



Easyroof[®]
Easytap[®]
Easypanel[®]
Easyjunta[®]

Macrolux[®]
Systems

**POLYCARBONATE
SYSTEMS**

More light for a better life



Stabilit Europa was created in 2000 as a subsidiary in Spain of Stabilit S.A. belonging to the Verzatec Group, one of the most important companies worldwide in the manufacture and marketing of plastic laminates, with more than 50 years of experience.

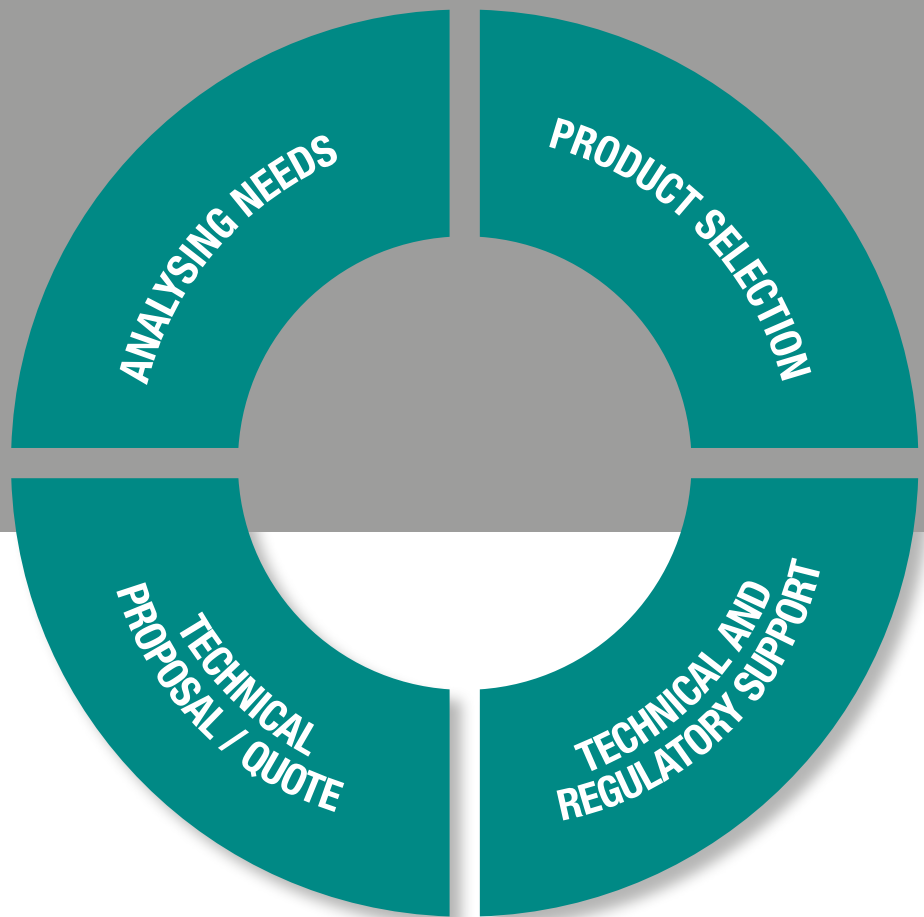
Stabilit Europa produces a wide range of translucent and opaque laminates, translucent to take advantage of natural light in all kind of buildings, and opaque for industrial coatings and for the automotive industry.

Stabilit Europa is a company that is distinguished by a philosophy of continuous improvement. Its leadership is based on the use of advanced technology in its equipment and production processes, as well as the high quality and variety of its products.

Stabilit Europa has been created to attend, provide service and provide the needs of the European market in this type of products.

Customer focus

Stabilit is a leader in promoting innovative solutions that anticipate customer demands and market trends, predicting future needs and staying at the cutting edge. **Stabilit Europa, s.l.u.** is the go-to partner for customers looking for a company who will be with them every step of the way, from the drawing board through to installation of the finished product.



An all-round approach to see your project through to success

step 1

ANALYSING NEEDS

The brief is the most delicate stage of the process. This is where initial ideas are bounced around to come up with possible solutions that will create the base of the project.

step 2

PRODUCT SELECTION

During this stage, customers draw on our team's expertise to decide on one or more potential solutions. Samples, technical data sheets and drawings make for creative, instructive sessions.

step 3

TECHNICAL AND REGULATORY SUPPORT

Every project has its technical and environmental restrictions. With our experience, we can help you choose the safest, most reliable solutions. It is common knowledge that regulations can dictate both technical and financial choices and hence require careful evaluation.

step 4

TECHNICAL PROPOSAL / QUOTE

This is the final stage of a joint process at which both the supplier and purchaser see the fruits of their efforts, rewarded by the mutual knowledge that this is the best solution. Stabilit's support doesn't end here: we are there to help you through the subsequent installation stages, too.

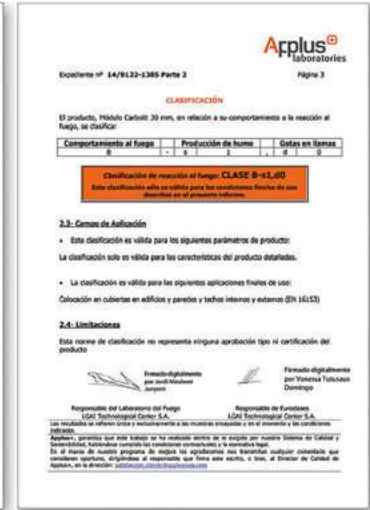
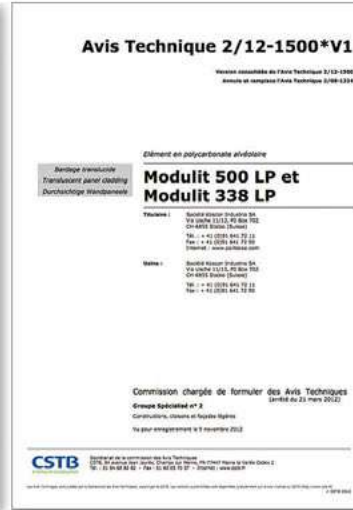
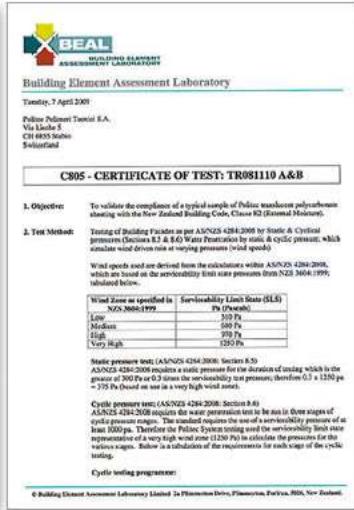
Assistance to ensure correct installation

OUR GREATEST AMBITION IS FOR THE APPLICATION TO BE A SUCCESS.

We also provide assistance at the construction site, making sure the chosen products are installed correctly so you get the most out of them.

Our main objective is to achieve end customer satisfaction and see that each application stands as a showcase for everyone involved.

Product certification



Stabilit products are certified by internationally accredited bodies and institutions, such as:

- France: CSTB, LNE
- Italy: CSI, Istituto Giordano
- Switzerland: FPC
- Germany: Hoch
- New Zealand: BEAL
- USA: Architectural Testing
- Hungary: ÉMI
- Poland: ITB
- Spain: Applus + Laboratories

Our sales department will be more than happy to give you detailed information on which certificates are available and on tested products.

Company certification

UNI EN ISO 9001 certification

Our UNI EN ISO 9001 certification provides assurance in terms of quality, service and the testing of the raw materials we use, requiring us to meet stringent production standards and comply with strict control procedures.

Polycarbonate

Transparency 89%

Dimensional stability from -40°C to +130°C

High impact resistance from -20°C to +125°C

Self-extinguishing (oxygen index 28%)

Low creep

Low density (1,21 g/cm³)

Excellent thermal and electric insulation

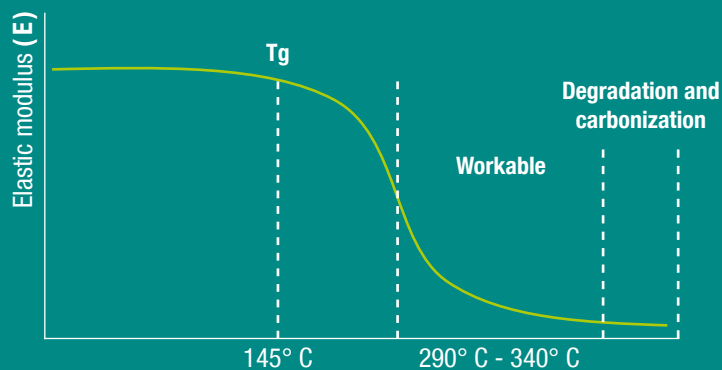
Extremely low moisture absorption (0,3%)

Good UV resistance



Morphological structure

Amorphous Aromatic Polymer
Polyester Family
Just one Tg a 138°C ~ 145°C



$$E_{\text{glass}} = 70000 \text{ N/mm}^2 - E_{\text{PC}} = 2300 \text{ N/mm}^2 - E_{\text{ALU}} = 7200 \text{ N/mm}^2$$

PC: main advantages

Light weight and transparency	lighter structure
Can be produced in low thicknesses	lighter weight
Self-extinguishing	good reaction to fire performance
Versatile to use	cold bending and thermobending
Visual adaptability	option of colouring with increasing degrees
Wide choice of surface finishes	plain, embossed, painted [■] and metallic
Impact	ductile break = no shards in event of breakage
Dimensional stability	guaranteed long term
Compliance with industry standards	flammability, thermal insulation, loads
LCA (Life Cycle Assessment)	favourable and totally recyclable at end of life cycle

[■] Choosing the right solvent is essential to avoid damaging the polymer

Polycarbonate properties

Polycarbonate is a thermoplastic polymer boasting excellent mechanical and physical properties. It is ductile and hardwearing, which is why it is used for such applications as producing CDs and DVDs; while the automotive, aviation and ballistics industries (airplane windows, car headlights, riot shields and helmets, etc.) value it for its impact resistance. All the above properties, along with its transparency, make polycarbonate suitable for building applications.

Technical data		Value	Unit	Standard
Mechanical properties				
Yield stress (50 mm/min)		63	MPa	ISO 527
Stress at break (50 mm/min)		70	MPa	ISO 527
Yield strain (50 mm/min)		6	%	ISO 527
Strain at break (50 mm/min)		120	%	ISO 527
Tensile modulus (1 mm/min)		2350	MPa	ISO 527
Impact properties				
Charpy V-notched impact strength	+ 23°C	75	kJ/m ²	ISO 179/1eA
	- 30°C	15	kJ/m ²	ISO 179/1eA
Izod notched impact strength	+ 23°C	70	kJ/m ²	ISO 180/1A
	- 30°C	12	kJ/m ²	ISO 180/1A
Physical properties				
Density		1,2	g/cm ³	ISO 1183
Water absorption (23°C; saturation)		0,35	%	ISO 62
Moisture absorption (23°C; 50% RH)		0,15	%	ISO 62
Water vapor permeability (23°C; 85% RH; 0,1 mm)		15	g/(m ² 24h)	ISO 15106-1
Thermal properties				
Coefficient of linear thermal expansion (23°C÷55°C)		0,65	10 ⁻⁴ /K	ISO 11359-2
Thermal conductivity		0,20	W/(m K)	ISO 8302
Vicat softening temperature (50N; 120°C/h)		145-149	°C	ISO 306
<i>Typical values referred to polycarbonate as raw material.</i>				

Comparison with other products

When compared with other commonly used construction plastics and with glass, polycarbonate demonstrates superiority in various properties.

	U.M.	PC	PMMA	PVC	PET	GRP	Glass
Density	g/cm ³	1,20	1,19	1,38	1,33	1,42	2,50
Strength	kJ/m ²	70	2	4	3	1,2	-
Modulus of elasticity	N/mm ²	2.300	3.200	3.200	2.450	6.000	70.000
Linear thermal expansion	1/°C	6,5 x 10 ⁻⁵	7,5 x 10 ⁻⁵	6,7 x 10 ⁻⁵	5,0 x 10 ⁻⁵	3,2 x 10 ⁻⁵	0,9 x 10 ⁻⁵
Thermal conductivity	W/m K	0,20	0,19	0,13	0,24	0,15	1,3
Max. service temperature	°C	120°	90°	60°	80°	140°	240°
UV transparency	%	4	40	nd	nd	19	80
Fire performance	-	very good	poor	good	good	poor	fireproof
Resistance to weathering	-	good	very good	poor	fair	poor	excellent
Chemical compatibility	-	fair	fair	good	good	good	very good



Easyroof[®]
Easytap[®]
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Easyjunta[®]

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30 mm

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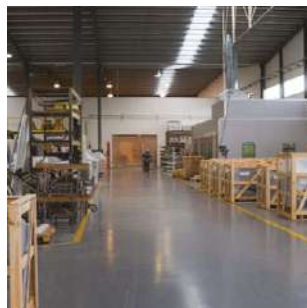
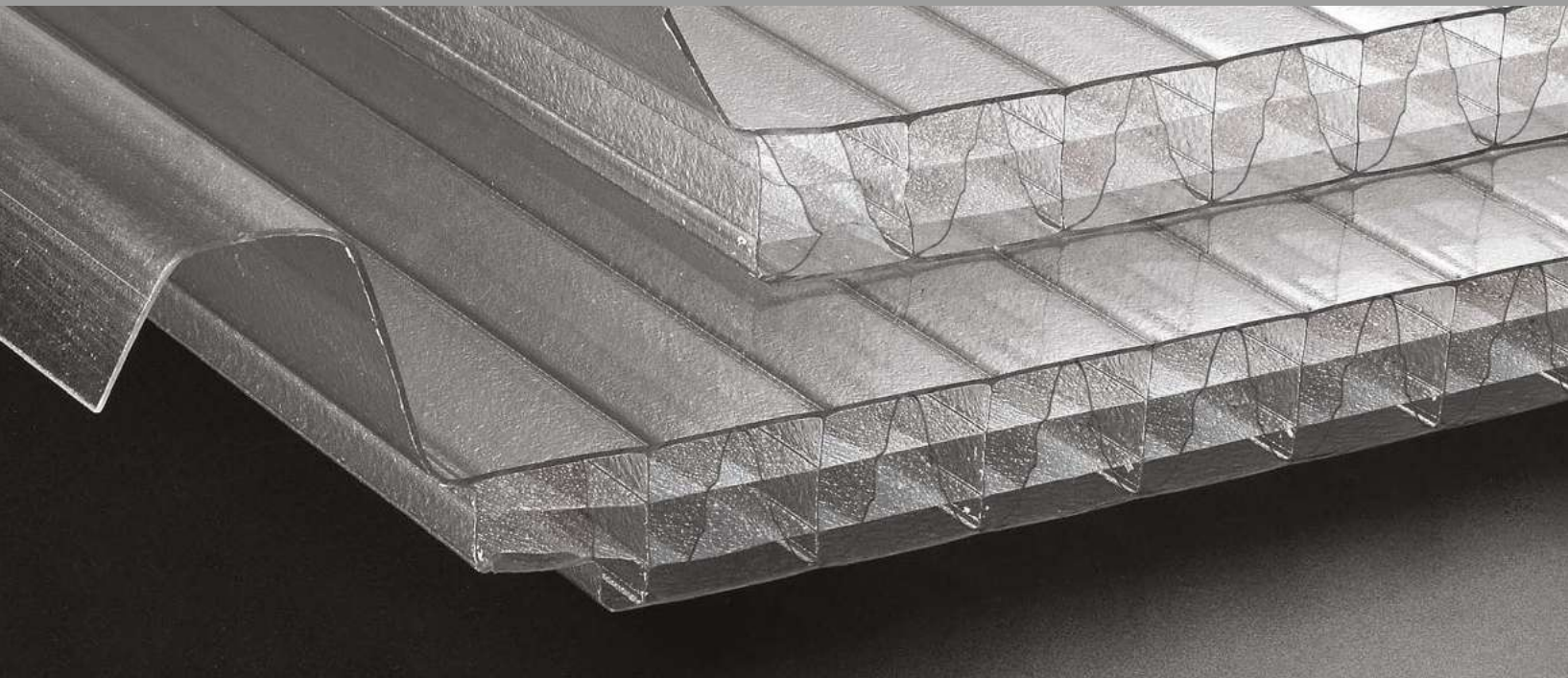
Easypanel[®]
30 mm

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Easyroof® / Easytap® Easypanel® / Easyjunta®



Quick and easy to assemble

High thermal insulation

Excellent impact resistance

Good light transmission

Good fire performance

Certified quality guarantee

UV protection

The **Easyroof®** and **Easypanel** panels are multiwall polycarbonate panels designed for use in the construction industry. They are mainly used for flat roofs in combination with sandwich panels or corrugated metal profiles. The 30 mm thickness ensures economy, high mechanical performance and adaptability for use in different solutions ever present in industrial buildings.

Impact resistance

Polycarbonate's mechanical properties make this the technopolymer with the highest impact resistance, allowing it to provide optimum protection against accidental damage and weather-related damage. These qualities mean polycarbonate significantly outperforms other materials (glass, acrylic, PET, etc.) commonly used in applications where transparency is a key requirement. Impact resistance remains constant across a particularly wide temperature range.

UV protection

Applying UV Absorber protection stops polycarbonate from absorbing UV rays that would otherwise lead to its rapid degradation and be responsible for subsequent yellowing and for undermining the strength of the exposed surface. UV protection is applied using co-extrusion technology, whereby an even shielding layer can be produced to screen the polycarbonate from the UV component of the solar radiation. With this technology, the UV protection is made resistant to weathering and is not prone to damage by incorrect maintenance.

Warranty

The panels with UV protection offer a 10-year warranty against yellowing, loss of light transmission and hail damage. Our sales department will be happy to provide you the exact warranty terms.

Fire behaviour

Fire safety is a fundamental necessity. **Easyroof®** and **Easypanel** panels are tested in independent qualified laboratories on the basis of current applicable regulations in the construction industry. Our offices are at your disposal to provide you with details regarding the available certificates.

Thermal transmittance

Thermal transmittance, or U-value, (unit of measure $W/m^2 K$) is the mean flow of heat per m^2 that passes through a structure (the polycarbonate panel) separating two environments with different temperatures (usually separating a heated or air-conditioned room from outdoors). The lower this value, the more effective the insulation offered by the panel. With a view to reducing heating/air-conditioning costs - with a consequent reduction in harmful emissions into the atmosphere - international standards require both building materials and fenestration systems to meet ever-stricter thermal transmittance requirements. With its extensive range of multiwall panels, **Stabilit Europa, s.l.u.** is at the cutting edge when it comes to providing its customers with the most appropriate solutions in compliance with current standards.

Thermal expansion

Thermal expansion is a characteristic property of materials that consists in their tendency to change in size as temperature increases. This expansion is quantified via a coefficient that, in the case of polycarbonate, equates to 0,065 mm/m °C. The fact that this coefficient value is much higher than the values associated with materials usually used for roofing and joinery (aluminium, steel, etc.) generates the need for solutions that compensate for this difference in thermal expansion, which thus needs to be factored in at the design stage and in all building applications.

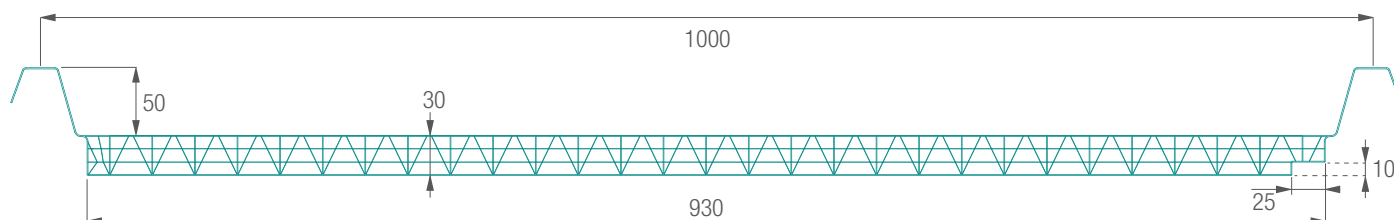
Light transmission

Proper lighting design entails ensuring that the building interior receives the required amount of light. So it is clearly important to use panels that let enough light through. The **Easyroof®** and **Easypanel** product range gives you plenty of choice at the design stage of your project, with an array of colour options to meet your every need.

Easyroof® 5M 30 mm



The **Easyroof® 5M 30 mm** panel is designed to facilitate the installation of single skylights coupled with the most common sandwich panels. The main features are: the system can fit to most common sandwich panels with variable thickness, the good thermal insulation and light transmission, the possibility to create skylights on long sloping roofs (please consider the necessary expansion spaces), the good load resistance, the 10-year warranty against hail, yellowing and loss of light transmission.



Easyroof® 5M 30 mm technical data

Easyroof® 5M 30 mm technical data			
Thickness	30 mm		
Walls nr.	5		
Height	80 mm		
Width	1000 mm		
Length	Upon request (maximum recommended length 6m)		
Thermal transmittance	1,6 W/m ² K		
Colours		LT	G Value
	Clear (8005)	45%	-
	Opal (8121)	-	-
UV protection	Coextruded on the external side		
Warranty	10-year warranty against hail damage, yellowing, loss of light transmission		
Service temperature	-40°C / +120°C		
Thermal expansion coefficient	0,065 mm/m°C (6,5 x 10 ⁻⁵ /k)		
Fire certification	EUROCLASS B s2 d0		

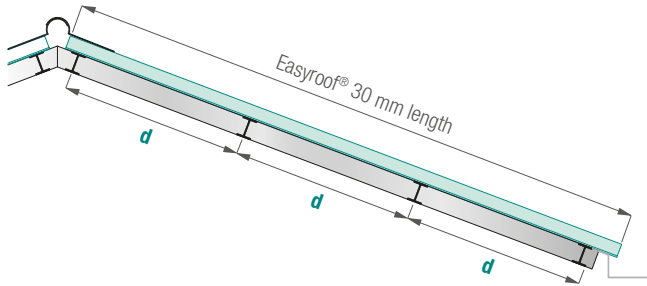
FLAT ROOF SPECIFICATIONS

Construction of a flat translucent roof and / or skylight consisting of:

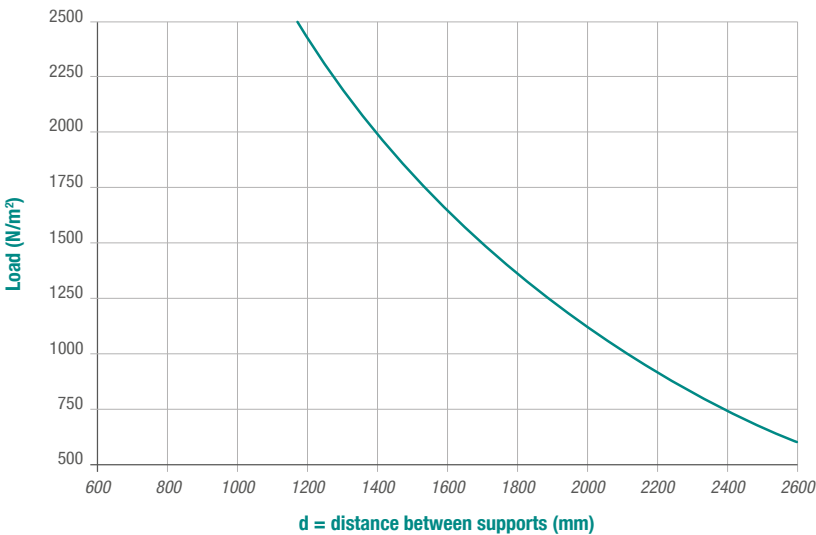
- **Easyroof® 5M 30 mm** multiwall polycarbonate panel, co-extruded UV-protection on the external side, 5 walls structure, 30 mm thickness, thermal transmittance 1,6 W/m² K, clear or opal colours, adhesive aluminium tape end closures; dimensions: fixing width 1000 mm, length upon request; 10-year warranty.
- Steel reinforcing hook (to be used under the empty trapez of the sandwich panel).



Easyroof® 5M 30 mm load chart



Load chart for FLAT solution

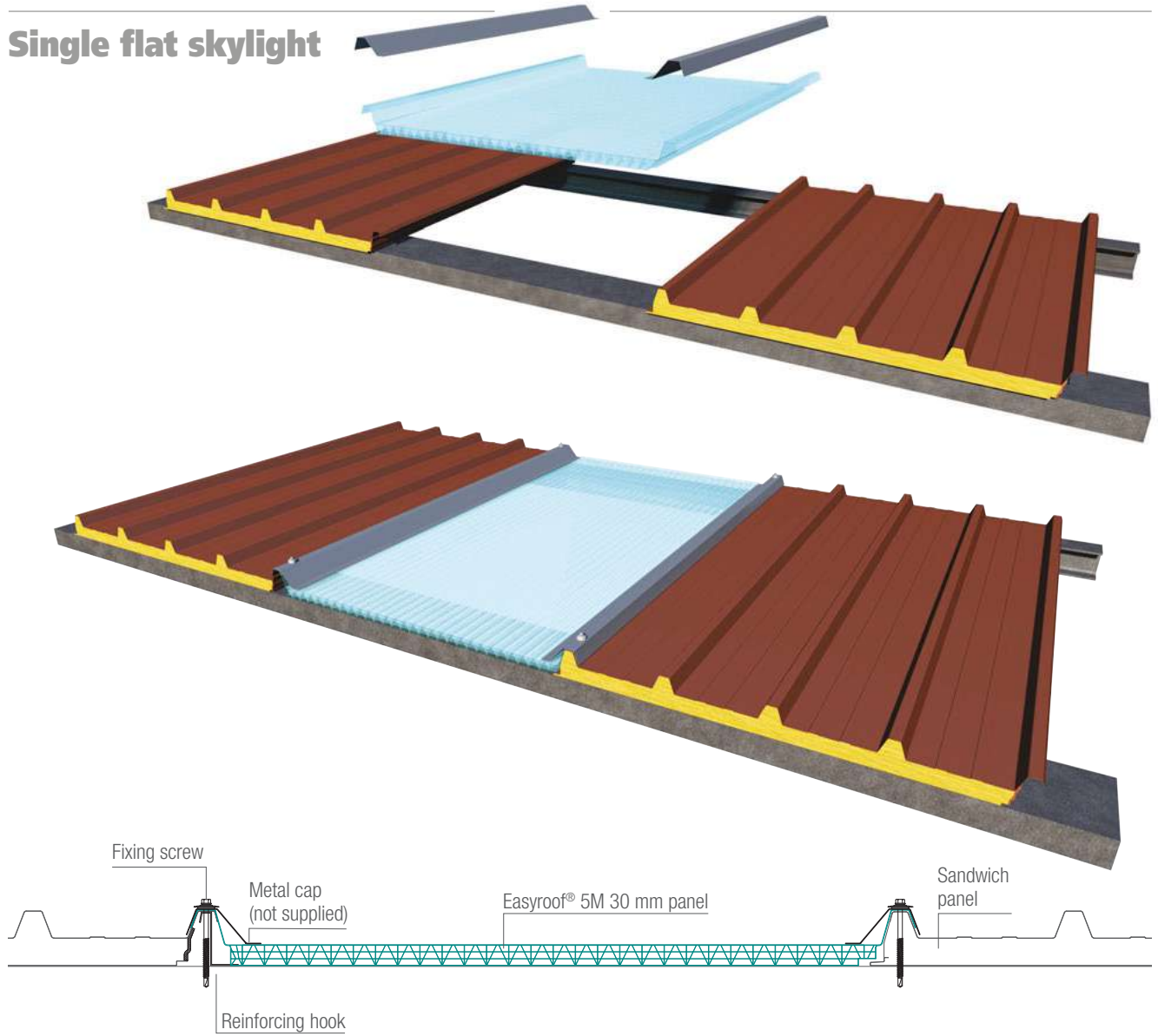


Skylight —

NOTE:
minimum recommended slope 5%.

Installation solutions

Single flat skylight



Easyroof® 5M 30 mm accessories

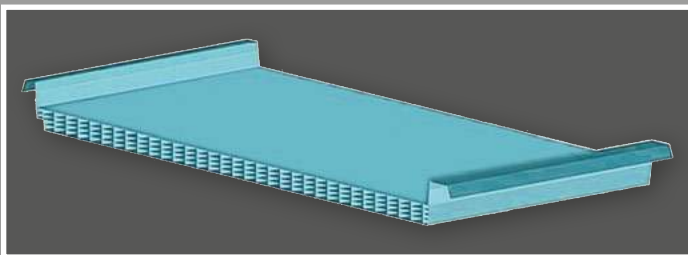
<p>Reinforcing hook</p>	<p>Adhesive aluminium tape (50 m roll) - DIM. 50 mm</p>	<p>Perforated adhesive aluminium tape (50 m roll) - DIM. 50 mm</p>	<p>Fixing screw</p>



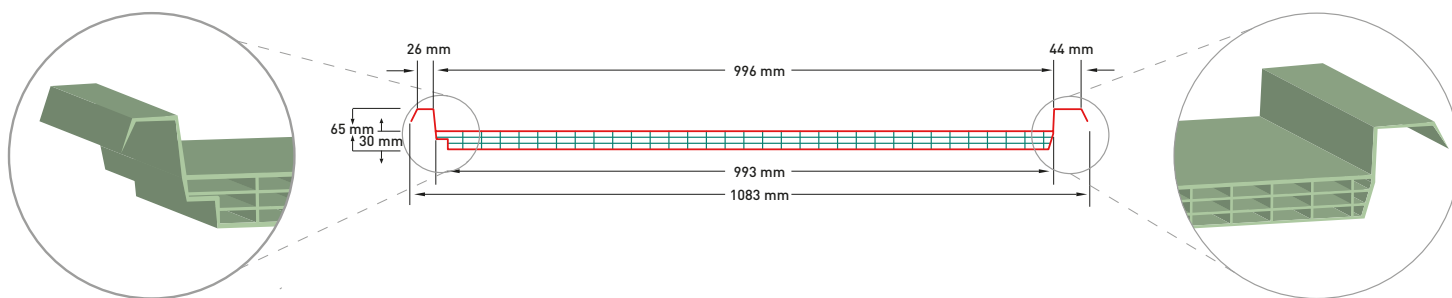
Easytap®

30 mm

The **Easytap®** module has been created to meet the needs of polycarbonate in the covered position and longitudinally interspersed between sandwich panels with flashing, providing the product with thermal and acoustic insulation. The fact that it has a reinforced cellular polycarbonate wall in the two lateral wings of the **Easytap®** module, makes it more resistant and versatile than other existing solutions on the market.



Easytap® Module 30 mm. for panels with flashing



Easytap® Module 30 mm		
Property	Unity	Values
Width	m	1.000
Maximum length	m	Consult
Thickness	mm	30
Number of walls		4
Weight	Kg/m ²	3.1
Coefficient increase solar heat	SHGC	0.36
"U" Values	W/m ² °K	1.9
Acoustic insulation	dB	21
Impact ASTM D-5628-95 J	J	0.83
Thermal expansion	mm/m°C	0.065
Working temperature range	°C	-40 a 120
Transparent color light transmission	%	52
Opal light transmission	%	35
Protection "UV"		Outside
Fire in 13501-1		B-s1,d0
10 year warranty		Yes

Maximum distance between supports		
Distance between supports	Load	
	Meters	Pressure
1.50	2100 Pa	Max 1400 Pa
1.75	1600 Pa	
2.00	1250 Pa	
2.25	950 Pa	
2.50	750 Pa	

Shocks resistance

The module will maintain its transparency for ten (10) years according to ASTM D-1003 and will not vary more than 7% for a period not greater than ten (10) years from the date of purchase with **Stabilit Europa, s.l.u.**

Resistance to impacts

The module is guaranteed against hail except for the rupture caused by impacts caused by other intentional and unintentional means.

The breakage by hail is defined, for effects of this guarantee, by at least 5 perforations in different points of the surface of the alveolar sheet, produced by 10 impacts during the hail simulation test that we detail below:

Hail simulation test

Pellets of polyamide 6,6 with a diameter of 20 mm (approximate weight of 4.5 g.), are projected on the surface of the alveolar PC sheet, on its face exposed to the sun, at a speed of 21 m/s, which corresponds to the kinetic energy of one (1) joule, at environmental temperature.

Installation and maintenance

The installation of the module must be carried out from ridge to channel and with minimum slopes of 10% (in case of transversal overlap with the sandwich panel, we recommend the **Acrylit®** double layer). Consult with **Stabilit Europa, s.l.u.**, and do not exceed the belt distance of 2.0 m.

The thickness of the module is 30 mm, so in case the sandwich panel is of a higher thickness, this difference must be compensated with the incorporation in the belt of metal omegas (example: If the sandwich panel is 40 mm thick, it must be supplemented with a 10 mm metal omega.) In this way both the module and the sandwich panel are in the same plane, so that the metal elements do not scratch the inner part of the **GrecaTec®** module, we recommend placing a neoprene gasket (EPDM) where it supports the module.

The module is protected by a film on its outer side indicating the face protected from solar radiation that must be removed immediately once it has been installed. When it is necessary to seal the joints, the compatibility of the polycarbonate with the sealant should be ensured (neutral silicone is recommended).

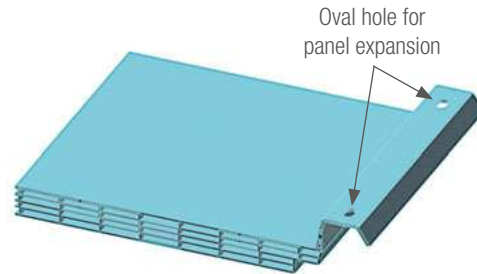
It is essential to cover the cells to prevent the entry of dust inside the sheet. It is recommended to place aluminum tape on the ends: smooth on the top and porous, which allows the condensation water to escape at the bottom. If you want these tapes placed in the **GrecaTec®** module, indicate it in the order.

When handling the cover for assembly, it is necessary to take precautions and not drag the module on the metal cover, as it could cause scratches on the back of the module.

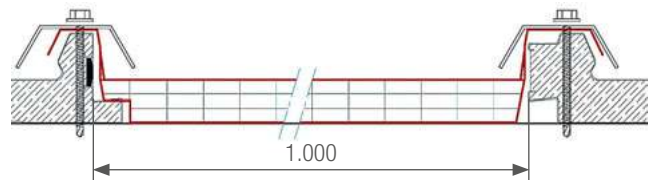
The module can be easily cut with circular saws (with small tooth blades), mechanical or metal saws (in these cases you have to hold the plate to avoid vibrations). It is convenient to eliminate the remains of chips lodged in the alveoli of the plate.

The module can not be stepped on and must not be to walk on it or lean during maintenance, installation or cleaning operations.

The coefficient of thermal expansion of polycarbonate is significantly higher than that of structures and other plastic products, so it is essential to provide systems that allow the free expansion of the sheets. For the fixation of the module it is necessary to make oval holes in the upper part of the flanges with a diameter 6 mm greater than that of the screw, placing a support under the fret to avoid vibrations during the realization of the hole.



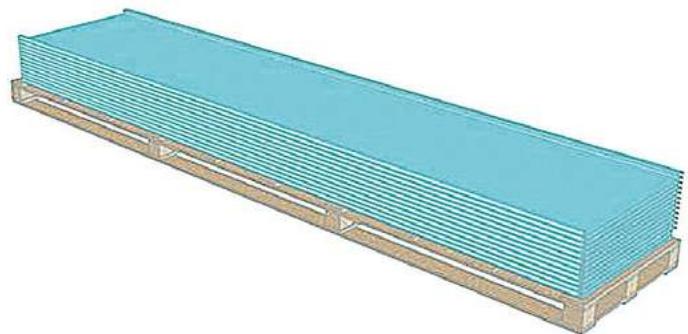
Once the holes have been made, we will place a silicone bead in the upper part of the greca panel to guarantee the sealing and having placed the module longitudinally between 2 sandwich panels, we will place the metallic flashing so that we will screw it from above to hold the greca of the module and is fixed to the Greca of the sandwich panel.



For good maintenance we recommend cleaning the module regularly, applying warm water on the surface to remove dust and dirt. Afterwards, we will soap the surface with mild soap and hot water. It is recommended to use neutral soap that does not contain abrasives or solvents. We will use a sponge or cloth and we will exert a gentle pressure because if we use other elements and tighten, we can damage the surface of the sheet. Rinse finally and dry with a soft cloth avoiding water spots on the surface of the sheet. If you have oil stains on the surface can be removed with alcohol or gasoline followed by plenty of rinses with warm water and soap.

The module must be stored and protected indoors, safe from atmospheric conditions, such as sun and rain. Sheets of the same length should be stacked horizontally. If they have different lengths, you have to place the longest ones below. The module stacked in plates must be supported on wooden pallets or wooden sticks.

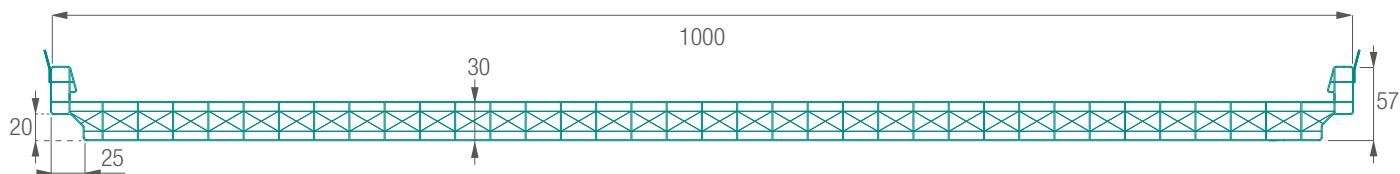
Stabilit Europa does not provide accessories (screws, flashing or staples, etc.) for installation.



Easypanel

30 mm

The **Easypanel 30 mm** multifunction panel is designed to facilitate the installation of single skylights coupled with the most common sandwich panels (mainly for Spain market). The main features are: the good thermal insulation and light transmission, the possibility to create skylights on long sloping roofs (please consider the necessary expansion spaces), the good load resistance, the 10-year warranty against hail, yellowing and loss of light transmission. **Easypanel 30 mm is provided with UV-resistant transparent coextruded gasket on both sides which ensures better air and water tightness.**



Easypanel 30 mm +G technical data

Thickness	30 mm		
Walls nr.	6		
Width	1000 mm		
Length	Upon request		
Thermal transmittance	1,4 W/m ² K		
Colours		LT	G Value
	Clear (8005)	50%	-
	Opal (8121)	30%	-
UV protection	Coextruded on the external side		
Warranty	10-year warranty against hail damage, yellowing, loss of light transmission		
Service temperature	-40°C / +120°C		
Thermal expansion coefficient	0,065 mm/m°C (6,5 x 10 ⁻⁵ /k)		
Fire certification	EUROCLASS B s1 d0 / B s2 d0		

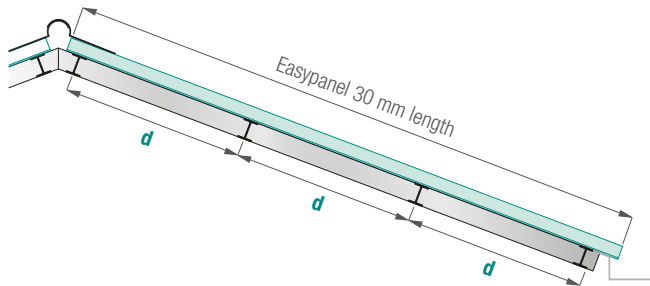
FLAT ROOF SPECIFICATIONS

Construction of a flat translucent skylight consisting of:

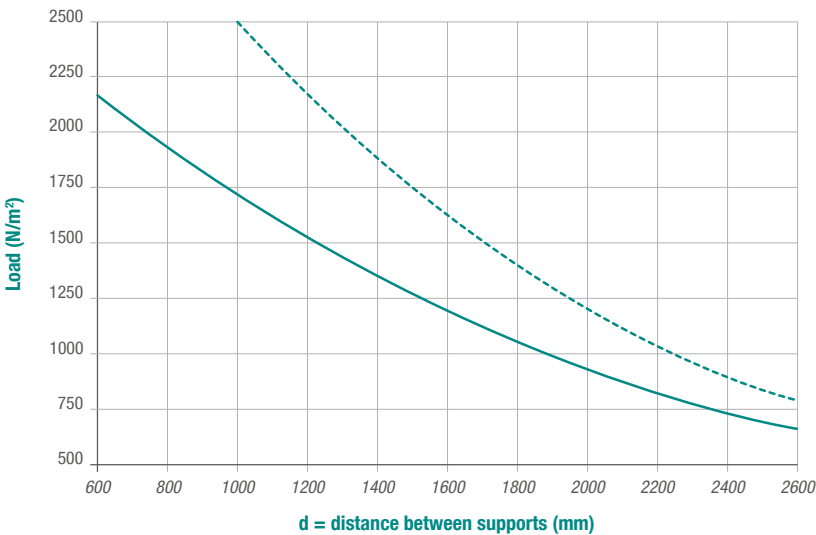
- **Easypanel 30 mm** multiwall polycarbonate panel, co-extruded UV-protection on the external side, 6 walls structure, 30 mm thickness, thermal transmittance 1,4 W/m² K, clear or opal colours, adhesive aluminium tape end closures; dimensions: width 1000 mm, length upon request; 10-year warranty.



Easypanel 5M 30 mm load chart



Load chart for FLAT solution

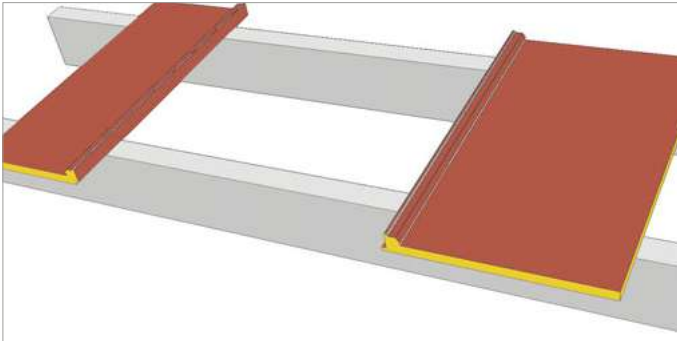


2 supports ———
 3 or more supports - - - - -

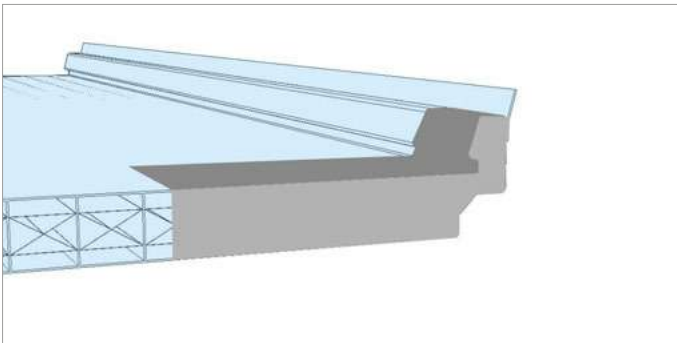
NOTE:
 minimum recommended slope 5%.

Installation solutions

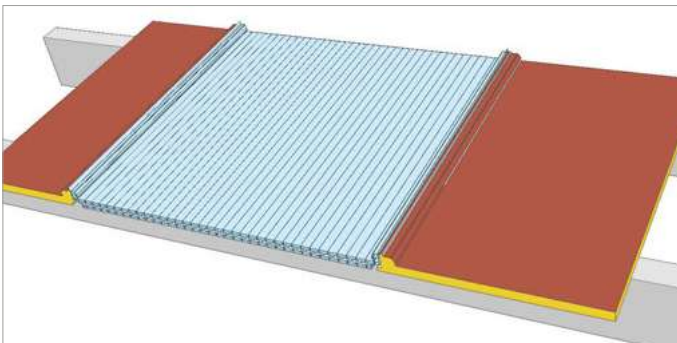
Single flat skylight



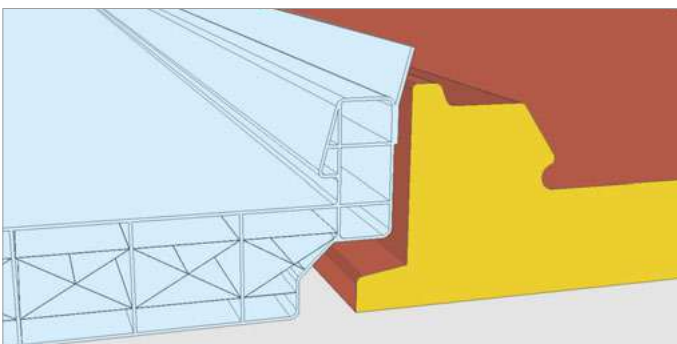
Install the two sandwich panels parallel so that a free space of at least 1000 mm remains between the two.



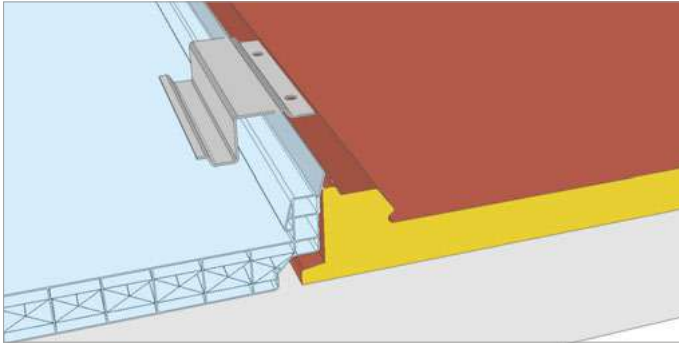
Check that the ends of the Easypanel are closed with the blind or perforated aluminium tape.



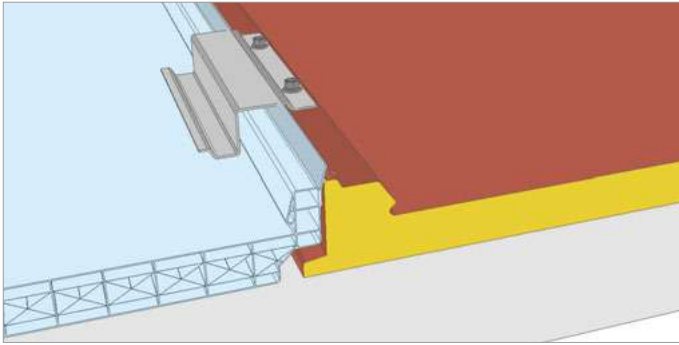
Insert the Easypanel between the sandwich panels taking care that there is necessary space to allow for thermal expansion (both laterally and at the ridge and gutter).



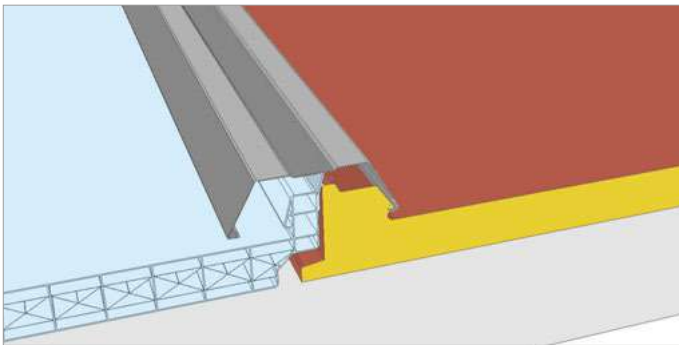
Special side coupling between Easypanel / sandwich panel.



Place the fixing hooks at each purlin.

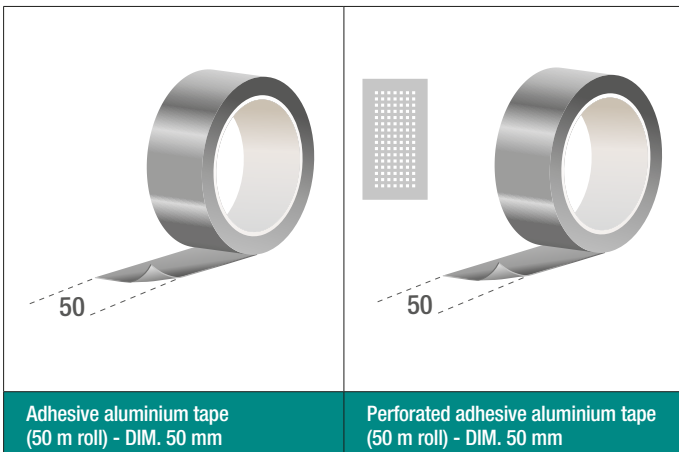


Fix the hooks with proper support screws.



Install the metal cap fitting it at the proper place.

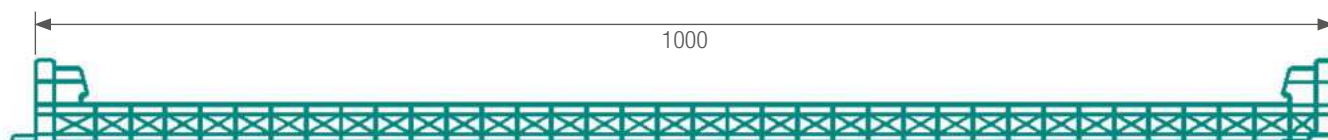
Easypanel 30 mm accessories



Easyjointa®

30 mm

The **Easyjointa 30 mm** panel has been designed to facilitate the introduction of skylights in coupling with the cover panels with flashing. The main characteristics are: systems adaptable to most of the thermostable panels, even of variable thickness, good thermal insulation and light transmission, possibility of making skylights in long skirts (verify the necessary expansion spaces), good resistance to load, ten year warranty against hail, yellowing, loss of light transmission.

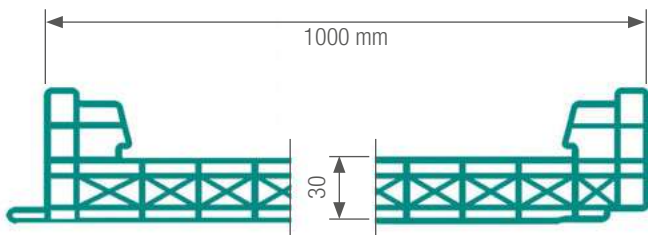


Technical properties Easypanel® 30 mm + G

Thickness	30 mm		
Number of walls	6		
Width	1000 mm		
Length	made to measure		
Thermal transmission	1,4 W/m ² K		
Colors		LT	G Value
	Crystal (8005)	50%	-
	Opal (8121)	30%	-
UV Protection	Coextrusion on the external side		
Warranty	Ten years against hail, yellowing, loss of light transmission		
Operating temperature	-40°C / +120°C		
Thermic dilatation coefficient	0,065 mm/m°C (6,5 x 10 ⁻⁵ /k)		
Fire certification	EUROCLASE B s1d0 / B s2 d0		



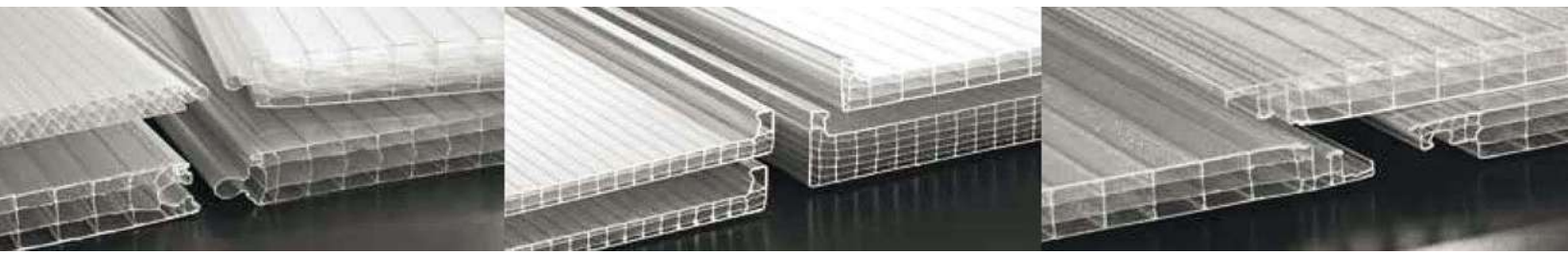
Easyjunta® 30 mm Load tables



Flat installation (sheet fixed on three or more supports)

		Load (pressure)				Distance between supports
		1.500 Pa	1.300 Pa	1.200 Pa	900 Pa	
		1800 mm	2000 mm	2200 mm	2600 mm	

NOTE:
Minimum suggested slope 5%
Use screws suitable for specific supports



Distributor



Stabilit Europa, s.l.u.

Ctra. de Ripollet B-141, km 3,9

Pol. Ind. Santiga · Apartado 16

08130 Santa Perpètua de Mogoda (Barcelona) Tel.: +34 93 729 00 90 - Fax: +34 93 729 06 43 info@stabiliteuropa.com www.stabiliteuropa.com

Customer Service

Phone 902 194 881

Fax 93 729 06 55 - 93 729 13 51