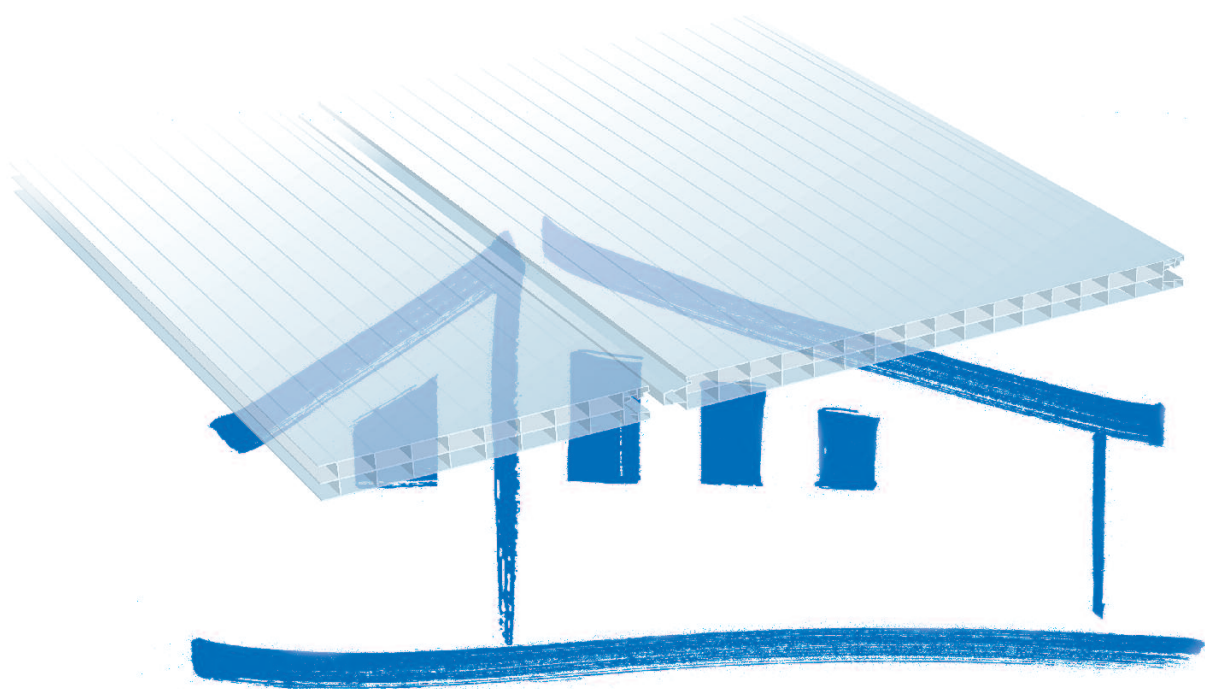


# TECHNICAL INFORMATION

## AKYVER PANEL® 40

MULTI-WALL POLYCARBONATE  
CLADDING SYSTEM



**Kaysersberg**Plastics

a part of DSSmith Plastics

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## 1

### GENERAL

## AKYVER PANEL® 40

### AKYVER PANEL® 40

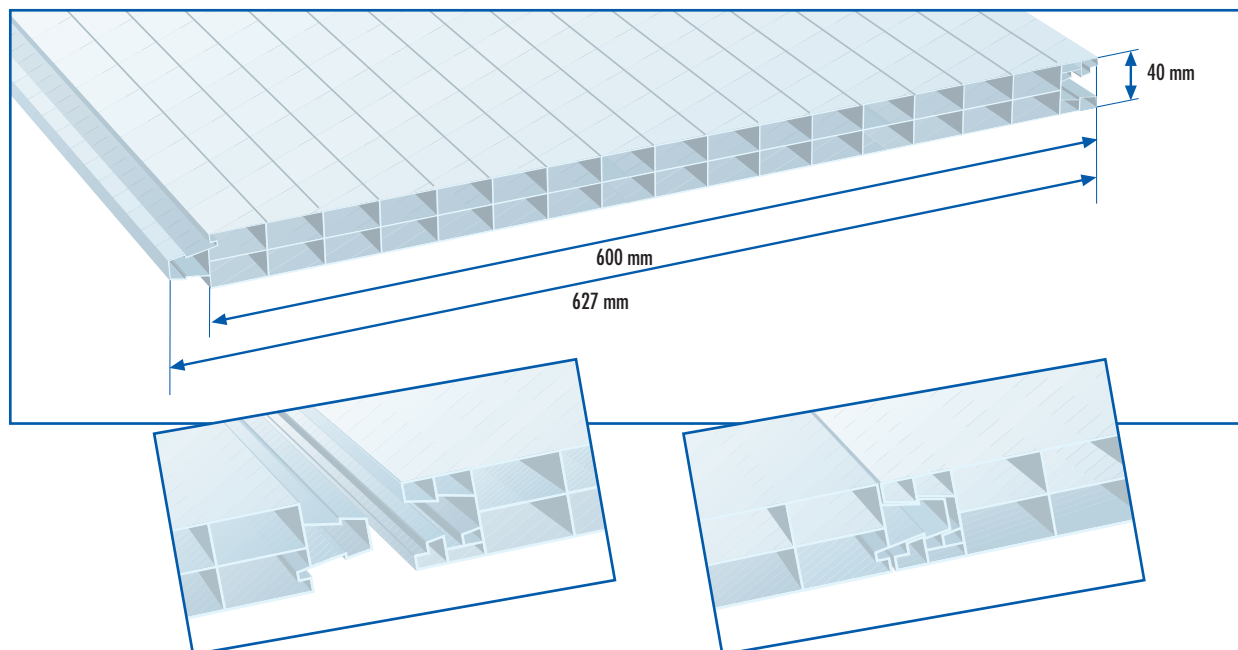
Cladding system in 40 mm thick multiwall polycarbonate:

- ideal for new cladding or renovation of industrial and storage buildings, as well as gymnasia, indoor tennis courts and other public buildings.
- complete range of aluminium sections and accessories for fast, professional fitting.



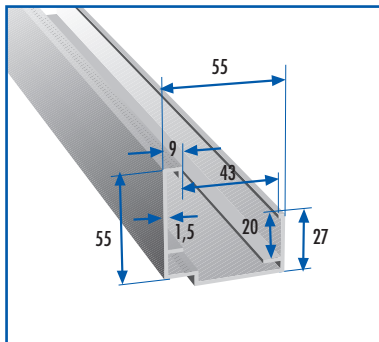
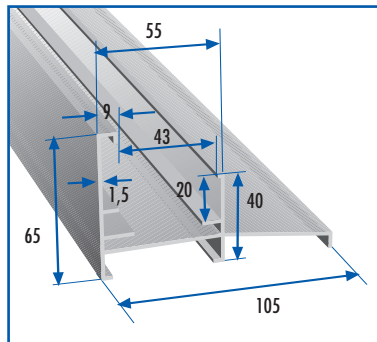
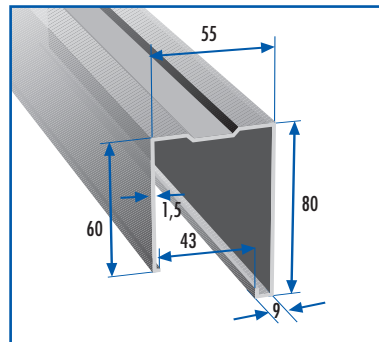
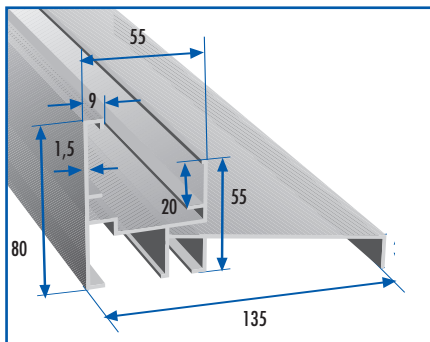
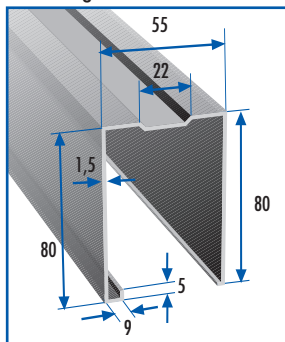
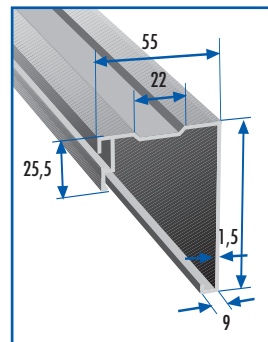
### TECHNICAL CHARACTERISTICS

Technical Agreement n° 2/02-901 (CSTB - FRANCE) or  
Technical Agreement N°Z-10.1-193 (DIBT - Germany)

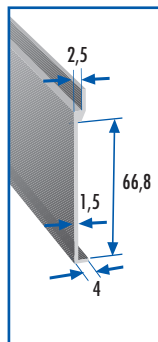


	Value	Tolerance
Usable width	600 mm	± 3,0 mm
Total width	627 mm	
Thickness	40 mm	±1,0 mm
Weight	3.5 kg/sqm	
Length	on request (6 or 7 m on storage)	
Colour	clear, opal	
Light transmission	clear : 72% opal : 57%	
Fire classification	M2 NF 92507 B s2 d0 test SBI EN 13501 SBI clear	
UV protection	by coextrusion on the outer surface (blue film)	
Heat insulation	K=1.7 W/sqm °C	
Dilation coefficient	0.065 mm/m/° C	
Modulus of elasticity	E=2300 N/sqm	
Operating temperature	- 40° C, +115° C	
Ball shot resistance	German ball impact test as per DIN 18032-T3	
Minimum slope for installation	30°	
<b>Guarantee</b>	<b>10 years (see guarantee leaflet)</b>	

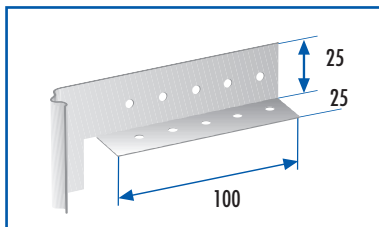
## 3.1 ALUMINIUM SECTION FRAMEWORK (IN 6 METRE LENGTHS)

Simple support section  
(ZEA 578)Support section with 50 mm flange  
(ZEA 579)Upper and lateral section  
(ZEA 577)Support section with 80 mm flange  
(ZEA 581)Upper section for upper  
cladding at 6 m (ZEA 580)Lateral section in 2 parts  
(ZEA 696)

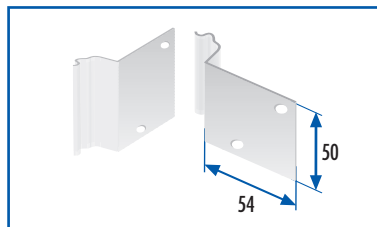
(ZEA 695)



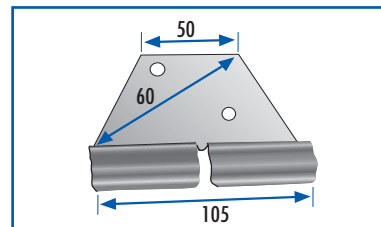
## 3.2 NEGATIVE PRESSURE HOOKS

Galv. steel (ZEA 243)  
Stainless steel (ZEA 259)

Stainless steel (ZEA 309)

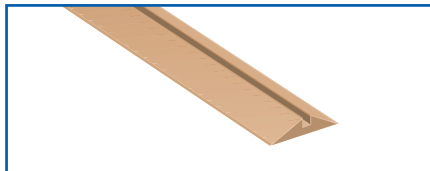


Réf : ZEA 2167



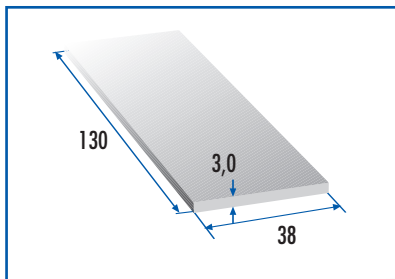
## 3.3 SEAL

100 ml roll (ZEA 2002)

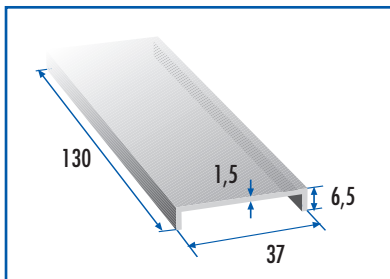


### 3.4 ALUMINIUM SECTION CONNECTORS

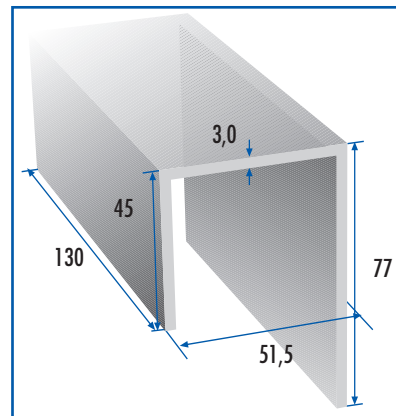
ZEA 244 (for section ZEA 578)



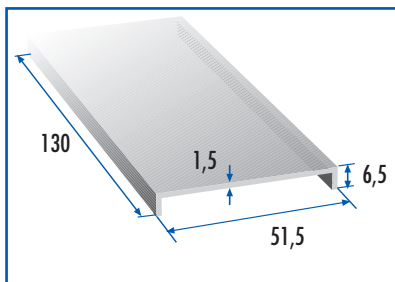
ZEA 602 (for section ZEA 581)



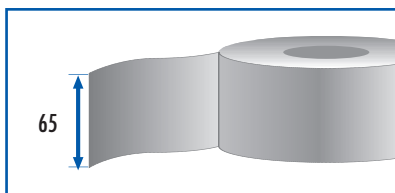
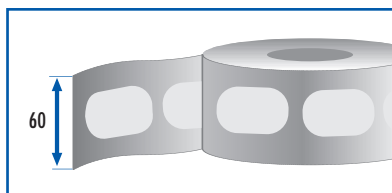
ZEA 246 (for section ZEA 577 or ZEA 580)



ZEA 245 (for section ZEA 579)



### 3.5 ADHESIVE TAPE TO SEAL THE CELLS

ZCF 120  
aluminium 65 mm X 50 mlZCF 139  
microperforated 60 mm X 33 ml

### 3.6 PACKAGING

- ZEA 578: 2 per packet
- ZEA 579: 2 per packet
- ZEA 577: 2 per packet
- ZEA 581: 2 per packet
- ZEA 580: 2 per packet
- ZEA 696 and ZEA 695: 2 per packet
- ZEA 243 or ZEA 259 or ZEA 309: 10 or 50 per packet
- ZEA 244 or ZEA 245 or ZEA 602 or ZEA 246: 6 per packet
- ZEA 2002 or ZCF 120 or ZCF 139: per roll



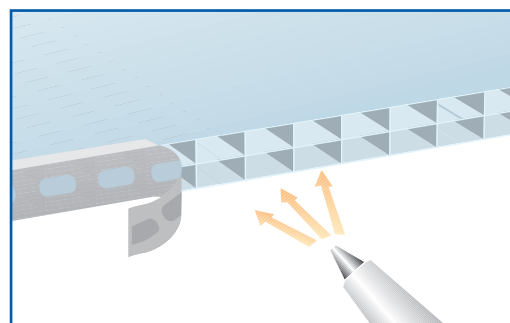
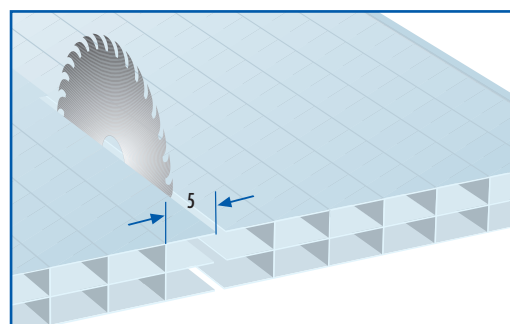
## 4.1 PREPARING THE SHEETS

The AKYVER PANEL® sheets are delivered on a pallet and protected from dust and damp by a polyethilen cover. Do not store the pallet in the sun, to prevent polymerization of the protective films on the surface of the polycarbonate, as well as excess condensation in the cells when the weather is wet. All cutting and gluing must be done indoors, keeping the protective films on the panels; removing only when fitting is complete.

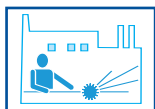
### ■ CUTTING RECOMMENDATIONS

- Use a fine-circular saw which is well sharpened and a speed of 3200 rpm (minimum linear speed of 48 m/s).
- If the sheets are recut in width (last AKYVER PANEL®), the cutting line must not be more than 5 mm from the last vertical strut located beside the cutting line. In all other cases, you have to include a U-shaped aluminium reinforcement.
- The AKYVER PANEL® sheets are usually delivered cut to size and do not need to be cut again. If this should be necessary on-site, it is essential to remove dust and shavings by blowing with dry compressed air with no oil content.
- Before fitting, the upper and lower edges of the AKYVER PANEL® sheets must be sealed with aluminium or microperforated adhesive tape to protect the cells from dust.

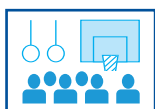
**As polycarbonate is permeable to water vapour, some condensation may occur in spite of all the precautions used in fitting but does not justify complaint.**



## 4.2 OUR RECOMMENDATIONS



Industrial building with strong risk of dust (dust < 50 µ) or polluted environments : sealed using dust-proof tape at the top and bottom of the sheets



Sports building or any public building : sealed using micro-perforated tape at the top and bottom of the sheets

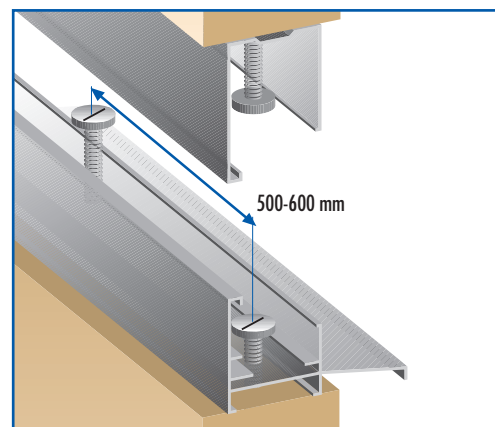


Swimming pool or damp atmosphere : it is best to avoid sealing it with adhesive tape. Rather use aluminium U-shaped profile or polycarbonate which promotes the evacuation of condensate and cell ventilation.

### 4.3 PREPARING ALUMINIUM SECTIONS AND SUPPORTS

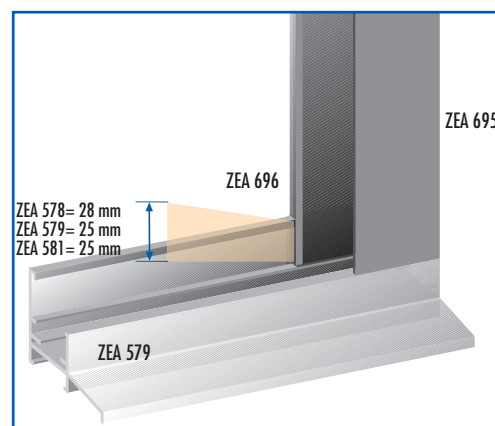
Before fitting the aluminium profile, you must drill drainage holes, diameter 5 x 20 mm, as well as holes for mounting screws in the grooves provided for the purpose in the sections. These holes must be a minimum of 500 mm to a maximum of 600 mm apart.

We also recommend coating the inner structure directly behind the polycarbonate cladding with white or light-coloured paint to prevent heat accumulation.



### 4.4 FITTING THE ALUMINIUM PROFILES

- Fit the low sections to the support, separating them with a “compriband” which will provide a better seal.
- The mounting screws depend on the support used and we recommend aluminium or stainless steel screws with waterproof washers. Make sure that you use counter sunk head screws.
- At the junction of two low profiles, insert the special connecting piece which will ensure that the sections are aligned. This will be riveted inside one section only, the other side being able to slide to allow dilation of the profiles. These connecting pieces do not guarantee that the junction is sealed, so sealing must be provided with silicone mastic to prevent any infiltration.
- Leave 4 mm play at the junction of two successive aluminium sections to allow for their expansion. This is essential if the panels are fitted during cold weather.
- At the lower ends of each piece of cladding, a silicone barrier (about 1 cm high) must be inserted in the low profiles to guarantee that the support is sealed.
- At the junction between the low and lateral profiles, they must be recut according to the following diagram for an optimal junction.

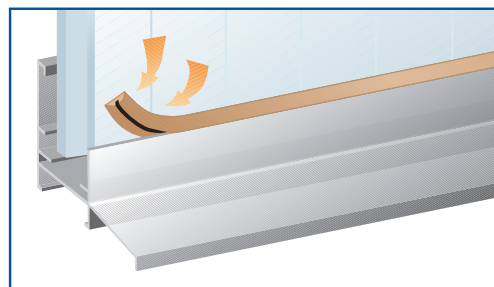
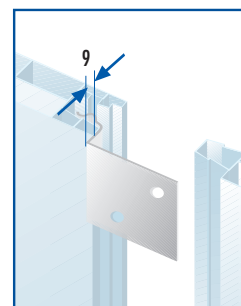
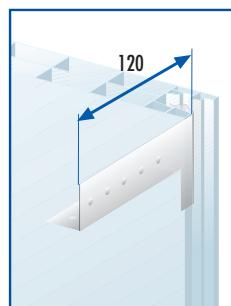
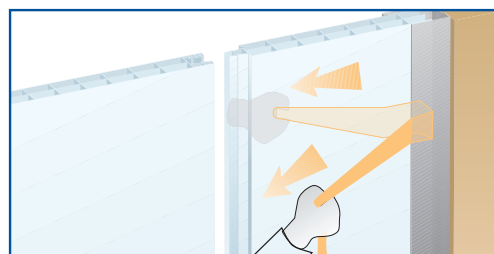
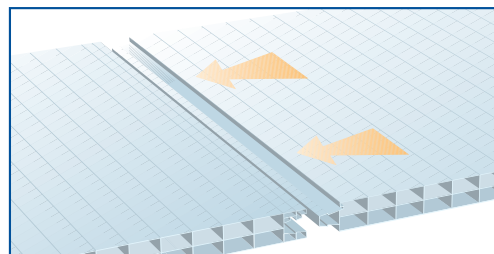


### 4.5 FITTING THE SHEETS

We recommend that you fit the sheets **AKYVER PANEL®** from left to right, seen from the outside.

Warning: the blue film on the **AKYVER PANEL®** sheets shows the anti-UV treated side and must be placed on the outside of the cladding.

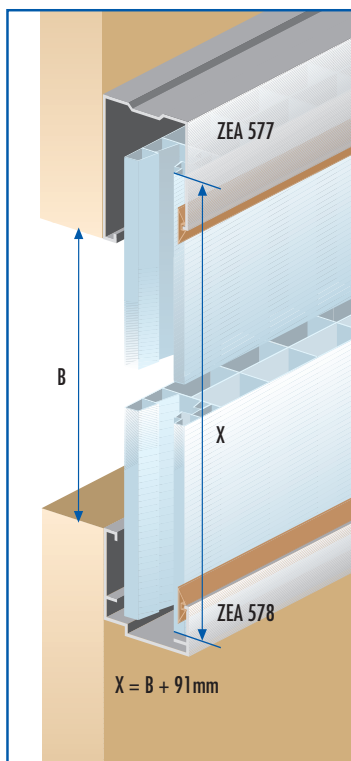
- slide the first **AKYVER PANEL®** sheet inside the upper section and slide it down into the lower section. Push this first sheet to the bottom of the lateral section.
- insert the second **AKYVER PANEL®**, clip it to the first and repeat this procedure until the entire surface is complete. Before inserting the penultimate **AKYVER PANEL®**, cut the last panel to the required width, if necessary and position it at the bottom of the lateral section, inserting a strap to allow the final fitting. The remaining opening is the total width of the penultimate **AKYVER PANEL®** which will then be inserted and clipped to the previous one. Then you only have to clip the last **AKYVER PANEL®** in place using the strap previously inserted.
- the fitting of the last **AKYVER PANEL®** panel sheet is easy when using the lateral sections in 2 parts ZEA 696 and ZEA 695.
- if negative pressure hooks are used for fitting these must be inserted progressively as each **AKYVER PANEL®** is fitted.
- now remove the protective films from the **AKYVER PANEL®** and fit the seal 8755 along the edge of the aluminium frame.



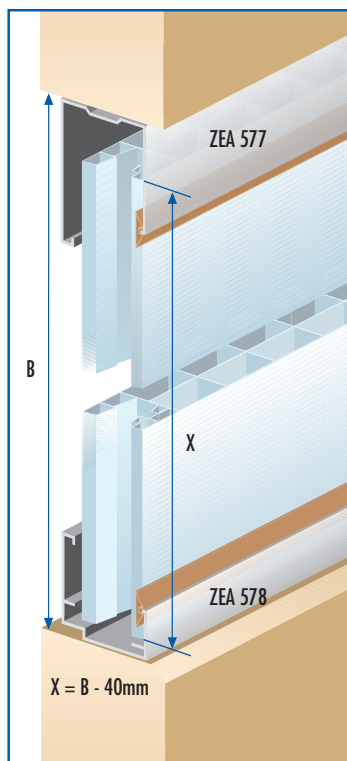


## 4.6 CALCULATING THE LENGTH OF THE AKYVER PANEL® SHEETS (X)

Front fitting



Integrated fitting



The AKYVER PANEL® sheets are normally delivered in 6 or 7 meters lengths. When preparing, you must take into account the tolerances to be included, depending on the type of installation and also on the profiles used. The drawings herewith give the corrective values to apply (+ 91, - 40, - 53 and - 68 mm).

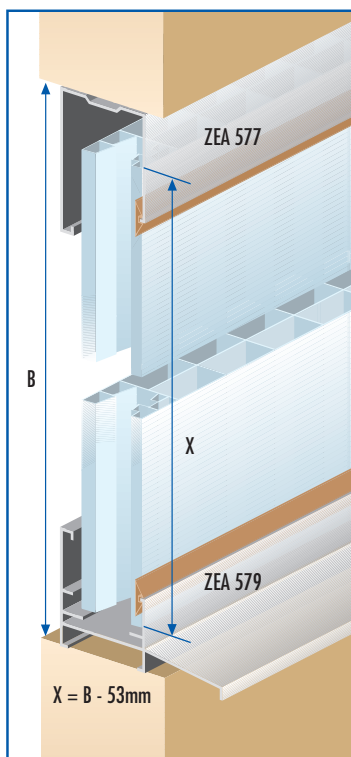
When the sheets are more than 6 meters long, it is better to use the upper profile ZEA 580 than the profile ZEA 577.

In that case, in order to make possible a dilatation of the sheets, the length of the sheets has to be reduced of 10 mm, after taking into consideration above indicated corrective values.

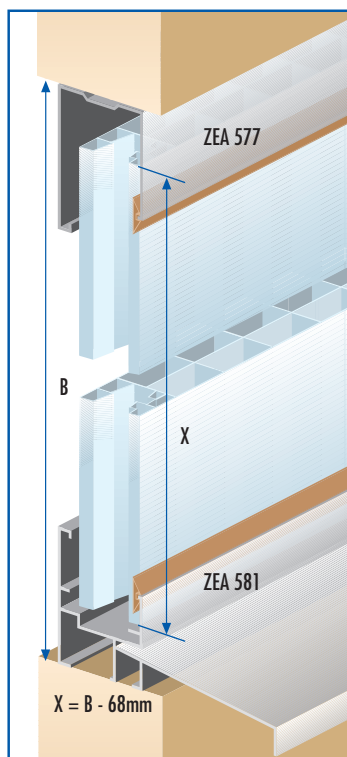
Examples :

- Front fitting  
 $X = B + 81\text{ mm}$  instead of  $B + 91\text{ mm}$
- Integrated fitting  
 $X = B - 50\text{ mm}$  with ZEA 578 as lower section  
 $X = B - 63\text{ mm}$  with ZEA 579 as lower section  
 $X = B - 78\text{ mm}$  with ZEA 581 as lower section

Integrated fitting



Integrated fitting



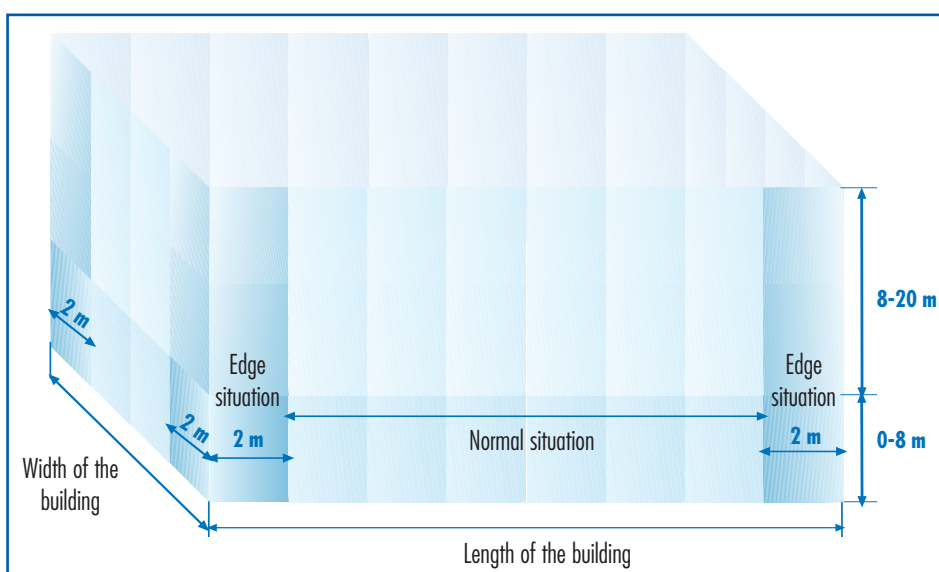
If the AKYVER PANEL® sheets are higher than 10 meters, we recommend to use a separation profil. This profil is made by assembling the section ZEA 578 with screws on the top of the section ZEA 577 (or ZEA 580).

### 4.7 REGULATIONS AND ACCEPTABLE RANGES

The table of ranges gives the maximum height of the panels (2 supports) or the maximum distance between support and pressure hook (3 supports).

- Ranges for AKYVER PANEL® 40 with two and three (or multi) supports (according to DIN 1055 Part 4)

	Installation of the Panel facade		Normal situation	Edge situation
Closed building	0 to 8 meter height	2 supports	2350 mm	1600 mm
		3 or multi supports	2450 mm	1150 mm
	8 to 20 meter height	2 supports	1950 mm	1250 mm
		3 or multi supports	1850 mm	700 mm
Open building	0 to 8 meter height	2 supports	1700 mm	1280 mm
		3 or multi supports	1350 mm	750 mm
	8 to 20 meter height	2 supports	1340 mm	1000 mm
		3 or multi supports	850 mm	450 mm



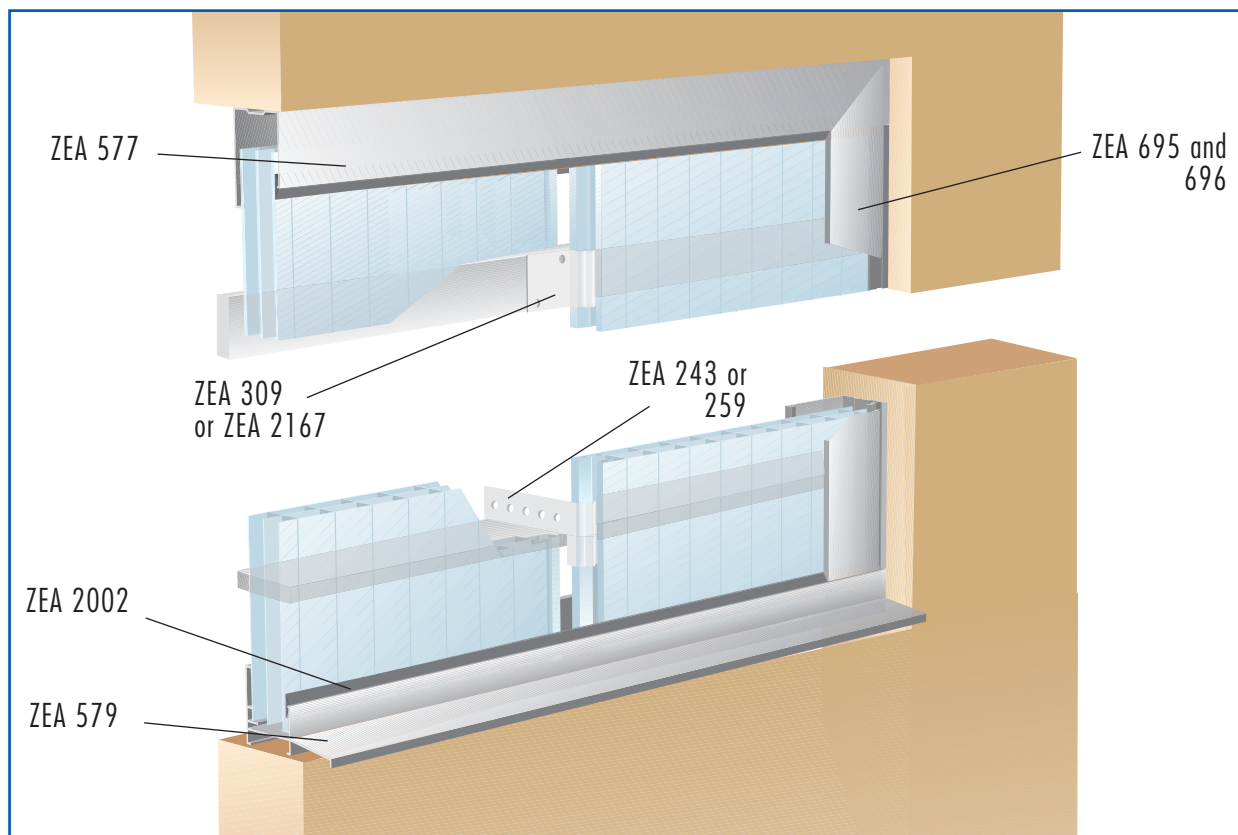
Informations :

- The values of 2 supports are the maximum distances between the lower and upper aluminium profile.
- The values of 3 or multisupports correspond to the maximum distances between aluminium profile and negative pressure hook or between pressure hook to pressure hook.

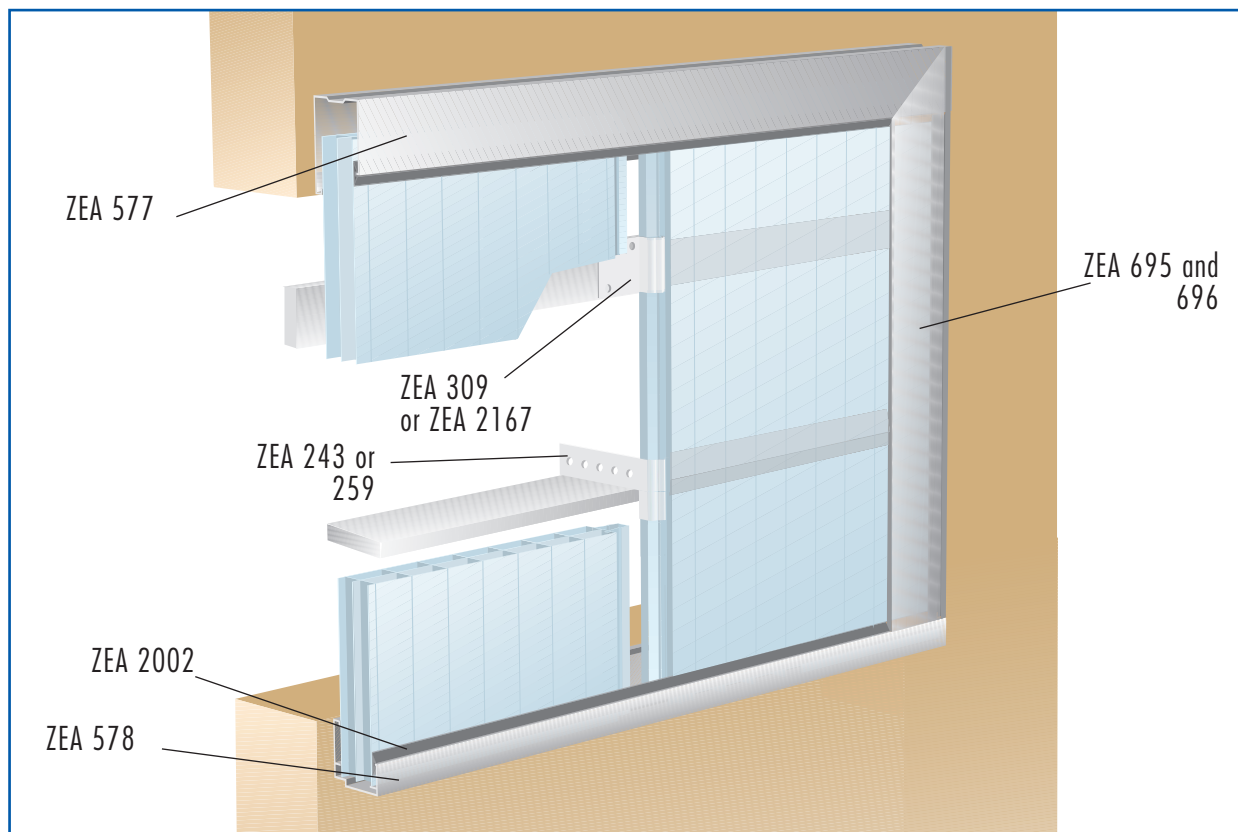
We would draw your attention to the fact that there are different mounting specifications, sometimes more restrictive, provided by official bodies such as the C.S.T.B.

If your site is being built according to such specifications, we would recommend you to give priority to their recommendations.

Example of integrated fitting



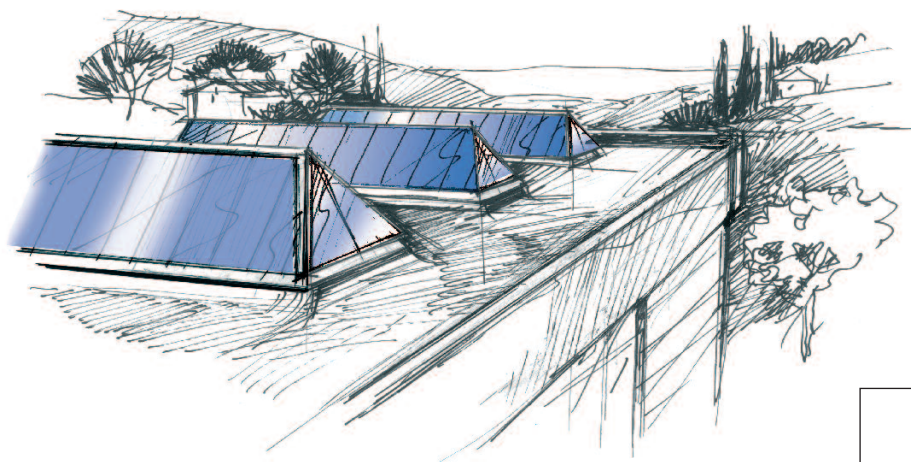
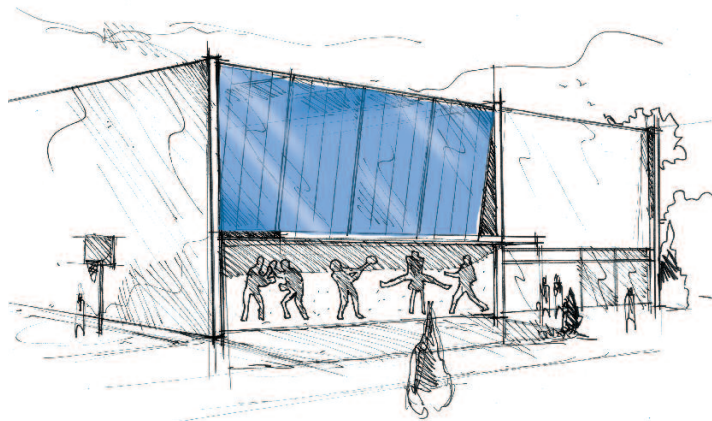
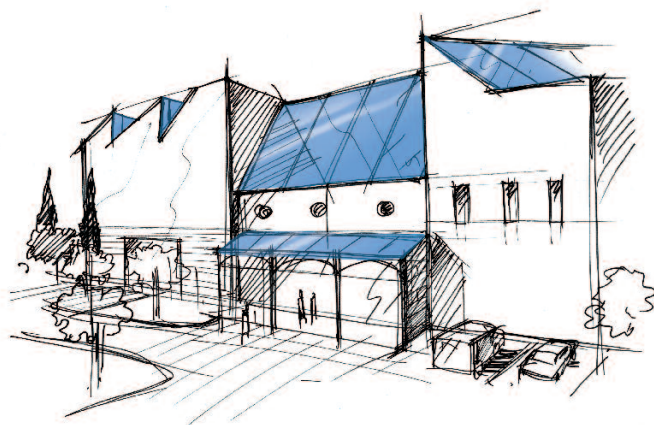
Example of front fitting



RANGE

**AKYVER PANEL®**

**The solution for each application**



Stamp of the distributor

**Kaysersberg**Plastics  
a part of DS Smith Plastics

[www.kaysersberg-plastics.com](http://www.kaysersberg-plastics.com)

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B. P. 27 – F 68240 KAYSERSBERG - Tel +(33) 03 89 78 32 31 - Fax +(33) 03 89 78 38 56 - Email: [plastic@kayplast.com](mailto:plastic@kayplast.com)

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