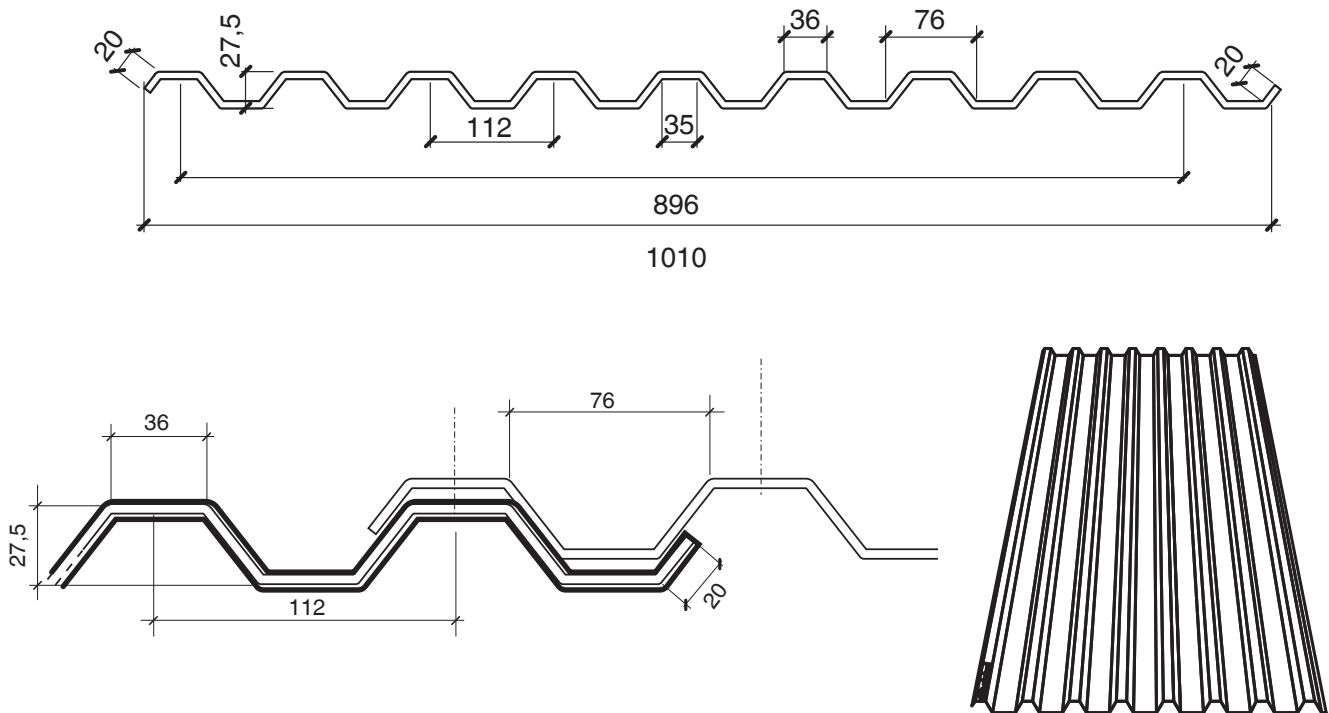
Openable frame
Electric

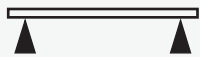



Sicurtetto walkway
raw aluminium
3600 mm bars
weight: 2,8 kg/m



Alubel 28 polycarbonate profile



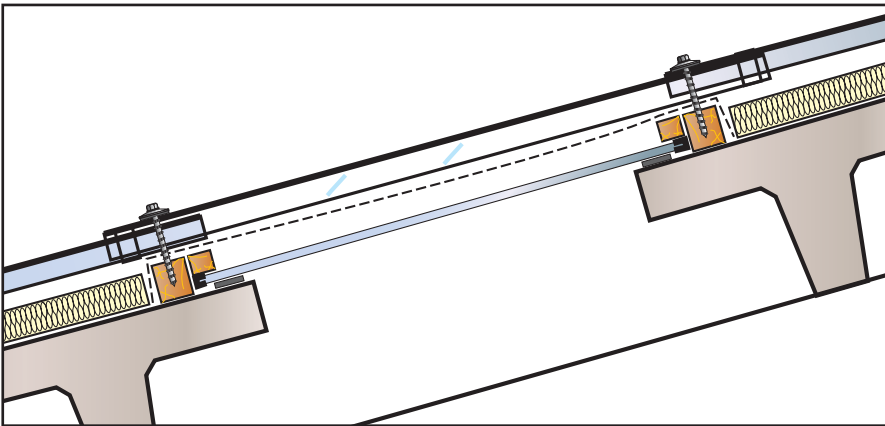
Load [kg/m ²]	thickness 1 mm	
	Single span 	Multiple span 
50	1350	1550
75	1150	1350
100	1050	1200
125	1000	1150
150	900	1050

The contents of this calculation table are to be considered approximate and purely indicative. The structural calculation is the task of the designer and/or user in each single case.

1. The data given above are not a substitute for any locally existing directives.
2. The centre distance between the supports is calculated based on the characteristics of the material, sheet bending, the potential thrust of the wind and snow load, hail and on other applicable factors in accordance with common construction practices, professional experience and previous direct experience.
3. The above mentioned table refers to polycarbonate sheets supported by load bearing panels on both sides.

Alubel 28 polycarbonate profile

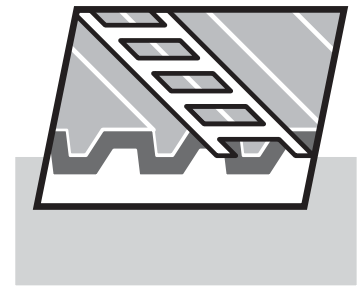
ACCESSORIES



The profile 28 polycarbonate sheets are the ideal solution for skylights and transparent roofing.

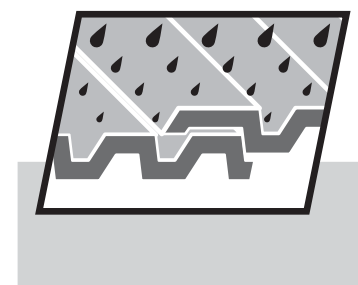
Safety

- Do not walk on the Alubel 28 polycarbonate profile sheets prior to, during or after installation.
- Always work in accordance with the safety standards.



Laying

- The Alubel 28 polycarbonate profile sheets must be laid avoiding all tension.
- Do not pull, force or twist Alubel 28 polycarbonate profile sheets if they do not match the metal profile perfectly.
- Always lay the UV protected side externally.
- Laying sequence must always be opposite to the main direction of the wind.

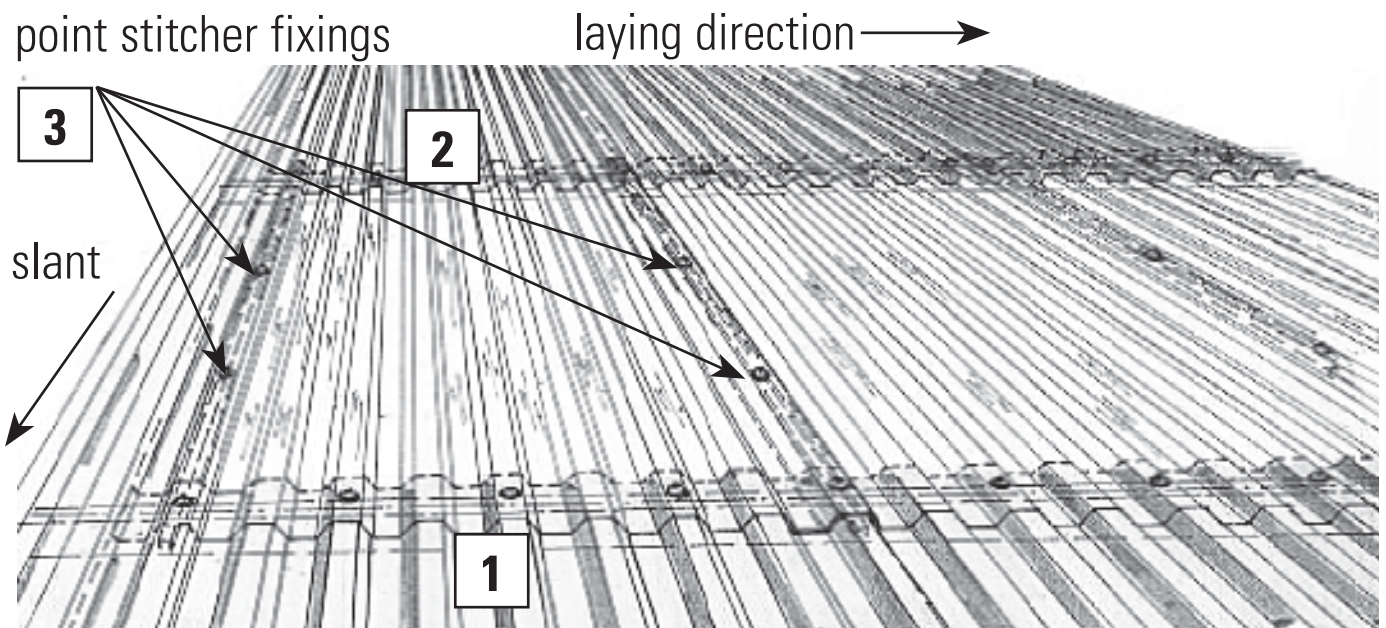


Alubel 28 polycarbonate profile

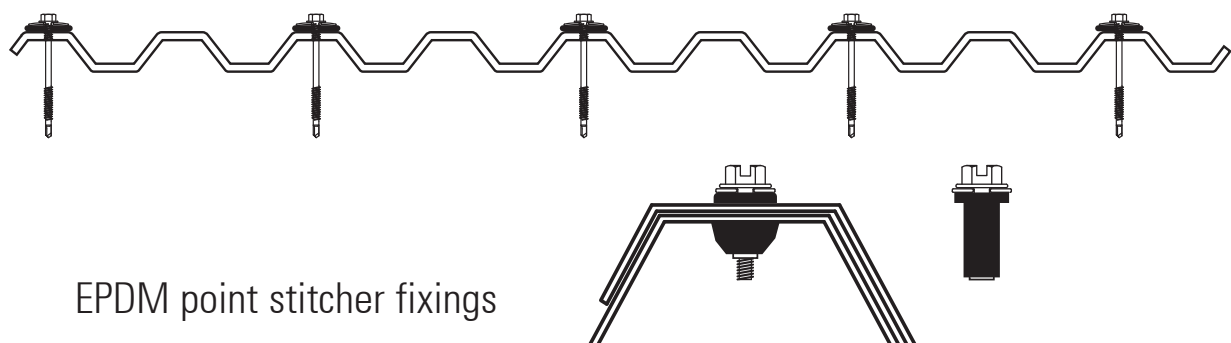
Laying and fixing flat roofing

1. Begin fixing from the top where the Alubel 28 polycarbonate profile sheet overlaps the metal sheet.
2. Secure the fixings on the second purlin in the same sequence. Position the next sheet following the same fixing sequence.
3. Fix the point stitcher fixings on the polycarbonate-polycarbonate overlaps, starting from the side where the Alubel 28 polycarbonate profile sheet overlaps the metal sheet. Install point stitcher fixings about every 300 mm.

Positioning the sheets



Positioning the fixings – Odd top



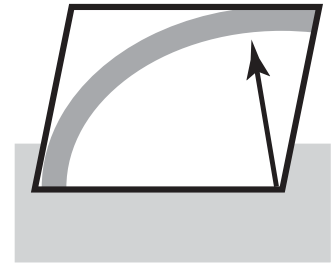
EPDM point stitcher fixings

Alubel 28 polycarbonate profile

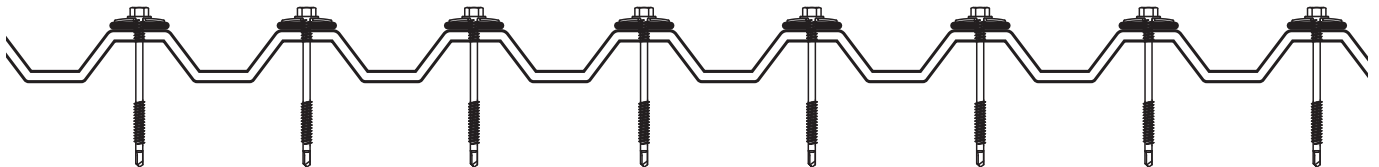
ACCESSORIES

Laying and fixing curved roofing

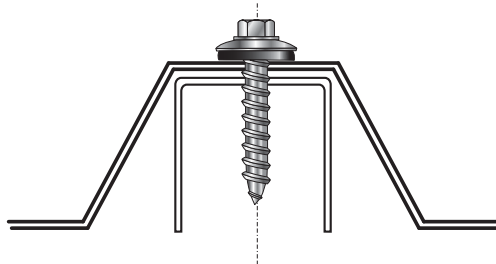
- Minimum curving radius: 5 metres.
- Install the fixings on all the profile's corrugations.
- Install point stitcher fixings on the side overlaps, approximately every 300 mm.
- Use of curved metal profiles where the side overlaps are is recommended.



Curved roofing: external fixings. Fixing on each top



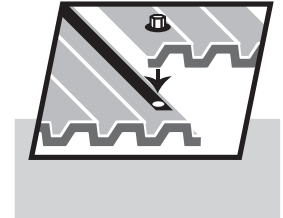
Metal profile side overlaps



Alubel 28 polycarbonate profile

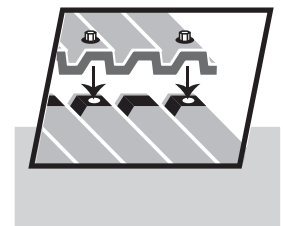
Side overlap

- Start from the side where the Alubel 28 polycarbonate profile sheet overlaps the metal sheet.
- The opposite side of the Alubel 28 polycarbonate profile sheet must be overlapped by the next Alubel 28 polycarbonate profile sheet.



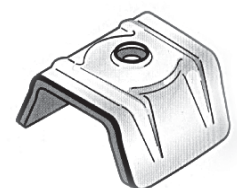
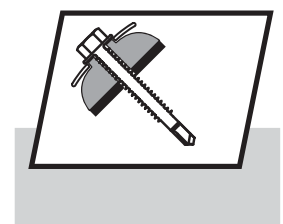
Head overlap

- Lay so it is aligned with the metal sheet.
- Maximum overlap: 15 cm from the fixing line.
- Minimum overlap: 5 cm from the fixing line.
- Apply the seal along the fixing line or two seals on the sides of the fixing line itself.



Fixings and seals

- Metal purlins - 6,3 x 65 mm self-drilling fixings.
- Wood purlins - 6,5x 70 mm wood fixings.
- EPDM seal, 55 or 65 Shore hardness, 25 mm \varnothing
- Never use PVC or metal seals that have not been approved.
- The use of ALUBLOK fixings is recommended.
- In the case of curved roofing, it is advisable to use caps shaped to match the corrugation, like the one shown here.

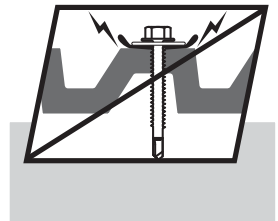
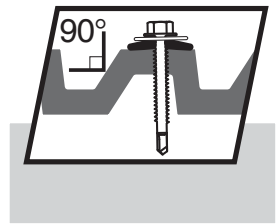
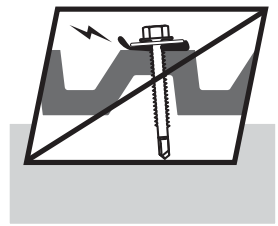


Alubel 28 polycarbonate profile

ACCESSORIES

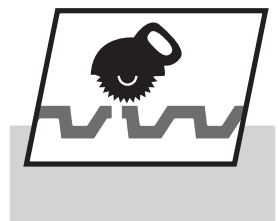
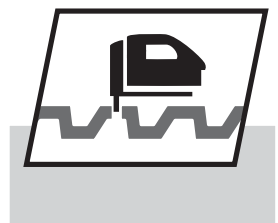
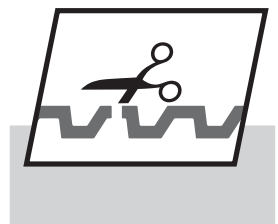
Fixing suggestions

- Use suitable fixing tools.
- The fixing must be secured at a right angle with the sheet.
- **IMPORTANT:** never over tighten the fixings!



Cutting tools

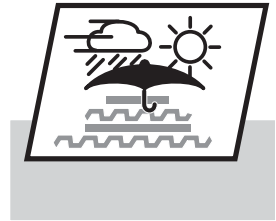
- Handheld or table saw with fine teeth.
- Metal shears.
- Cut at a high rotation speed and low forward feed speed.



Alubel 28 polycarbonate profile

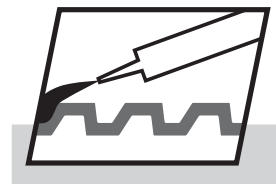
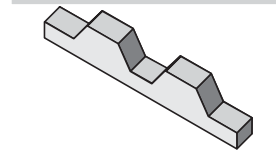
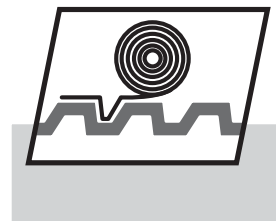
Storing

- Store in the shade and protect from direct sunlight and rain.
- Do not cover with materials that absorb heat.
- Avoid contact with chemicals.
- Protect the sheets from all possible damage.



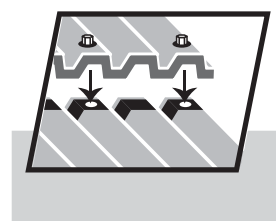
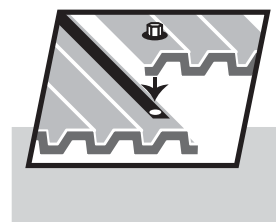
Accessories

- Only use accessories approved by Alubel
- Silicone.
- Seals in butyl rubber or foam materials.
- Closing elements.



Fitting the seals

- Clean the surface before putting the seal in place.
- Put the seal in place gradually and evenly without any tension.
- Apply a strip along the fixing line or two on its sides.

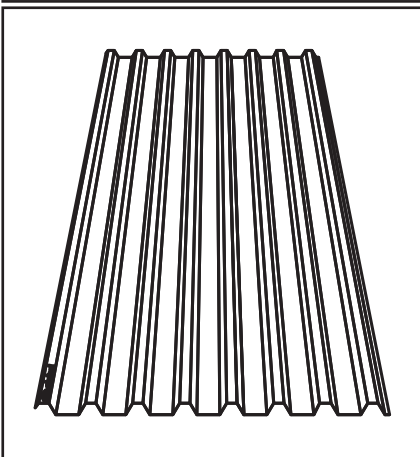


Alubel 28 polycarbonate profile

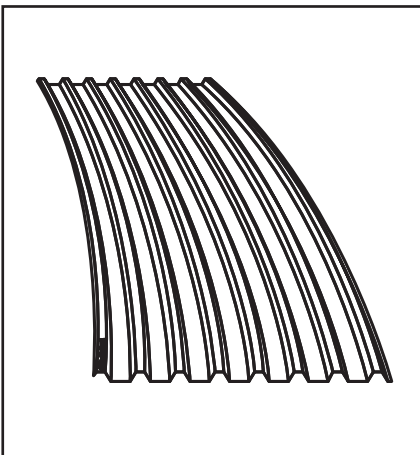
IMPORTANT NOTES

- Make sure the UV protected side is always on the outside.
- Always install with compatible corrugated profiles.
- Avoid all tension sources.
- Pre-drill the fixing point making holes that are 2 mm bigger than the diameter of the fixing when fixing the base of the corrugation.
- Do not over tighten the fixings.
- Avoid contact with chemicals or installation where there are corrosive substances.
- Only use compatible accessories, i.e. seals, silicones, sealants, closing elements etc. Soft PVC looks just like EPDM but it is not approved for use with polycarbonate sheets.
- Avoid contact with non compatible chemicals, including lubricants for aluminium.

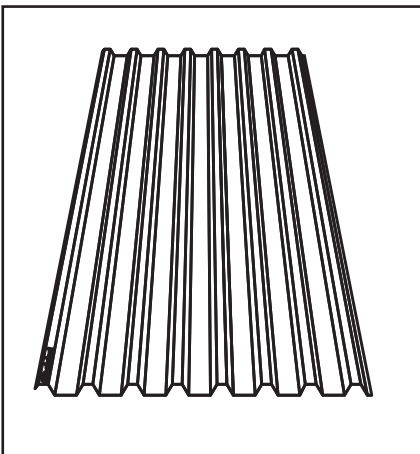
Alubel 28 profile



Straight translucent sheets
in fibreglass with 1,8 kg/m² Melinex



Curved translucent sheets r = 3 m
in fibreglass with 2,1 kg/m² Melinex



Translucent polycarbonate sheets
Colour : neutral
 white

Alubel 28 profile

OVERLAPPING VALUES

INSTALLATION INSTRUCTIONS

