



## TECHNICAL INFORMATION

# AkyVer<sup>®</sup> PANEL

**PANEL 40 - 3 walls**

**PANEL 40 - 8 walls**

**PANEL 50 - 10 walls**

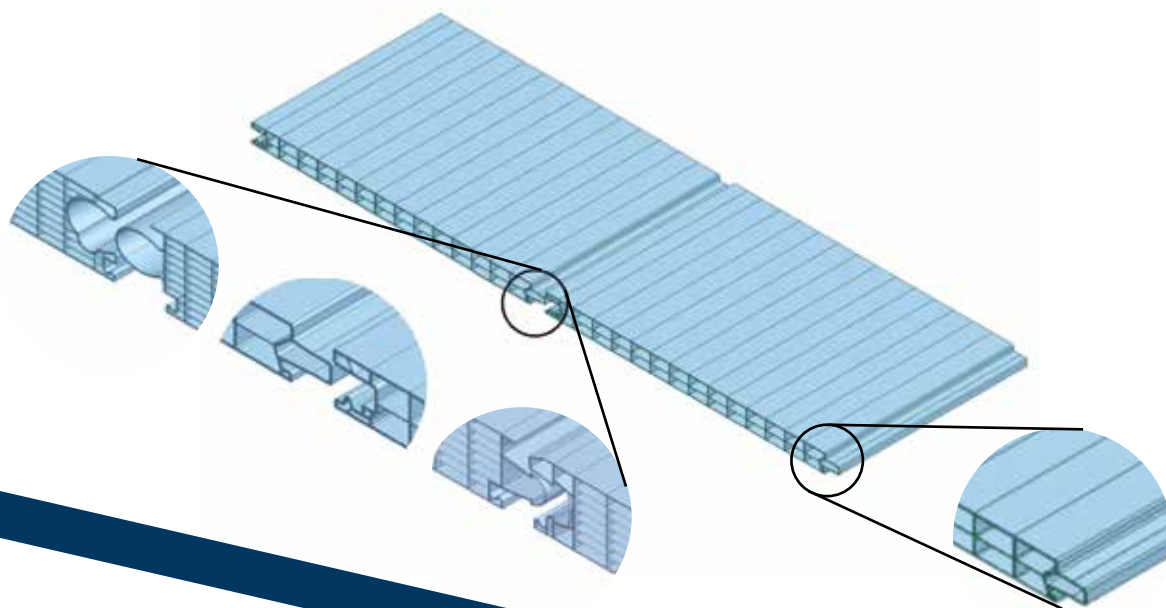
**PANEL 60 - 12 walls**

# AkyVer® PANEL

## MULTIWALL POLYCARBONATE CLIP-ON



- Ideal for cladding all types of new and renovated tertiary (such as sports facilities, schools and offices) and industrial (such as shops and warehouses) architectural projects.
- Full range of extruded aluminium profiles and accessories for quick and professional installation.
- The **AkyVer® PANEL** sheets carry a 10-year warranty, the terms and conditions of which are available on our website [www.exolongroup.com](http://www.exolongroup.com). The warranty applies exclusively to sheets that have not been exposed to the harmful effects of an external chemical agent. For all information regarding compatibility with polycarbonate, please contact us.



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# TECHNICAL CHARACTERISTICS

## TECHNICAL DATA

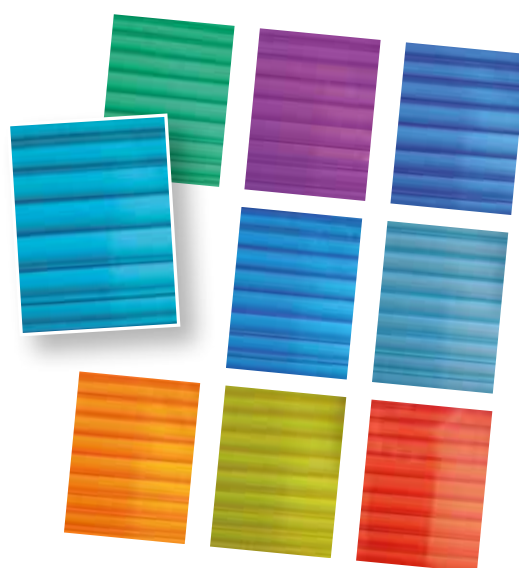
	PANEL 40 - 3W		PANEL 40 - 8W		PANEL 50 - 10W		PANEL 60 - 12W	
Thickness (mm)	40		40		50		60	
Weight (kg/m <sup>2</sup> )	3.5		4		5		5.8	
Effective width (mm)	600		500		495		500	
Standard length (mm)	6000 or 7000							
Fire resistance rating (translucent) (European Standard SBI EN 13501)	B s1 d0							
Anti-UV protection	by coextrusion on the outer face							
Coefficient of linear dilatation (mm/m/°C)	0.065							
Modulus of elasticity E (N/m <sup>2</sup> )	2300							
Implementation temperature (°C)	- 40 / + 115							
Ball impact resistance (DIN18032)	T3							
Thermal insulation (W/m <sup>2</sup> .°C)	1.7		0.98		0.83		0.75	
Standard colours*	Clear	Opal	Clear	Opal	Clear	Opal	Clear	Opal
Light transmission (%) +/-3 NF P 38-511	72	57	60	49	50	28	42	26
Solar factor	0.64	0.47	0.50	0.40	0.44	0.40	0.43	0.33
Index of acoustic attenuation	20 dB		21 dB		22 dB		22 dB	
Installation slope relative to the vertical	45° on request (15° according to DTA)							

\*Other colours available upon request

### A range of colours to give free reign to your creativity

Red, blue, yellow, purple, orange, etc.  
are only a few examples among our many possibilities. Upon request.

Anti - dazzle treatment on request.



Technical Application Document (DTA) CCFAT GS 2 and compliant with the 1200 joule test by SOCOTEC. EN 16153 standard, CE marking. Standard EN 16153, EC marking.

# RANGE OF FINISHES

## AkyVer® PANEL

Finishes	PANEL 40-3W	PANEL 40-8W	PANEL 50-10W	PANEL 60-12W
Coulours	M	M	M / D	M / D
Litestop			M + D	M + D
Anti-dazzle	C	C		
Frosted anti-dazzle (*)			D	D
Iridescent Heat Block (*)			D	D
2 sides UV (*)			C on request	C on request
Comfort T	M + C	M + C	M + D	M + D
Screen printing	S	S	S	S
Anti-graffiti	S	S	S	S
IR Control		C		

M Mass    
 C Coextrusion    
 D Duocolor    
 S Surface Treatment

(\*) The Frosted anti-dazzle, Heat Block and 2 sides UV finishes cannot be combined with each other.



### Duocolor

- Duo of colours on a same sheet (in/out)



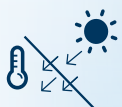
### LiteStop

- Full opacity  
- Reduced greenhouse effect  
- Reduced heat expansion



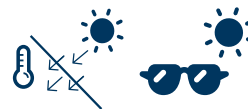
### Anti-dazzle

- High visual comfort  
- Reduced dazzle



### IR Control

- Greenhouse effect reduction



### Comfort T

- Reduced greenhouse effect  
- Reduced dazzle



### Iridescent HeatBlock

- Reduced greenhouse effect  
- Creative effect provided by iridescent colours



### Colours

- Creative colour effect



### Anti-Graffiti

- Facilitates the removal of graffiti from your buildings. Protects against abrasion.



### Screen printing

- Creative effect for unique buildings

# AkyVer® PANEL 40-3W

THE EXTRUDED PROFILES ARE 6000MM LONG.  
THE GLAZING BEADS ARE 3000MM LONG.

<b>Bottom profile</b> perforated aluminium	<b>Bottom profile</b> aluminium with flap	<b>Top and side profile</b> aluminium	
ZEA 578P (39100745)	ZEA 579 (39101249)	ZEA 577(39100825)	
Bracket: ZEA 244 (39100753)	Bracket: ZEA 245 (39100801)	Bracket: ZEA 246 (39100809)	
<b>Top and side profile</b> aluminium with closing part	<b>Bottom profile</b> perforated aluminium with thermal break and closing part	<b>Top and side profile</b> aluminium with thermal break and closing part	
ZEA 696N (39100737) + ZEA 4041 (39100689)	ZEA 4340 (39100833) + ZEA 2756 (39101233)	ZEA 2975 (39101073) + ZEA 4041 (39100689) for lengths ≤ 6 m or ZEA 2756 (39101233) for lengths > 6 m in the upper section	
Bracket: ZEA 4005 (39100777)	Bracket: ZEA 2429 (39100657)	Bracket: ZEA 2429 (39100657)	
<b>External gasket</b>	<b>External gasket</b>	<b>Adhesive tape</b> aluminium	<b>Adhesive tape</b> micro-perforated
ZEA 2763 (39100673)	ZEA 2764 (39100681)	ZCF 261(42100841)	ZCF 289 (42100881)
<b>PANEL 40-3W hook</b> stainless steel	<b>PANEL 40-3W hook</b> stainless steel	<b>PANEL 40-3W hook</b> galvanised steel	
ZEA 259 (39101537)	ZEA 309 (39101193)	ZEA 2167 (39101145)	

# AkyVer® PANEL 40-8W

<b>Bottom extruded section</b> perforated aluminium	<b>Bottom extruded section</b> aluminium with flap	<b>Top and side extruded sections</b> aluminium	
ZEA 578P (39100745)	ZEA 579 (39101249)	ZEA 577(39100825)	
Bracket: ZEA 244 (39100753)	Bracket: ZEA 245 (39100801)	Bracket: ZEA 246 (39100809)	
<b>Top and side extruded sections</b> aluminium in two parts with glazing bead	<b>Pierced bottom extruded profile</b> with thermal bridge break and glazing bead	<b>Top and side extruded sections</b> with thermal bridge break and glazing bead	
ZEA 696N (39100737) + ZEA 4041 (39100689)	ZEA 4340 (39100833) + ZEA 2756 (39101233)	ZEA 2975 (39101073) + ZEA 4041 (39100689) for lengths $\leq 6$ m or ZEA 2756 (39101233) for lengths $> 6$ m in the upper section	
Bracket: ZEA 4005 (39100777)	Bracket: ZEA 2429 (39100657)	Bracket: ZEA 2429 (39100657)	
<b>EPDM external seal</b>	<b>EPDM internal seal</b>	<b>Adhesive tape</b> aluminium	<b>Adhesive tape</b> micro-perforated
ZEA 2763 (39100673)	ZEA 2764 (39100681)	ZCF 261(42100841)	ZCF 289 (42100881)
<b>PANEL 40-8W hook</b> simple	<b>PANEL 40-8W hook</b> double		
ZEA 4021 (39101065)	ZEA 4044 (39101513)		

# AkyVer® PANEL 50-10W

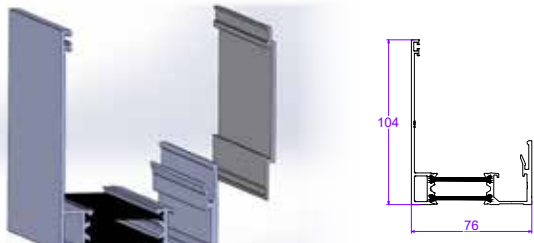
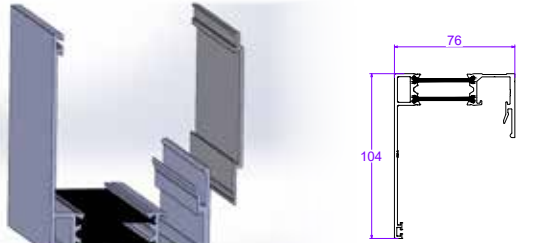
<b>Bottom extruded section</b> perforated aluminium with glazing bead	<b>Top and side extruded sections</b> aluminium with glazing bead	<b>Pierced bottom extruded profile</b> with thermal bridge break and glazing bead
ZEA 4351 (39101265) + ZEA 4041 (39100689) 1 for lengths ≤ 6 m or ZEA 2756 (39101233) for lengths > 6 m in the upper section	ZEA 5956 (39101105) + ZEA 4041(39100689) for lengths ≤ 7 m, ZEA 2756 (39101233) for lengths ≥ 7 m	ZEA 4350 (39100841) + ZEA 4041 (39100689)
Bracket: ZEA 5994 (39101961)	Bracket: ZEA 5994 (39101961)	Bracket: ZEA 2429 (39100657)

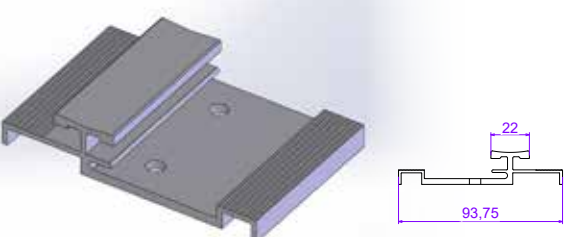
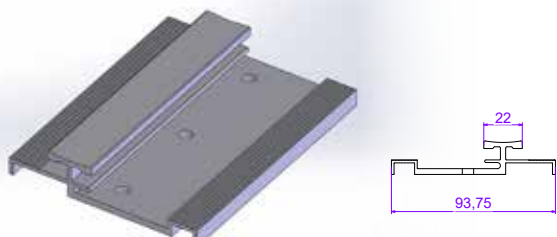
<b>Top and side extruded sections</b> with thermal bridge break and glazing bead	<b>PANEL 50 hook</b> simple (length: 60 mm)	<b>PANEL 50 hook</b> double (length: 120 mm)
ZEA 4351(39101265) + ZEA 2756 (39101233)	ZEA 2757 (39101185)	ZEA 2758 (39101505)
Bracket ZEA 2429 (39100657)		

<b>External Gasket</b>	<b>Internal Gasket</b>	<b>Adhesive tape</b> aluminium	<b>Adhesive tape</b> micro-perforated
ZEA 2763 (39100673)	ZEA 2764 (39100681)	ZCF 262 (42100913)	ZCF 243 (42100897)



# AkyVer® PANEL 60-12W

	
<p><b>Pierced bottom extruded profile</b> with thermal bridge break and glazing bead</p>	<p><b>Top and side extruded sections</b> with thermal bridge break and glazing bead</p>
<p>ZEA 4360 (39100633) + ZEA 2756 (39101233)</p>	<p>ZEA 4361 (39100641) + ZEA 4041 (39100689) for lengths ≤ 6 m or ZEA 2756 (39101233) for lengths &gt; 6 m in the upper section</p>
<p>Bracket: ZEA 2429 (39100657)</p>	<p>Bracket: ZEA 2429 (39100657)</p>

	
<p><b>PANEL 60 hook</b> simple</p>	<p><b>PANEL 60 hook</b> double</p>
<p>ZEA 4136-60 (39100697)</p>	<p>ZEA 4136-120 (39102033)</p>

		
<p><b>External Gasket</b></p>	<p><b>Internal Gasket</b></p>	<p><b>Adhesive tape</b> micro-perforated</p>
<p>ZEA 2763 (39100673)</p>	<p>ZEA 2764 (39100681)</p>	<p>ZCF 276 (42100785)</p>



# INSTALLATION INSTRUCTIONS

## PREPARATION OF THE SHEETS

### STORAGE CONDITION

The **AkyVer® PANEL** sheets are delivered on a pallet protected against dust and humidity by means of a polyethylene cover.

**Sheets and packages containing extruded sections must be stored in the shade, protected from foul weather and in a well ventilated place. Packages of extruded sections must be opened in order to avoid any condensation inside.**

The pallets must be placed on a flat and dry floor. Take all necessary precautions during handling to ensure:

- Refrain from excessive use of straps.
- The pallets must be handled using an appropriate

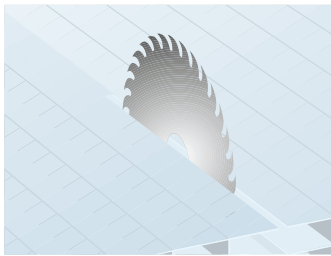
forklift or else with a spreader bar, in order to avoid any bending that could pop out pallet nails and damage the sheets; maximum stacking: one pallet on top of another.

- Not producing scratches, indentations or dents on the surface or edge of the sheet.

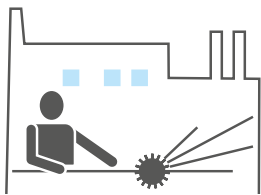
All trimming and taping steps must be performed protected from the elements, while keeping the protective films on the sheets; these films are to be removed immediately after completing the installation process.

After removing some sheets, ensure the pallet is re-packaged to preserve the remaining sheets.

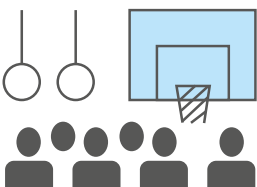
### CUTTING TIPS



Use a fine-toothed and well sharpened saw blade with a cutting speed of 3,200 rev/min. If the last **AkyVer® PANEL** sheet is cut across the width, the saw cut must not exceed 5 mm compared to the last vertical strut located next to the saw cut. In all other cases, we recommend to integrate a U-shaped aluminium reinforcement. In most cases, the **AkyVer® PANEL** sheets are delivered cut to the exact length and do not require any further trimming. Nonetheless, if a length adjustment proves necessary on the project site, it is essential to remove the dust and shavings by blowing with dry compressed air free of any oil.



**Industrial building in a very dusty environment or a mechanical workshop releasing smoke or fine particles** (e.g. by welding, diesel engine, or other): plugging of upper and lower parts of the sheets with a solid adhesive aluminium tape and, for extreme cases, a butyl compound type containing a silicon layer compatible with polycarbonate, which serves to prevent any penetration of particles by a draft inside the sheets. This is especially recommended for all products within the Akyver line.



**Sports facilities or public buildings:** plugging with a micro-perforated tape on both the upper and lower parts of the sheets.



**Swimming pools or damp atmosphere:** avoid obstructing the cells which helps condensation water evacuate and ventilate the cells.

**Note: Since polycarbonate is permeable to water vapour, the appearance of condensation is indeed possible despite all the precautions taken; this condition however does not constitute a grounds for claim.**

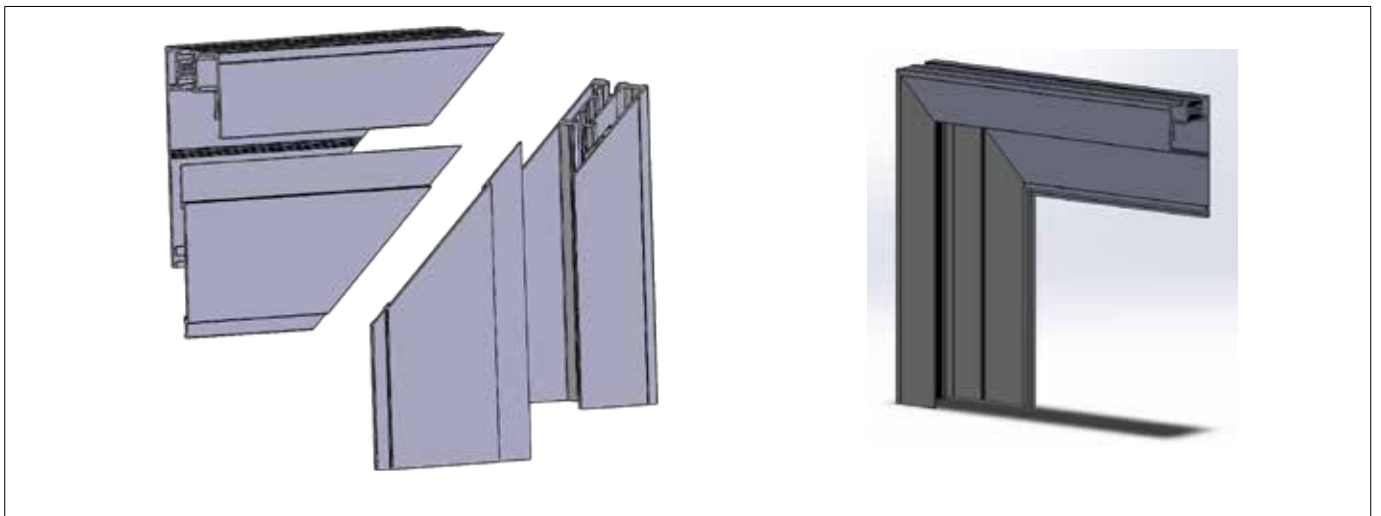
# CORNER SECTIONS

## HELP TO ASSEMBLE THE ALUMINIUM AND POLYCARBONATE EXTRUDED PROFILES

### EXTRUDED ALUMINIUM CORNER PROFILES

These are pre-assembled corner sections made up of extruded profiles with thermal break for AkyVer® PANEL 40, 50 and 60.

They facilitate the installation and save time during cutting and assembly. They have to be used in the 4 corners of the façade.



**Corner ZEA 4230 (AkyVer® PANEL 40), Corner ZEA 4260 (AkyVer® PANEL 50),  
Corner ZEA 4261(AkyVer® PANEL 60)**

Made from profiles and glazing beads: ZEA 2975 + ZEA 2756 (AkyVer® PANEL 40), ZEA 4351 + ZEA 2756 (AkyVer® PANEL 50), ZEA 4361 + ZEA 2756 (AkyVer® PANEL 60)

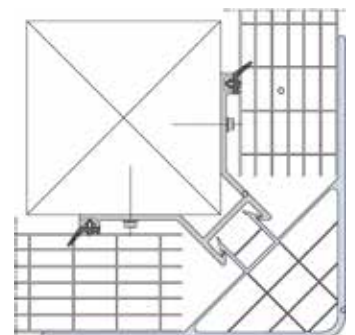
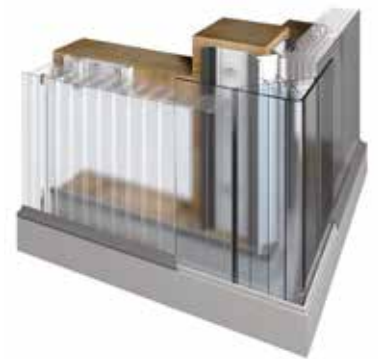
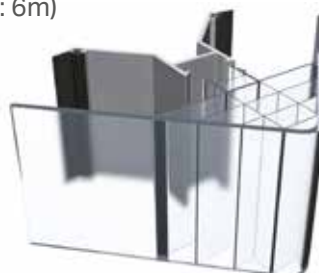
### EXTRUDED POLYCARBONATE CORNER PROFILES

This corner profile is a polycarbonate part that forms a 90° join between two façade panels. It offers many advantages, including:

- Easy assembly
- Aesthetics
- Compatible with the whole AkyVer® PANEL range (40, 50 and 60)

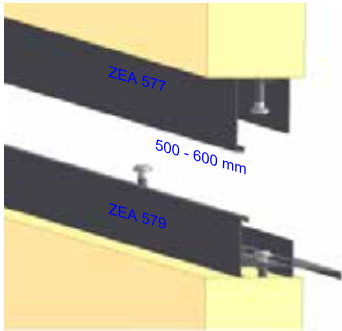
A complete extruded polycarbonate corner profile comprises:

- an external polycarbonate part ZEA 4244 (length: 13.5m)
- an internal extruded aluminium profile (length: 6m)
  - Ref ZEA 4241 for AkyVer® PANEL 40
  - Ref ZEA 4242 for AkyVer® PANEL 50
  - Ref ZEA 4243 for AkyVer® PANEL 60



# INSTALLATION INSTRUCTIONS

## PREPARING THE EXTRUDED ALUMINIUM PROFILES AND SUPPORTS



Before assembling the bottom extruded profiles, 6 mm drainage holes need to be drilled in the middle of each sheet.

These holes must be spaced every 500 to 600 mm maximum. Some ZEA 578P and ZEA ZEA 5955 extruded profiles are delivered pre-drilled for drainage, to be fitted as cladding.

We also advise to coat the internal structure located directly behind the polycarbonate cladding with a white or light coloured paint, in order to avoid any heat accumulation.

## FITTING THE EXTRUDED ALUMINIUM PROFILES

Place the bottom profiles on the support, inserting a sealing gasket (Compriband) to ensure a better seal for the entire assembly.

The fixing screws, spaced at a maximum of 500 mm apart, must be suitable for the support. We recommend using stainless steel screws with sealing washers. Ensure that the screw heads do not protrude above the surface of the AkyVer® PANEL sheets.

At the junction between the 2 extruded profiles, we recommend to use the specific linking bracket which will help align the 2 profiles.

This part must be riveted inside one of the sections only, the other side must remain free sliding to allow for the expansion of the extruded profiles. These linking parts do not guarantee a waterproof join, and must be sealed with a silicone mastic to avoid any water infiltration. Prior to any use of silicon, be sure that the product is compatible with polycarbonate.

Allow a 4 mm gap at the junction between each successive extruded aluminium profile as an expansion gap. This is imperative if installed during cold periods.

At the bottom extremities of each cladding sheet, a silicone barrier (height = 1 cm) must be included to form a seal on the support. At the junction of the side profiles with the top and bottom profiles, a silicone bead must be applied to ensure watertightness.

For an optimal junction, the profiles must be cut according to the diagrams available in the installation instructions.

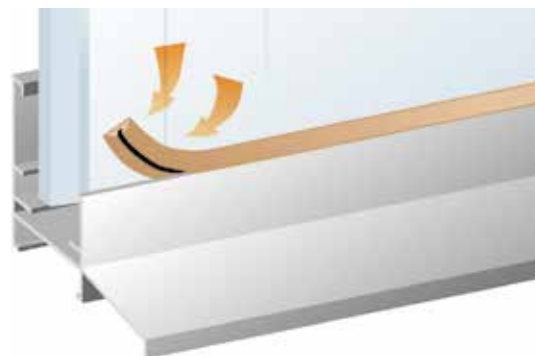
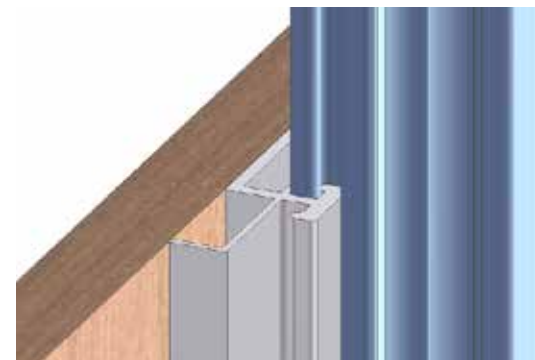
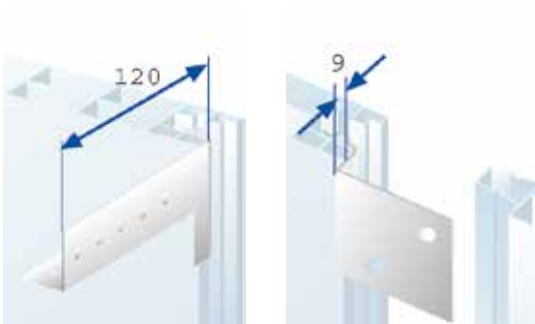
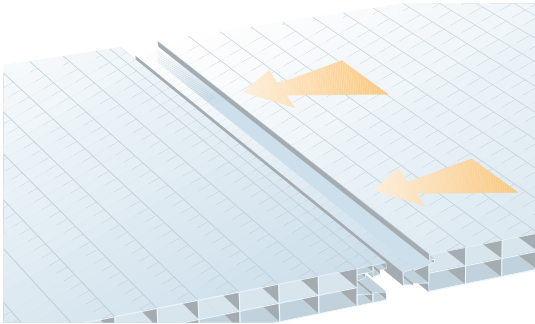
After the panels have been installed, the closing glazing beads and peripheral joints should be installed. The glazing bead used is reference ZEA 4041, and reference ZEA 2756 for cladding heights greater than 6 metres.



For further technical information,  
refer to the AkyVer® PANEL installation instructions.

# INSTALLATION INSTRUCTIONS

## PREPARING THE EXTRUDED ALUMINIUM PROFILES AND SUPPORTS



Warning: the film printed with the mention face UV **AkyVer® PANEL** identifies the face treated against UV rays which must be positioned on the outside of the cladding.

- Slide the first **AkyVer® PANEL** sheet inside the top extruded profile and push it down into the bottom profile. Push this first sheet all the way into the lateral extruded profile, then pull it out by 15 mm, in order to leave a lateral expansion gap.
- Position the second **AkyVer® PANEL** sheet, clip it into the first one, and carry on until the whole surface is filled. Before positioning the penultimate sheet, cut the last panel to the required width, if needed, and position it all the way into the lateral extruded profile after inserting a strap for the final assembly.

The remaining opening corresponds to the total width of the penultimate **AkyVer® PANEL** sheet, which will then be installed and clipped onto the previous sheet. Now, all you need to do is clip the last **AkyVer® PANEL** sheet using the previously positioned strap.

The assembly of the last **AkyVer® PANEL** sheet is made easier by using the extruded profile in 2 parts.

If the assembly must be conducted with the low-pressure hooks, the latter must be positioned as each **AkyVer® PANEL** sheet is installed.

- Remove the protective films from the sheets and install the peripheral seal around the aluminium frame.

## CLEANING

- Prohibit all abrasive pastes that would scratch **AkyVer®**.
- Use use soapy water or water with a neutral pH added
- Do not use solvents or alkaline detergents.
- Avoid cleaning during hot weather or when the sheets are hot.

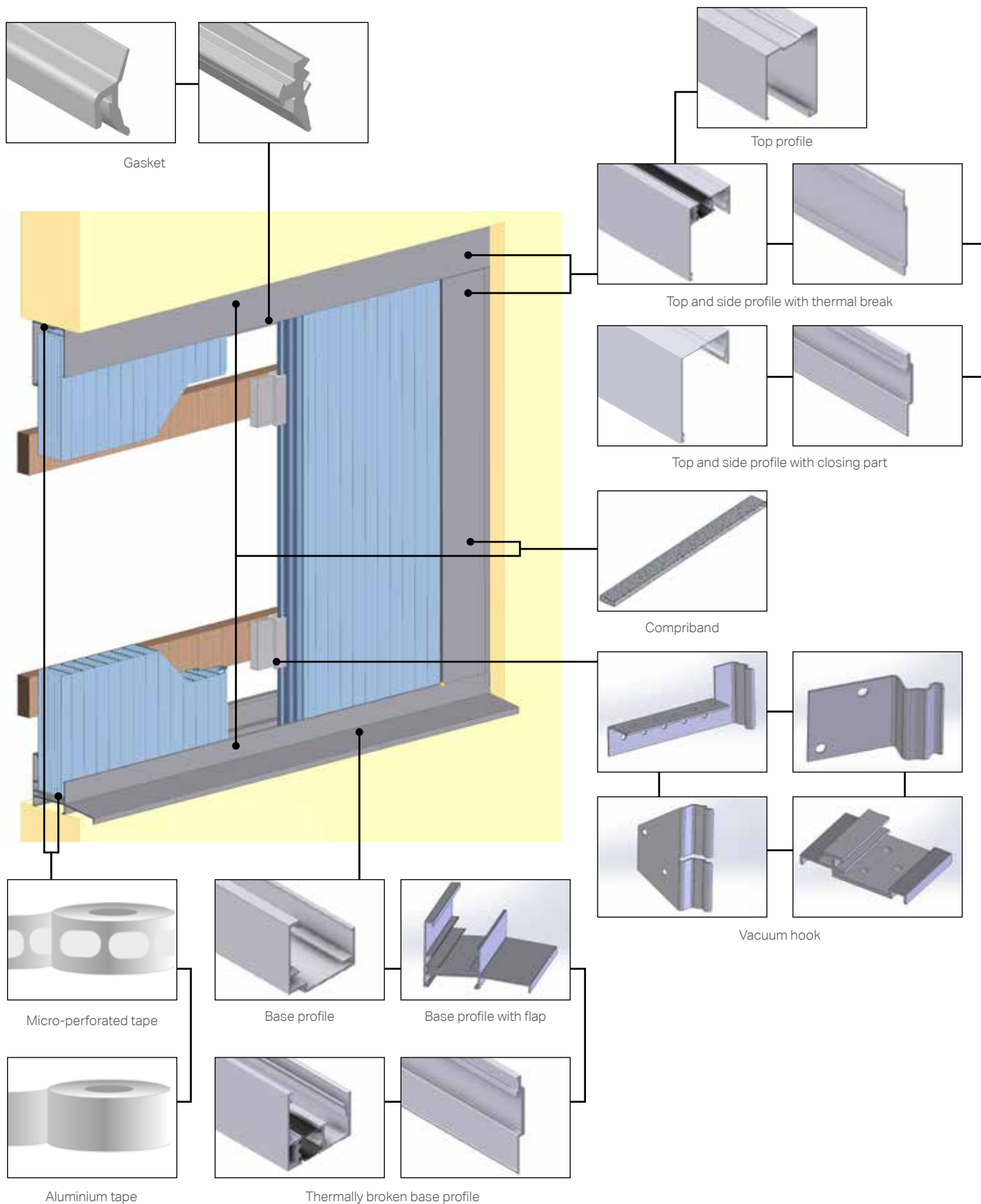
We can provide you with a non-exhaustive list of products incompatible with polycarbonate.

For any other cleaning product, please feel free to call us.

# INSTALLATION INSTRUCTIONS

APPLICABLE TO THE WHOLE AKYVER® PANEL RANGE

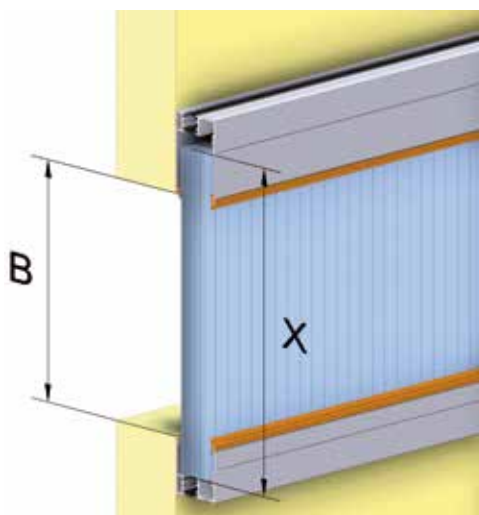
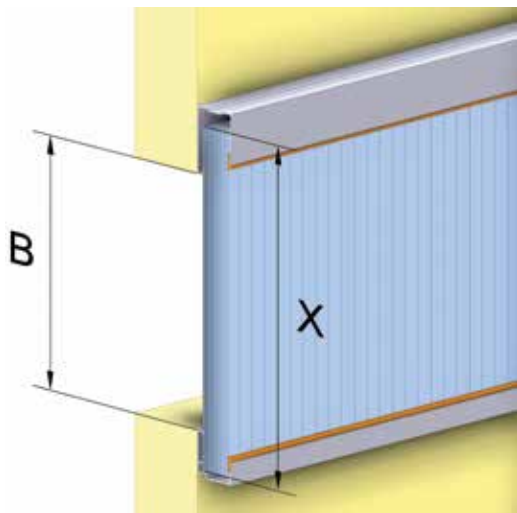
## EXAMPLE OF INTEGRATED FITTING



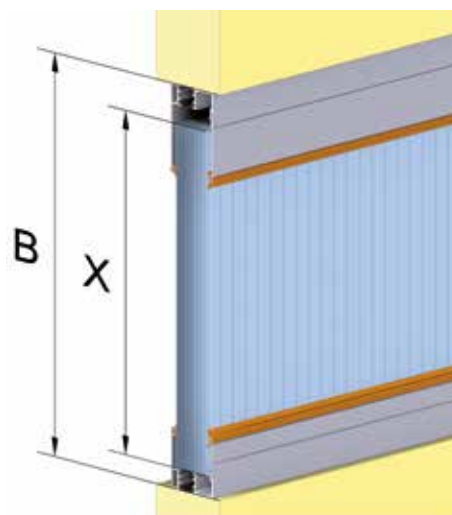
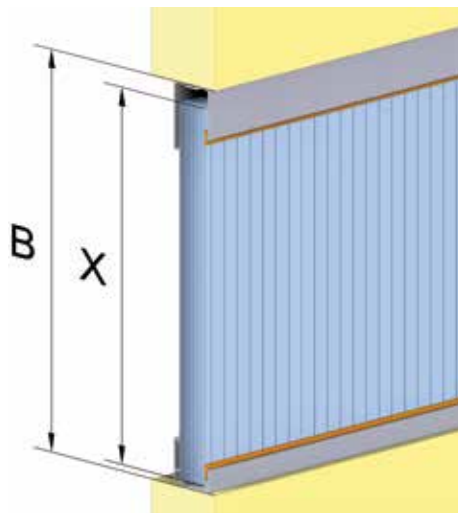
# INSTALLATION INSTRUCTIONS

## SHEET LENGTH CALCULATION (X)

### FRONT FITTING



### INTEGRATED FITTING



The AkyVer® PANEL sheets are cut to the precise dimensions, either on the work site or at the reseller's. At the time of ordering, it is necessary to account for any recesses or excess lengths, depending on the type of installation and extruded profiles used.

Designation	Aluminum profile		Thermally broken profile	
	Front fitting	Integrated fitting	Front fitting	Integrated fitting
PANEL 40	$X = B + 90$	$X = B - 40$	$X = B + 130$	$X = B - 80$
PANEL 40 length > 6 m	$X = B + 70$ (Use ZEA 696N profile instead of 577)	$X = B - 50$ (Use ZEA 696N profile instead of 577)	$X = B + 130$	$X = B - 70$
PANEL 50	$X = B + 90$	$X = B - 70$	$X = B + 130$	$X = B - 80$
PANEL 50 length > 6 m	$X = B + 80$	$X = B - 70$	$X = B + 130$	$X = B - 70$
PANEL 60			$X = B + 130$	$X = B - 80$

# REGULATIONS AND ALLOWABLE SPANS

The following measurements were calculated by our technical department. The optimal use of the product is subject to strict compliance with the instructions set out in this technical information.

## SPAN OF THE AKYVER® PANEL AND SPACING OF THE INTERMEDIATE BEAMS

### PANEL 40 3 WALLS + ZEA 2167 HOOK

Number of supports	Wind effects (Pa)	2.00 m	1.75 m	1.50 m	1.25 m
2 supports	Pressure	450	670	900	1380
	Suction	500	640	770	1380
3 supports	Pressure	1200	1550	1700	1850
	Suction	600	800	1100	1650

### PANEL 40 8 WALLS

+ ZEA 4021 simple hook

Number of supports	Wind effects (Pa)	2.50 m	2.20 m	2.00 m	1.75 m	1.50 m	1.25 m
2 supports	Pressure	450	600	750	1000	1500	1750
	Suction	450	600	750	1000	1500	1750
3 supports	Pressure	900	1250	1600	2500	2700	3000
	Suction	900	1050	1200	1400	1600	1800

+ ZEA 4044 double hook

Number of supports	Wind effects (Pa)	2.50 m	2.20 m	2.00 m	1.75 m	1.50 m	1.25 m
3 supports	Pressure	900	1250	1600	2500	2700	3000
	Suction	1150	1300	1650	1880	2100	2350

### PANEL 50 10 WALLS + ZEA 2757 SIMPLE HOOK

Number of supports	Wind effects (Pa)	2.50 m	2.20 m	2.00 m	1.75 m	1.50 m	1.25 m
2 supports	Pressure	540	800	1070	1600	2540	3160
	Suction	540	850	970	1250	1650	1990
3 supports	Pressure	540	800	1070	1600	2540	3160
	Suction	540	850	970	1250	1650	1990

### PANEL 60 12 WALLS + ZEA 4136 SIMPLE HOOK

Number of supports	Wind effects (Pa)	2.50 m	2.20 m	2.00 m	1.75 m	1.50 m	1.25 m
2 supports	Pressure	540	800	1070	1600	2540	3160
	Suction	540	850	970	1250	1650	1990
3 supports	Pressure	540	800	1070	1600	2540	3160
	Suction	540	850	970	1250	1650	1990

Allow for a 4 mm gap at the junction of two successive aluminium profiles to allow for expansion. This is essential if installation is carried out in cold weather. Please note that there are different, sometimes more restrictive, installation specifications issued by official bodies such as the CCFAT. If your project must be carried out in accordance with the specifications of such bodies, we recommend that you follow their recommendations.

# APPLICATIONS

## EXAMPLES OF REALISED PROJECTS

### HALLE DE PANTIN

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(AkyVer® PANEL 40-8W clear)

Architect: Mr Norbert Brail



### "COCO SWEET"

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(AkyVer® PANEL 40-8W clear)

Concept by Beneteau



### MODANE SWIMMING POOL (73)

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(AkyVer® PANELTHERM Colors)



# THE SOLUTION FOR EACH APPLICATION

In pursuit of our goal to provide **"the solution for each application"**, we are offering our skills through a one-of-a-kind line composed of **AkyVer® SUNTYPE** polycarbonate sheets, ranging from 2 to 10 walls, and our **AkyVer® PANEL** and **AkyVer® CONNECT** modular systems.

**AkyVer® PANEL** meets your cladding needs both for new and renovation projects.

**All products display increasingly efficient technical characteristics.**

AkyVer®, is the most extensive range of multiwall polycarbonate sheets in Europe. From the outset, AkyVer® has shown its ability to associate the quality of its products, with technical performance and aesthetics, to meet the needs of all types of architectural projects.



› **More than 40 years  
of expertise**

**AkyVer®** brand expresses durability and quality proven over the years through long term partnerships with our customers.



› **Dedicated sales and  
technical experts**

Our team of experts accompany you from your project to the realization on site.



› **Local Production  
International scope**

With production based in Nera Montoro, in Italy, Exolon Group serves the whole of Europe and beyond.



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