

# STRONG AND BRIGHT



















# CUTTING-EDGE POLYCARBONATE SOLUTIONS FOR AN EVER-EVOLVING CONSTRUCTION INDUSTRY



Poly World Systems represents the perfect synthesis of the thirty years experience in the extrusion field and know-how in the building products of its staff, grown up in twenty years of activity in the field.

Poly World Systems offers a full range of polycarbonate systems for walls, roofs, sheds, false ceilings, suspended ceilings, internal partitions, greenhouses and all those typical industrial building applications but not only by finding extensive use in sports halls, shopping malls and farms.

All products are the result of continuous researches and improvements over time for a constantly evolving market, collaborating with our partners and developing together the solutions that best suit the applications you require.







## COLOUR RANGE

On request, all Poly World Systems products can be supplied in a wide range of colors (subject to minimum order quantity) and new colours can be developed on customer specifications



# PRODUCT CERTIFICATIONS

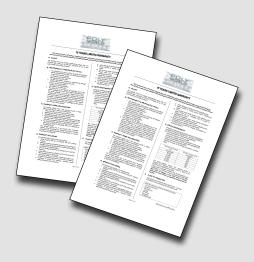
The products are tested by international official laboratories.

# PRODUCTS

ONDA	
Multiwall corrugated sheets	p.6
GRECA	
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Multiwall corrugated sheets	
COVERTECH	p.14
Multiwall panels for industrial roofings	
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REVERS	p.24
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CEILING	p.36
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Solid corrugated sheets	

# WARRANTY

Most of Poly World Systems products are covered by a ten-year warranty on yellowing, loss of light transmission and hail resistance (ask for a copy of the exact warranty terms at our sales offices)



# **USE AND** MAINTENANCE

#### **STORAGE**

Products must be stored covered protecting them from direct sunlight and atmospheric agents.

#### **INSTALLATION**

Products must be installed ensuring that the UV protected side is always exposed to the sun.

The protective film should be removed immediately after installation.

#### SAFETY DURING INSTALLATION

Don't walk directly on the sheets carefully follow all safety rules during installation.

#### **PRODUCT CARE**

Polycarbonate can be damaged by some chemicals products, causing premature aging and / or breakage. Only use compatible silicones for sealing; the cleaning of the sheets have be done using only water and suitable detergents. Do not use bituminous products / joints in contact with polycarbonate products.

#### **CUTTING AND DRILLING**

Cutting of the products can be performed "on site" with cutter and / or alternative saw and / or circular saw. After cutting, clean the inner chambers with compressed air and close the open sides with adhesive aluminium tape.

Drilling of the sheets can be done using a suitable drill and tips. In any case, the hole should be approximately 3 mm larger than the screw in order to absorb the thermal expansion of the sheets (more detailed specifications are given in our technical manuals or can be required to our technical office).

#### BENDING

Some Poly World Systems products can be cold bended "on site". Sheets have to be bended in the direction of the chambers, taking care of the minimum bending radius of the specific product.

#### **CLOSING OF HEADS**

The heads of the sheets can be either heat-sealed or taped to reduce the risk of dirty and / or condensation inside the chambers.

Both solutions don't remove the air inside the chambers, so condensation spots may appear, both inside and outside the sheets, in the presence of particular climatic conditions and / or relative air humidity.

The presence of condensation is not related to the quality of the product and no claims will be accepted for this issue.

# RESISTANCE AGAINST CHEMICALS

#### **CHEMICALS**

**INORGANIC SALTS** Sodium chloride 10% Potassium nitrate 10% Potassium bichromate 10% Sodium sulphate 10% Ammonium chloride Sodium bicarbonate 10%

#### **INORGANIC ACIDS**

Hydrochloric acid 35% Hydrochloric acid 10% Sulphuric acid 70% Sulphuric acid 30% Nitric acid 40% Nitric acid 10% Chromic acid 10% Concentrated hydrofluoric acid Unchanged

#### ALKALIS

Sodium hydrate 1% Sodium hydrate 10% Ammonium hydrate 10% Calcium hydrate 10%

#### ORGANIC ACIDS

Acetic acid 70% Acetic acid 10% Formic acid 30% Lactic acid 5% Oxalic acid 10% Benzoic acid 10% Oleic acid 100%

#### LUBRICATING OILS Silicone oil Paraffin oil

Machine oil PLASTICIZERS Tricresyl phosphate Dioctyl adipate Dioctyl phthalate Butyl stearate Acid trimethyl esters

#### ALCOHOLS

Methyl alcohol Ethyl alcohol 50% n-Butanol Ethylene glycol

VARIOUS Benzole Toluol Industrial petrol

Kerosene Diesel oil n-Heptane Cyclohexane Methyl isobutyl ketone Butyl acetate Methyl methacrylate Acrylonitrile Vinyl acetate Styrole Ethyl ether (5 °C) Diethylenetriamine Ethylenediamine Triethanolamine Phenol 5% Cresol Formalin Hydrogen dioxide 10% Triammoniumcitrate (pH = 9) Triammoniumcitrate (pH = 5) CHANGE

Unchanged Unchanged Yellowing Unchanged Unchanged Surface cracking

Cracking Unchanged Unchanged Unchanged Yellowing Yellowing Unchanged

Unchanged Light clouding Darkening and disintegration Unchanged

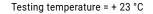
Unchanged Unchanged Unchanged Unchanged Unchanged Unchanged Unchanged

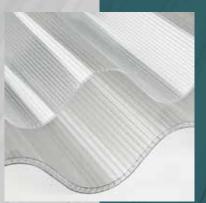
Unchanged Unchanged Unchanged

Light clouding Unchanged Unchanged Unchanged Unchanged

Surface cracking Unchanged Unchanged Unchanged

Rapid decomposition Rapid decomposition Yellowing, opacifying and cracking Unchanged Unchanged Unchanged Unchanged Clouding and softening Clouding and softening Clouding and softening Rapid decomposition Clouding and softening Clouding and softening Swelling Slow decomposition Slow decomposition Surface cracking Yellowing and opacifying Unchanged Unchanged Light yellowing Unchanged Unchanged

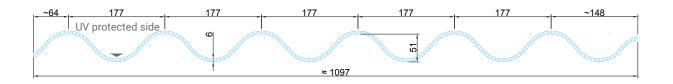




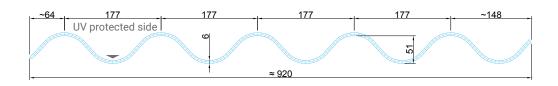
POLYCARBONATE MULTIWALL CORRUGATED SHEETS WITH COEXTRUDED UV PROTECTION

**NDA** 





Onda 177-51-6 mm (1097 mm)



Onda 177-51-6 mm (920 mm)



Sheets can be provided (on request) with coextruded gasket on side to provide a better air and watertightness on the overlap.

#### **ONDA CHARACTERISTICS**

Thickness		6 mm				
Structure		3 walls				
Overall width		1097 (± 5 mm)	920 (± 5 mm)			
Cover width		1050 mm	870 mm			
Panel length		On request (maximum re	commended length 7 m)			
Estimated thermal trans	mittance	3,3 W/m² K				
Service tempearture		- 40 °C / + 120 °C				
UV protection		Coextruded on the external side				
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0	,065 mm/m °C)			
Clear (00		72% (±5)				
Light transmission*	Opal (0035)	50% (±5)				
Warranty		Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission				

\* value according to internal test method

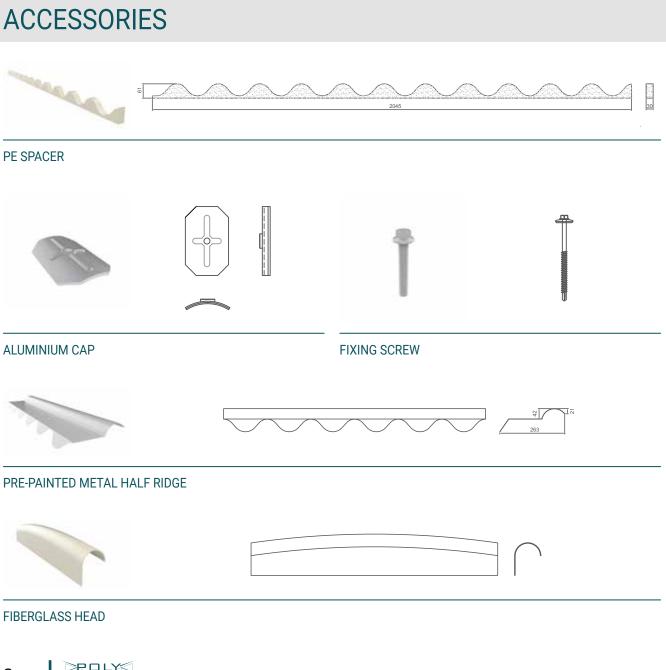


# **APPLICATION AND STRENGTHS**

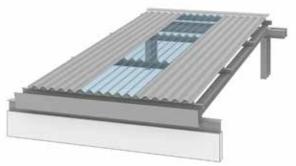
ONDA are polycarbonate multiwall corrugated sheets extruded following the European standard 177/51. The possibility to produce sheets in different widths (5 ½ waves, 6 ½ waves and 7 waves) allows various overlapping solutions to solve the many issues regarding industrial roofing. They can also be cold bent with 3500 mm radius. The corrugated structure of the product provides good load resistance, while high resistance to aging and yellowing, good impact resistance and hail is guaranteed by coextruded UV protection.

# **SPECIFICATIONS**

Construction of flat or curved skylights (bending radius 3500 mm) with polycarbonate multiwall corrugated sheets type ONDA 177/51, thickness 6 mm, 3-walls structure, coextruded UV protection on the external layer, thermosealing of heads; Sheet width 920 mm - 1097 mm (cover width 870 mm - 1050 mm respectively), length on request; estimated thermal transmittance Ug = 3.3 W/m<sup>2</sup> K; ten-years limited warranty. The following accessories are available on request: PE spacer, pre-painted metal half ridge, fixing screw (for metal supports only), aluminium cap, fiberglass head.



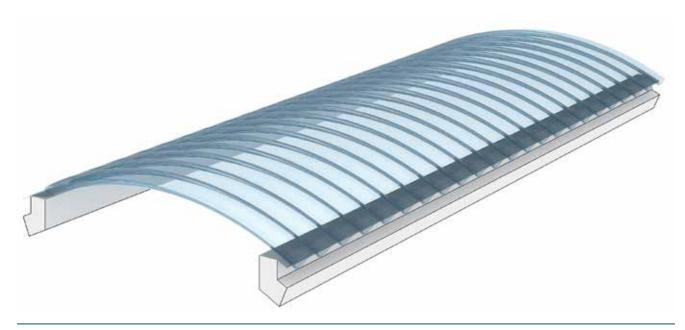






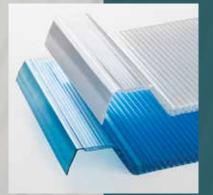
SINGLE APPLICATION

CONTINUOUS APPLICATION

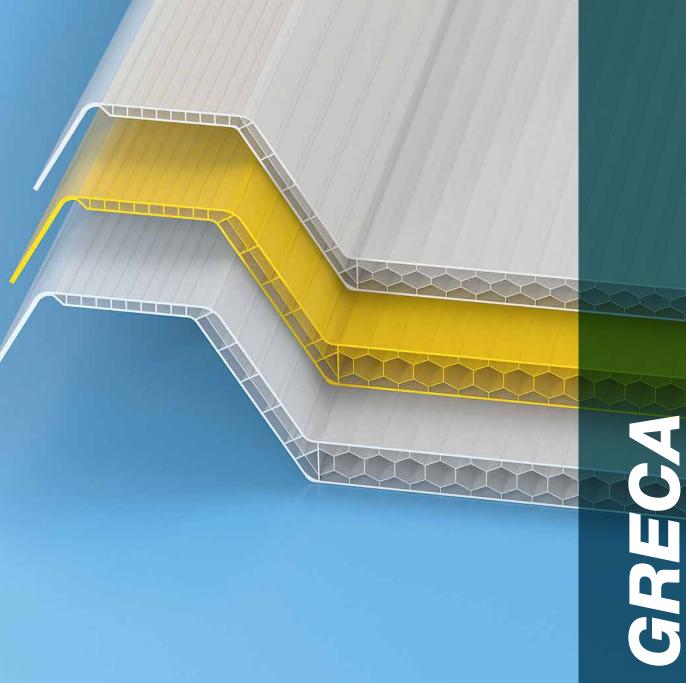


CURVED CONTINUOUS APPLICATION

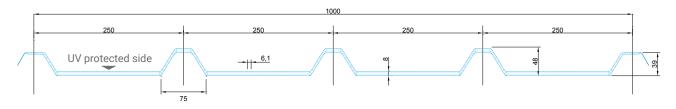




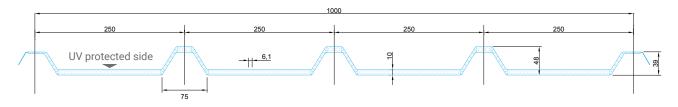
POLYCARBONATE MULTIWALL CORRUGATED SHEETS WITH COEXTRUDED UV PROTECTION



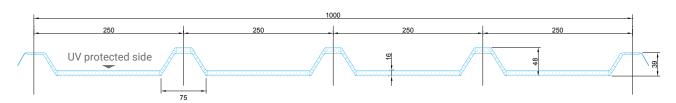




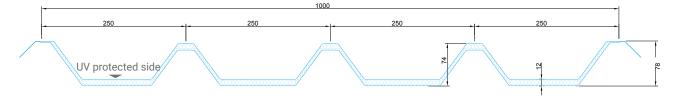
Greca 250-40-8 mm



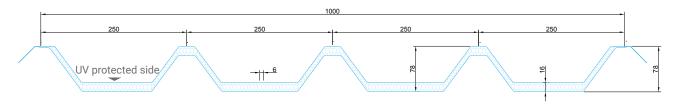
Greca 250-40-10 mm



Greca 250-40-16 mm



#### Greca 250-75-12 mm (based on minimum of quantity)



Greca 250-75-16 mm (based on minimum of quantity)

#### **GRECA CHARACTERISTICS**

Thickness		8 mm	10 mm	16 mm	12 mm	16 mm
Structure		Honeycomb structure				
Depth			40 mm		78	mm
Cover width			1000 (± 5 mm)			
Panel length			On request (maximum recommended length 7 m)			
Estimated thermal transi	mittance	2,7 W/m <sup>2</sup> K 2,5 W/m <sup>2</sup> K 2,0 W/m <sup>2</sup> K 2,3 W/m <sup>2</sup> K 2,0 W/m <sup>2</sup> K				
Service tempearture		- 40 °C / + 120 °C				
UV protection		Coextruded on the external side				
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)				
Light transmission*	Clear (0010)	59% (±5)	58% (±5)	56% (±5)	72% (±5)	59% (±5)
	Opal (0035)	41% (±5)	40% (±5)	34% (±5)	55% (±5)	37% (±5)
Warranty		Limited 10-yrs war	anty against breaka	ge due to hailstones,	yellowing and loss o	f light transmissior

\* value according to internal test method

# **APPLICATION AND STRENGTHS**

GRECA are polycarbonate multiwall corrugated sheets with an honeycomb structure and a cover width of 1000 mm. Sheets have been developed for lateral overlaps to most insulated panels and / or corrugated metal sheets available on the market. Designed for the installation of skylights both in single and multiple applications, thanks to the possibility of longitudinal and / or lateral overlapping, they are also available in thermocurved version (except GRECA 250/75), with bending radii of 3500 mm or 6000 mm.

The side wing has a multiwall structure to reduce the problem of condensation. GRECA sheets have a good light transmission and, thanks to their coextruded UV protection, they guarantee a high degree of protection against UV rays, yellowing and hail damage. The corrugated shape provides good resistance to external loads (snow and / or wind), while the typical polycarbonate features provide excellent resistance to accidental shocks and temperature leaps. The system is completed by a range of accessories that complete the installation.

# **SPECIFICATIONS**

Construction of flat or curved skylights (radii 3500 mm or 6000 mm) with polycarbonate multiwall corrugated sheets type GRECA 250/40, thickness 8 mm / 10 mm / 16 mm, honeycomb structure, coextruded UV protection on the external layer, thermosealing of heads; cover width of 1000 mm, length on request; estimated thermal transmittance Ug = 2,7 W/m<sup>2</sup> K (for 8 mm thick.) / Ug = 2,5 W/m<sup>2</sup> K (for 10 mm thick.) / Ug = 2,0 W/m<sup>2</sup> K (for 16 mm thick.); ten-years limited warranty. The following accessories are available on request: PE spacer (upper and / or lower), pre-painted metal half ridge, fixing screw (for metal supports only), aluminium caps, fiberglass head.

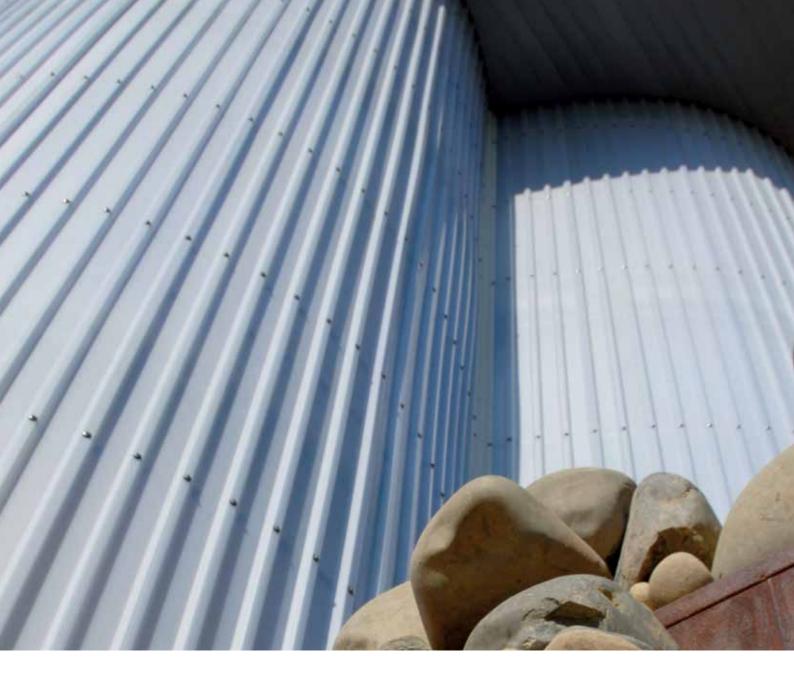
Construction of flat skylights with polycarbonate multiwall corrugated sheets type GRECA 250/75, thickness 12 mm / 16 mm, honeycomb structure, coextruded UV protection on the external layer, thermosealing of heads; cover width of 1000 mm, length on request; estimated thermal transmittance Ug = 2,3 W/m<sup>2</sup> K (for 12 mm thick.) / Ug = 2,0 W/m<sup>2</sup> K (for 16 mm thick.); ten-years limited warranty. The following accessories are available on request: PE spacer (upper and / or lower), pre-painted metal half ridge, fixing screw (for metal supports only), aluminium caps.

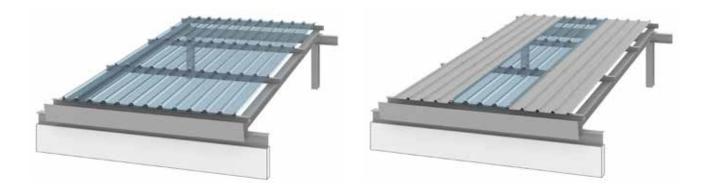
# ACCESSORIES

#### ALUMINIUM CAP

FIXING SCREW







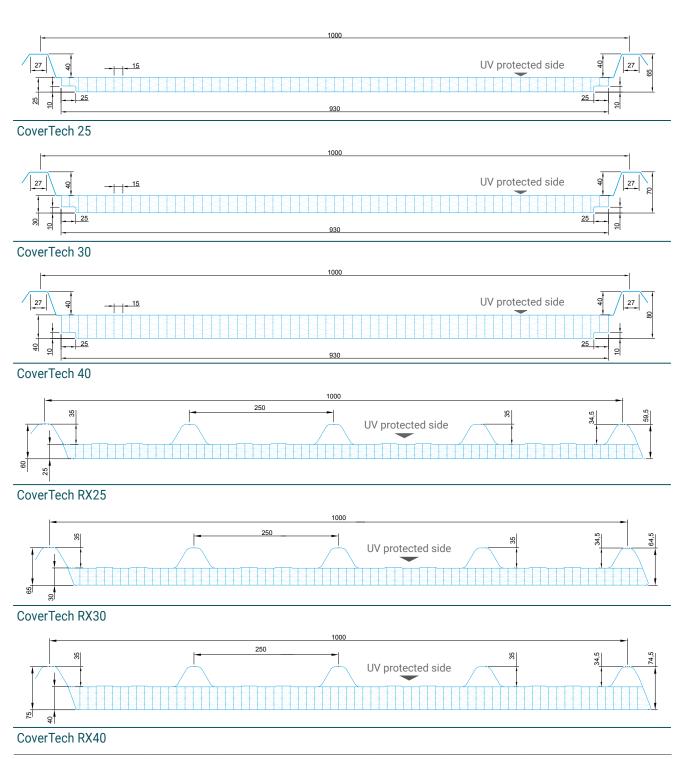
CONTINUOUS APPLICATION

SINGLE APPLICATION









#### **COVERTECH CHARACTERISTICS**

Thickness		25 mm	30 mm	40 mm	RX25 mm	RX30 mm	RX40 mm
Structure		double X 9 walls double X				r L	
Cover width			1000 ± 5 mm				
Panel length		On request (maximum recommended length 7 m)					
Estimated thermal transi	mittance	1,7 W/m <sup>2</sup> K	1,4 W/m² K	1,4 W/m <sup>2</sup> K 1,2 W/m <sup>2</sup> K 1,6 W/m <sup>2</sup> K 1,3 W/m <sup>2</sup> K 1,1 W/m <sup>2</sup> K			
Service tempearture		- 40 °C / + 120 °C					
UV protection		Coextruded on the external side					
Thermal expansion				65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0	,065 mm/m °C)		
Light transmissiont	Clear (0010)	64% (±5)	58% (±5)	54% (±5)	64% (±5)	58% (±5)	54% (±5)
Light transmission*	Opal (0035)	46% (±5)	42% (±5)	40% (±5)	46% (±5)	42% (±5)	40% (±5)
Warranty		Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission					

\* value according to internal test method

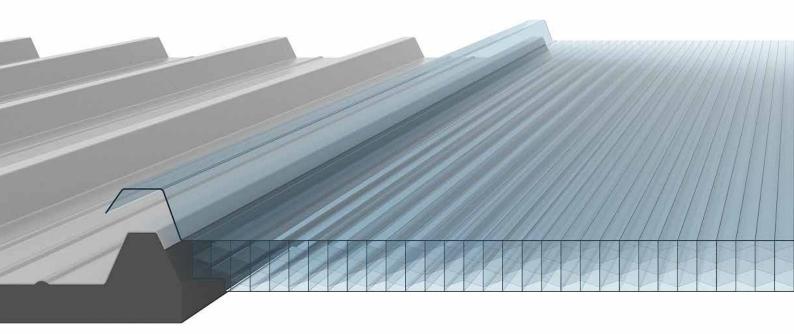
SYSTEMS EXTRUSION INTELLIGENCE

# **APPLICATION AND STRENGTHS**

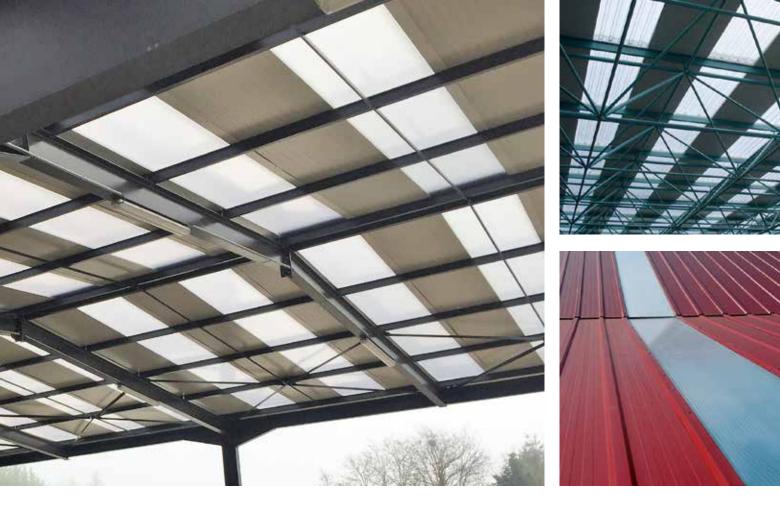
COVERTECH panels are designed to facilitate the installation of skylights into the most common insulated panels on the market. The different thicknesses available (25 mm - 30 mm - 40 mm) make the system adaptable to most panel thicknesses, providing good thermal insulation and light transmission. It is possible to make skylights even on long slopes by carefully verifying the required expansion spaces. We always suggest to install a metal flashing cap to protect the side wings. Good load resistance, coextruded UV protection on the external layer and the usual ten-years limited warranty of the products complete the features of these panels.

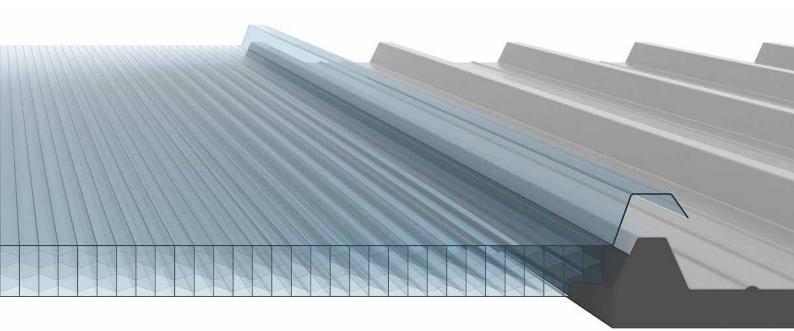
# **SPECIFICATIONS**

Construction of roofs and / or single skylight from ridge to eaves with polycarbonate multiwall panel type COVERTECH, thickness 25 mm / 30 mm / 40 mm, double X structure, coextruded UV protection on the external layer, closing of heads with aluminium adhesive tape (microperforated tape available on request); cover width of 1000 mm, length on request; estimated thermal transmittance Ug =  $1,7 \text{ W/m}^2 \text{ K}$  (for 25 mm thick.) / Ug =  $1,4 \text{ W/m}^2 \text{ K}$  (for 30 mm thick.) / Ug =  $1,2 \text{ W/m}^2 \text{ K}$  (for 40 mm thick.); ten-years limited warranty.







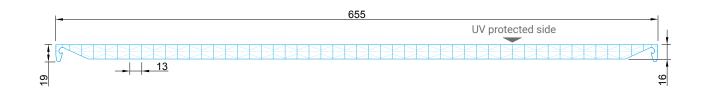




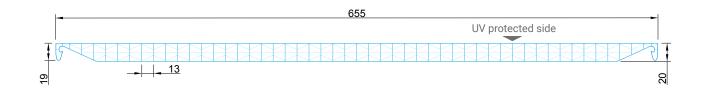




System 655-12



System 655-16



System 655-20

<b>SYSTEM CI</b>	HARACTERISTICS
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Thickness		12 mm 16 mm		20 mm				
Structure		5 walls X						
Panel width			655 (± 5 mm)					
Panel length			On request					
Estimated thermal transmittance		2,4 W/m <sup>2</sup> K 2,2 W/m <sup>2</sup> K 1,9 W/m <sup>2</sup> K						
Service tempearture		- 40 °C / + 120 °C						
UV protection			Coextruded on the external side					
Thermal expansion			6,5 x 10⁻⁵ mm/m °C					
1 in ha ann an is sis na	Clear (0010)	66% (±5)	60% (±5)	55% (±5)				
Light transmission*	Opal (0035)	40% (±5)	41% (±5)	31% (±5)				
Warranty		Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission						

\* value according to internal test method



# **FLAT VERSION** APPLICATION AND STRENGTHS

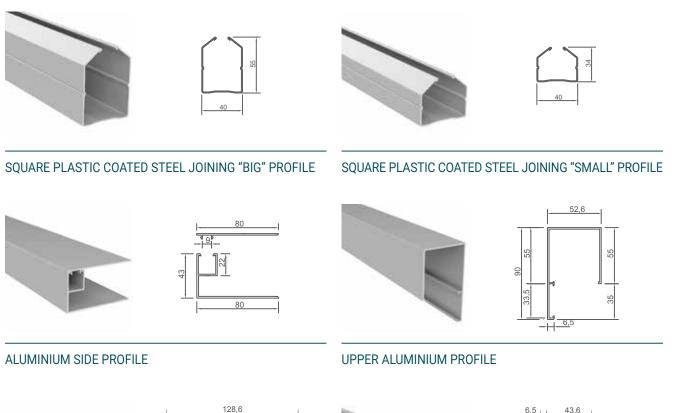
SYSTEM is an extremely adaptable system that, thanks to its modularity and strength, fits in various applications such as vertical glazings, skylights, small and large flat roofs.

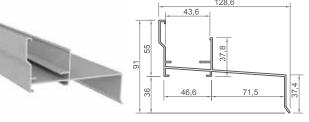
The advanced extrusion technology allows to SYSTEM panels to guarantee perfect waterproofness and high resistance to wind and snow loads. Provides excellent light transmission and the coextruded UV protection keeps panel's physical and mechanical characteristics unchanged over time. It is resistant to accidental shocks and adverse weather conditions (temperature leaps, hail, ...). Fast and easy to install, as most Poly World Systems products, SYSTEM is covered by a tenyears limited warranty. A complete range of profiles and accessories allows the construction of solutions characterized by an excellent aesthetic performance.

# SPECIFICATIONS

Construction of vertical glazing, flat skylights, sloped roofings with polycarbonate multiwall panel type SYSTEM, thickness 12 mm / 16 mm / 20 mm, 5X-walls structure, coextruded UV protection on the external layer, closing of heads with aluminium adhesive tape (or thermosealing on request); 655 mm width, length on request; estimated thermal transmittance Ug = 2,4 W/m<sup>2</sup> K (for 12 mm thick.) / Ug = 2,2 W/m<sup>2</sup> K (for 16 mm thick.) / Ug = 1,9 W/m<sup>2</sup> K (for 20 mm thick.); ten-years limited warranty. Accessories: square plastic coated steel joining profiles (thickness 1 mm); anodized aluminium perimeter profiles; PE spacers; EPDM gaskets.

# ACCESSORIES





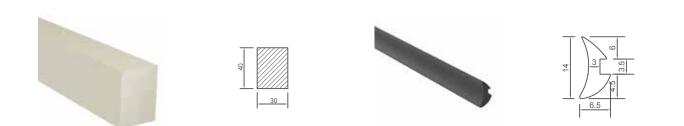
#### LOWER ALUMINIUM PROFILE WITH SILL



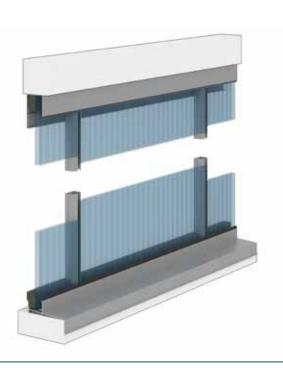
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FACADE APPLICATION

EPDM GASKET



#### ROOF APPLICATION



# **CURVED VERSION** APPLICATION AND STRENGTHS

SYSTEM is an extremely versatile system suitable for application on different types of curved roofings even with big dimensions.

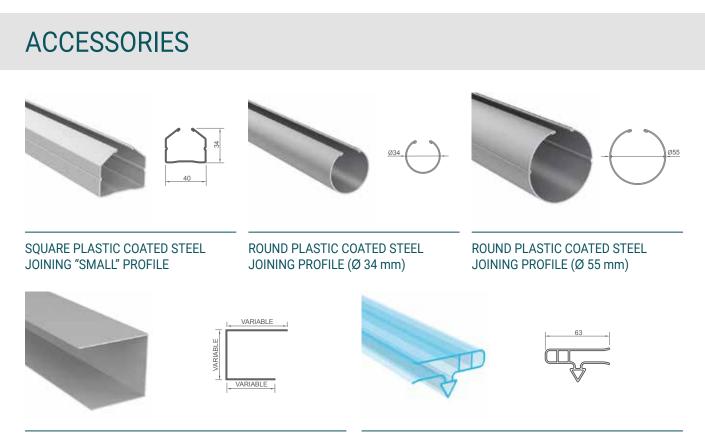
The advanced extrusion technology allows to SYSTEM panels to guarantee perfect waterproofness and high resistance to wind and snow loads.

The panel provides excellent light transmission while the coextruded UV protection on the external layer keeps the physical and mechanical characteristics of the panels unchanged over time.

It is resistant to accidental shocks and adverse weather conditions (temperature variations, hail, ...). Fast and easy to install, as most Poly World Systems products, SYSTEM is covered by a ten-years limited warranty. A complete range of profiles and accessories allows the realization of solutions characterized by an excellent aesthetic performance.

# **SPECIFICATIONS**

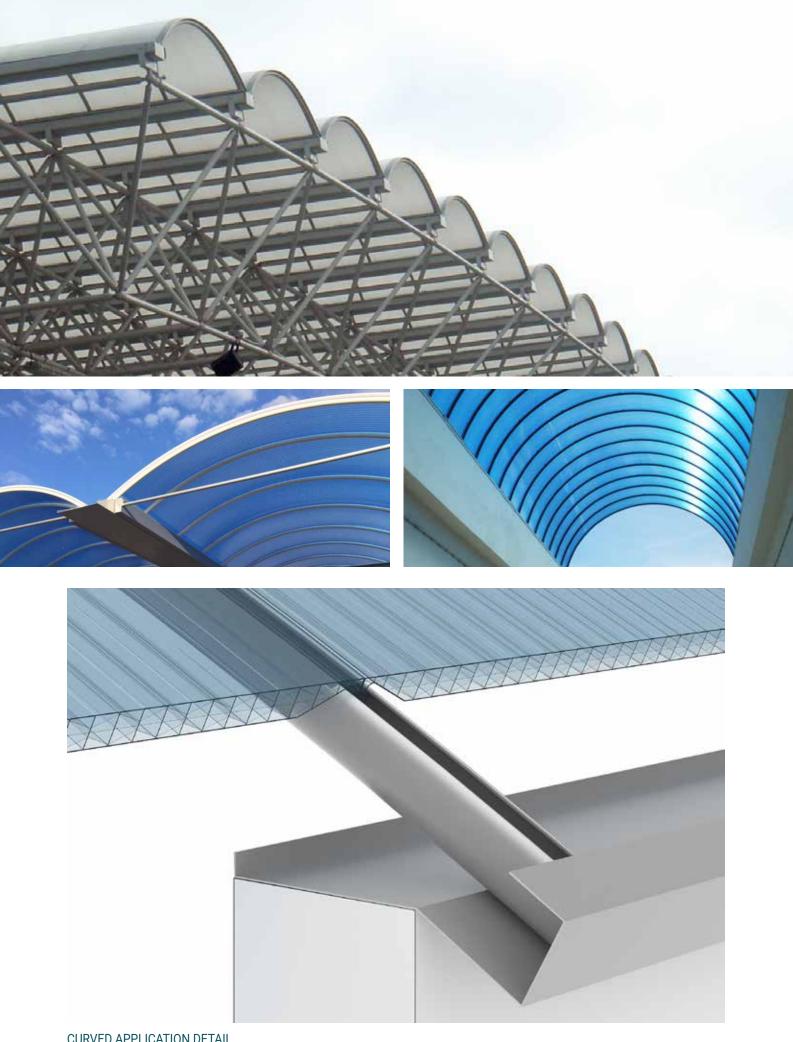
Construction of curved roofings and skylights with polycarbonate multiwall panel type SYSTEM, thickness 12 mm / 16 mm / 20 mm, 5X-walls structure, coextruded UV protection on the external layer, closing of heads with aluminium adhesive tape (or thermosealing on request); 655 mm width, length on request; estimated thermal transmittance Ug = 2,4 W/m<sup>2</sup> K (for 12 mm thick.) / Ug = 2,2 W/m<sup>2</sup> K (for 16 mm thick.) / Ug = 1,9 W/m<sup>2</sup> K (for 20 mm thick.); ten-years limited warranty. Minimum bending radius: 2000 mm for 12 mm thick., 3500 mm for 16 mm thick., 5000 mm for 20 mm thick. Accessories: round plastic coated steel joining profiles (thickness 1 mm); square plastic coated steel joining profile (thickness 1 mm); anodized aluminium sill profiles; aluminium spacers; final PC profile.



RAW ALUMINIUM SPACERS

FINAL PC PROFILE (for 12 mm - 16 mm - 20 mm diameter)



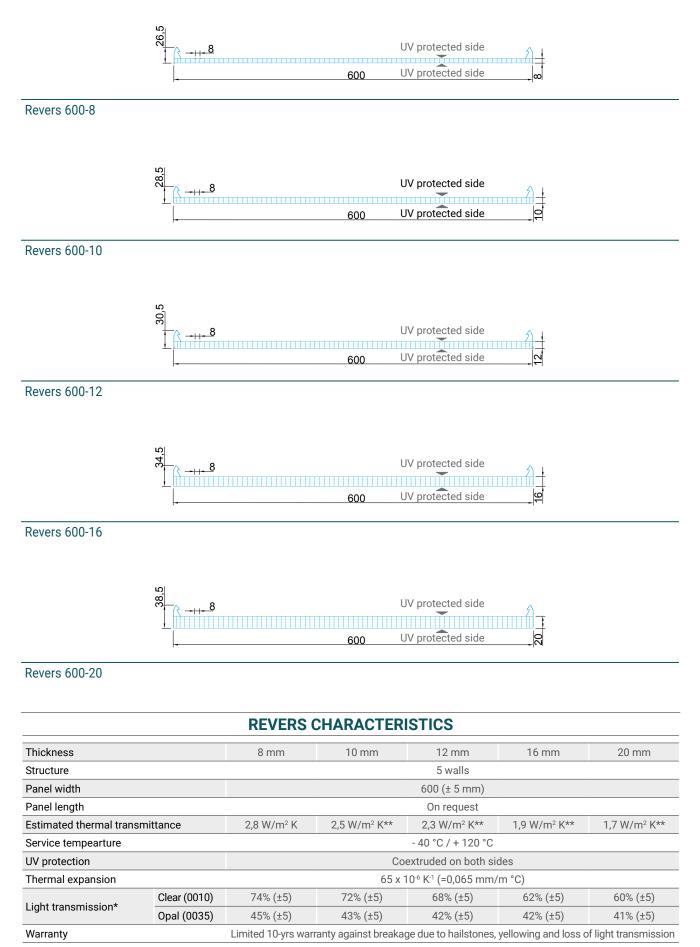


CURVED APPLICATION DETAIL





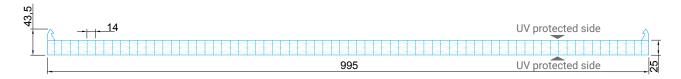




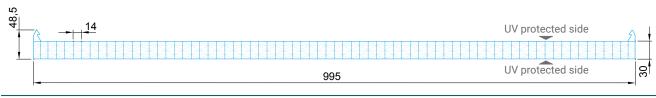
\* value according to internal test method

\*\* value certified according to UNI EN ISO 10077-2:2012

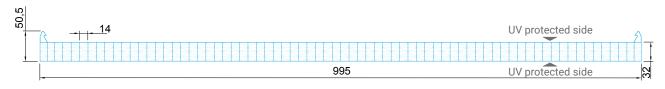




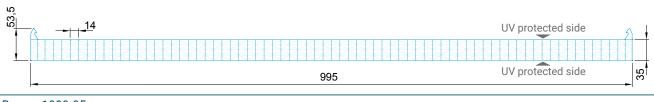
Revers 1000-25



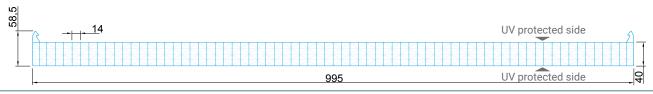
Revers 1000-30



Revers 1000-32



Revers 1000-35



Revers 1000-40

#### **REVERS CHARACTERISTICS**

Thickness		25 mm	30 mm	32 mm	35 mm	40 mm	
Structure				9 walls double X			
Panel width				995 (± 5 mm)			
Panel length				On request			
Estimated thermal trans	mittance	1,4 W/m² K 1,3 W/m² K 1,2 W/m² K 1,3 W/m² K 1,1 W/m² k					
Service tempearture		- 40 °C / + 120 °C					
UV protection		Coextruded on the external side (on request on both sides)					
Thermal expansion	pansion 65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)						
Light transmission*	Clear (0010)	58% (±5)	56% (±5)	55% (±5)	53% (±5)	49% (±5)	
	Opal (0035)	40% (±5)	39% (±5)	39% (±5)	39% (±5)	38% (±5)	
Warranty		Limited 10-yrs warr	anty against breakag	ge due to hailstones,	yellowing and loss o	of light transmissi	

\* value according to internal test method \*\* value certified according to UNI EN ISO 10077-2:2012



# **APPLICATION AND STRENGTHS**

REVERS is an innovative modular polycarbonate system that allows the realization of roofs and vertical walls thanks to joining profile connecting the panels to each other.

These joining profiles can be made of polycarbonate, to achieve maximum transparency of the solution without visible visual interruption, or aluminum, to ensure greater load resistance.

The interlocking joning system between the panel and the profile, without any fixing through the polycarbonate, allows also:

- · to reduce the typical noise of polycarbonate systems when elements expad / shrink due to temperature variations
- install solutions with considerable lengths of panels without risk of breakage at the fixing points

The ends of the panels are sealed with aluminium adhesive tape or thermo sealed (max 16 mm thickness). The different joining profiles required for the installation that panels are respectively:

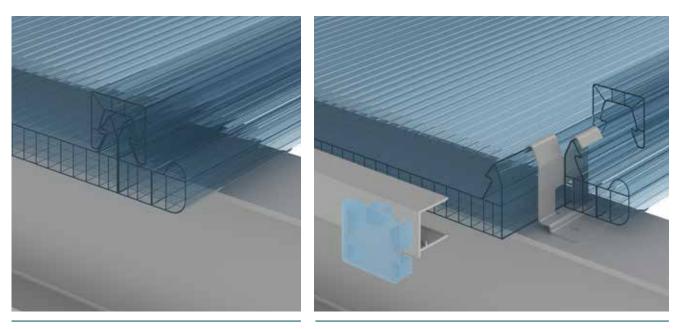
- with teeth upwards with polycarbonate joining profile installed outside
- with teeth downwards with aluminium joining profile installed inside
- A complete range of accessories makes it possible to create aesthetically pleasing solutions.

All panels of REVERS 600 range are produced with standard two UV protected sides while panels of REVERS 1000 range are produced with standard one UV protected side (on request also this one can have two UV protected sides).

# **SPECIFICATIONS**

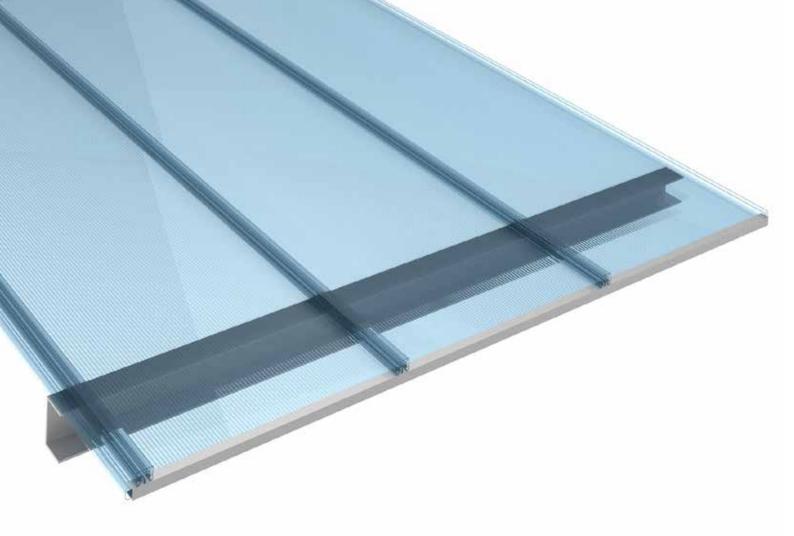
Construction of sloped roofings and/or vertical glazings with polycarbonate multiwall panel type REVERS 600, thickness 8 mm / 10 mm / 12 mm / 16 mm / 20 mm, 5-walls structure, coextruded UV protection on both sides, closing of heads with aluminium adhesive tape (or thermosealing on request, max 16 mm thickness); 600 mm width, length on request; estimated thermal transmittance Ug = 2,8 W/m<sup>2</sup> K (for 8 mm thick) / Ug = 2,5 W/m<sup>2</sup> K (for 10 mm thick) / Ug = 2,3 W/m<sup>2</sup> K (for 12 mm thick) / Ug = 1,9 W/m<sup>2</sup> K (for 16 mm thick) / Ug = 1,7 W/m<sup>2</sup> K (for 20 mm thick); ten-years limited warranty. Accessories: anodized aluminium joining profile; UV protected polycarbonate joining profile; steel fixing hooks; closing aluminium profiles; cap for PC joining profile; final polycarbonate profile.

Construction of sloped roofings and/or vertical glazings with polycarbonate multiwall panel type REVERS 1000, thickness 25 mm / 32 mm / 40 mm, double X structure, coextruded UV protection on the external side (on request on both sides), closing of heads with aluminium adhesive tape; 995 mm width, length on request; estimated thermal transmittance Ug = 1,4 W/m<sup>2</sup> K (for 25 mm thick.) / Ug = 1,3 W/m<sup>2</sup> K (for 30 mm thick.) / Ug = 1,2 W/m<sup>2</sup> K (for 32 mm thick.) / Ug = 1,3 W/m<sup>2</sup> K (for 35 mm thick.) / Ug = 1,1 W/m<sup>2</sup> K (for 40 mm thick.); ten-years limited warranty. Accessories: anodized aluminium joining profile; UV protected polycarbonate joining profile; steel fixing hooks; closing aluminium profiles; cap for PC joining profile; final polycarbonate profile.



INSTALLATION OF ACCESSORIES



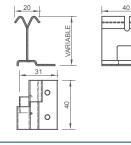


**ROOF APPLICATION** 

# ACCESSORIES



STEEL FIXING HOOKS



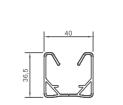




VARIABLE

POLYCARBONATE JOINING PROFILE





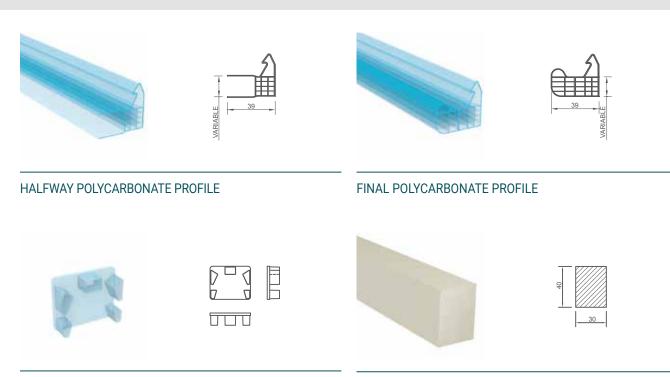
ANODIZED ALUMINIUM JOINING PROFILE

CLOSING ALUMINIUM PROFILE





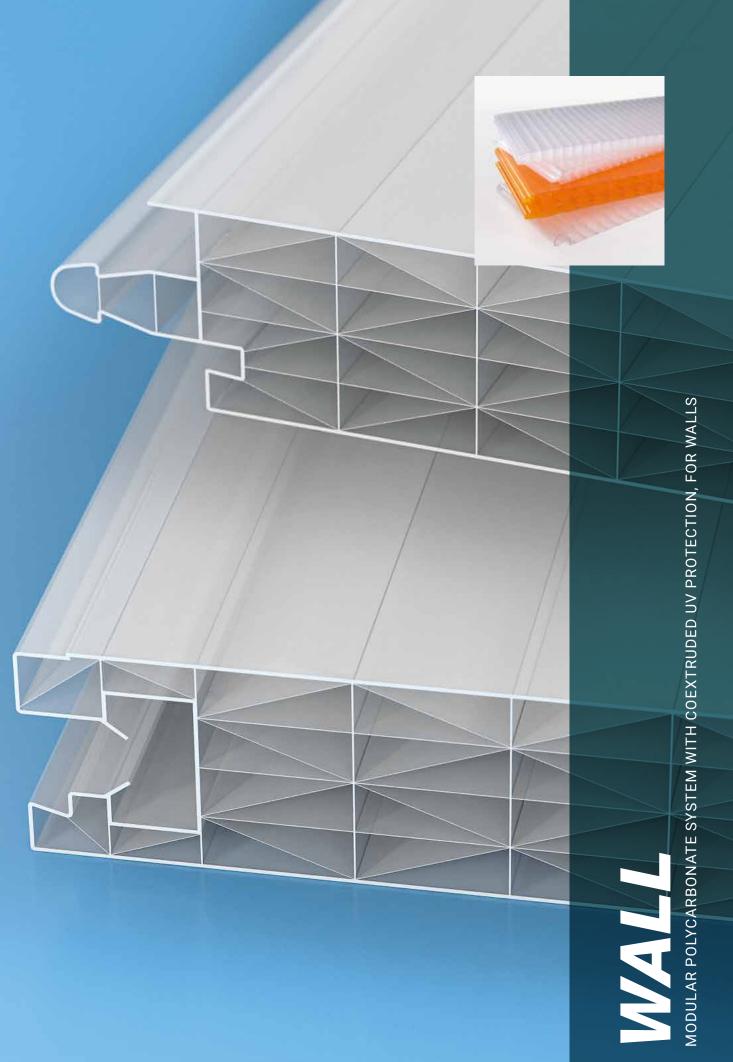




CAP FOR POLYCARBONATE JOINING PROFILE

PE SPACER

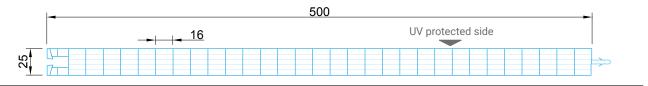




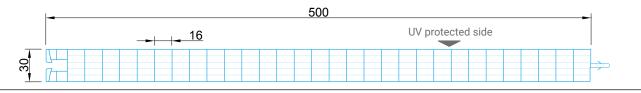




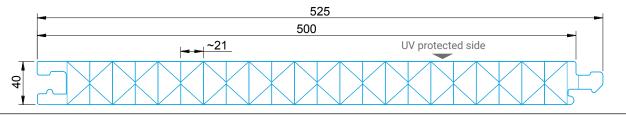




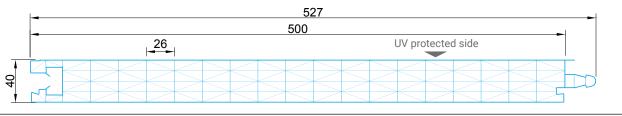
Wall 500-25



Wall 500-30



Wall 500-40 mono X



Wall 500-40 XX

#### WALL CHARACTERISTICS

Thickness		16 mm	20 mm	25 mm	30 mm	40 mm	40 mm
Structure			6 v	alls		4 walls X	9 double X
Cover width			500 (± 5 mm)				
Panel length				On re	quest		
Certified thermal transm	nittance	1,8 W/m <sup>2</sup> K 1,6 W/m <sup>2</sup> K 1,4 W/m <sup>2</sup> K 1,3 W/m <sup>2</sup> K 1,6 W/m <sup>2</sup> K 1,					
Service tempearture		- 40 °C / + 120 °C					
UV protection		Coextruded on the external side					
Thermal expansion		65 x 10 <sup>.6</sup> K <sup>.1</sup> (=0,065 mm/m °C)					
Light transmission*	Clear (0010)	58% (±5)	56% (±5)	54% (±5)	52% (±5)	62% (±5)	49% (±5)**
	Opal (0035)	44% (±5)	42% (±5)	40% (±5)	38% (±5)	52% (±5)	38% (±5)**
Warranty		Limited 10-vrs v	varrantv adainst	preakage due to h	ailstones. vellowi	ng and loss of lig	ht transmissio

\* value according to internal test method

\*\* values according to EN 410 and EN 14500 at CSTB France



# **APPLICATION AND STRENGTHS**

WALL is a tongue&groove modular system, 500 mm width, available in 6-walls structure (thickness 16-20-25-30 mm) and double X structure (40 mm). The thermal transmittance values of the different versions allow to meet the actual requirements required by current regulations.

This is the ideal product for the construction of vertical walls in industrial buildings and thanks to the complete range of accessories (aluminum perimeter profiles, gaskets, fixing hooks, ...) it enables a simple, fast and technically effective installation.

WALL doesn't guarantee perfect waterproofness if installed as roof solution.

# **SPECIFICATIONS**

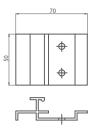
Construction of curtain walls, vertical glazings, sheds with tongue&groove polycarbonate multiwall panel type **WALL 500**, thickness **16 mm / 20 mm / 25 mm / 30 mm**, 6-walls structure, coextruded UV protection on the external side, closing of heads with aluminium adhesive tape (on request available also microperforated aluminium tape); 500 mm width, length on request; estimated thermal transmittance Ug = 1,8 W/m2 K (for 16 mm thick.) / Ug = 1,6 W/m2 K (for 20 mm thick.) / Ug = 1,4 W/m2 K (for 25 mm thick.) / Ug = 1,3 W/m2 K (for 30 mm thick.); ten-years limited warranty. Accessories: anodized aluminium perimeter profiles (raw aluminium on request); EPDM gaskets; aluminium or steel fixing hook (if required).

Construction of curtain walls, vertical glazings, sheds with tongue&groove polycarbonate multiwall panel type **WALL 500/40 MonoX**, thickness **40 mm**, 4 walls X structure, coextruded UV protection on the external side, closing of heads with aluminium adhesive tape (on request available also microperforated aluminium tape); 500 mm width, length on request; certified thermal transmittance Ug = 1,6 W/m<sup>2</sup> K; ten-years limited warranty. Accessories: anodized aluminium perimeter profiles (raw aluminium on request) or anodized aluminium thermal break profiles (raw aluminium on request); EPDM gaskets; aluminium or steel fixing hook (if required).

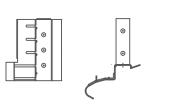
Construction of curtain walls, vertical glazings, sheds with tongue&groove polycarbonate multiwall panel type **WALL 500/40 XX**, thickness **40 mm**, double X structure, coextruded UV protection on the external side, closing of heads with aluminium adhesive tape (on request available also microperforated aluminium tape); 500 mm width, length on request; certified thermal transmittance Ug =  $1,1 \text{ W/m}^2$  K; ten-years limited warranty. Accessories: anodized aluminium perimeter profiles (raw aluminium on request) or anodized aluminium thermal break profiles (raw aluminium on request); EPDM gaskets; aluminium or steel fixing hook (if required).



# ACCESSORIES



ALUMINIUM FIXING HOOK





STEEL FIXING HOOK

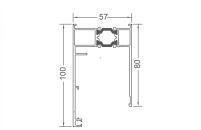
EPDM GASKET





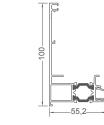


ALUMINIUM THERMAL BREAK UPPER PROFILE





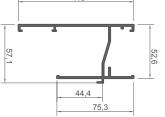


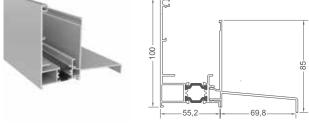


LOWER/SIDE ALUMINIUM PROFILE WITH THERMAL CUT







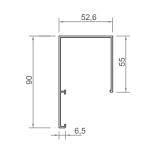


ALUMINIUM UPPER PROFILE

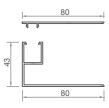






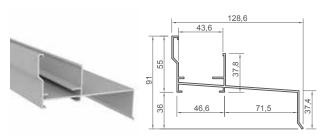




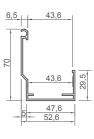


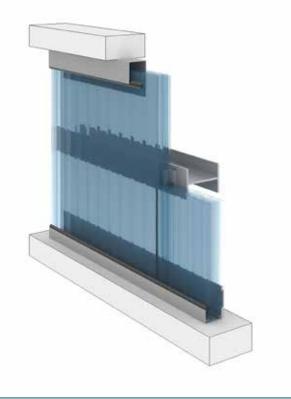
### ALUMINIUM LOWER PROFILE WITH SILL

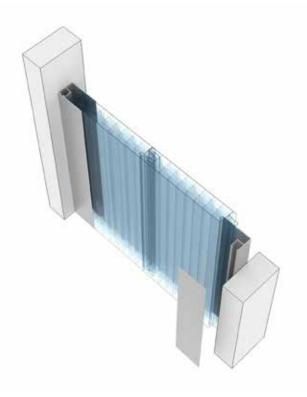
#### ALUMINIUM LOWER PROFILE





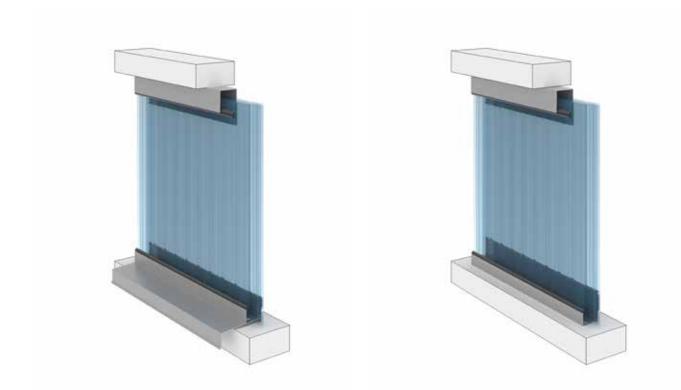






APPLICATION WITH MIDDLE SUPPORT

SIDE DETAIL

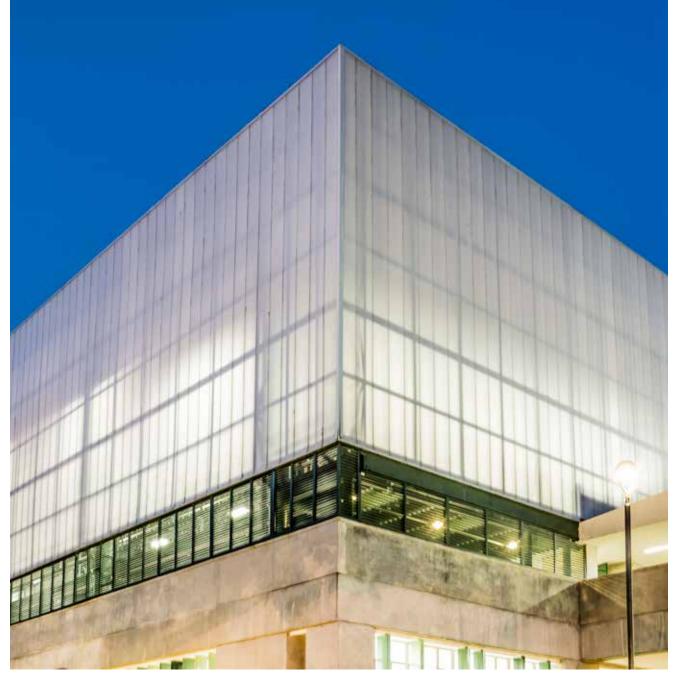


APPLICATION WITH LOWER PROFILE WITH SILL

#### APPLICATION WITH SIMPLE LOWER PROFILE







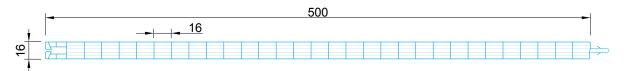




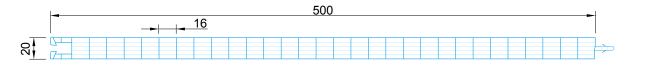




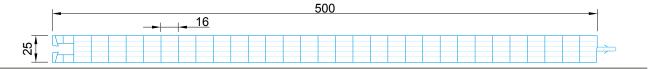
# Ceiling 500-12



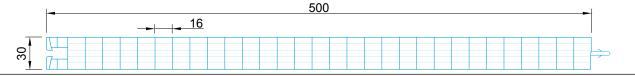
# Ceiling 500-16



# Ceiling 500-20



Ceiling 500-25



### Ceiling 500-30

# **CEILING CHARACTERISTICS**

Thickness		12 mm	16 mm	20 mm	25 mm	30 mm
Structure		6 walls				
Cover width		500 (± 5 mm)				
Panel length		On request				
Estimated thermal transmittance		2,2 W/m <sup>2</sup> K	1,8 W/m <sup>2</sup> K**	1,6 W/m <sup>2</sup> K**	1,4 W/m² K**	1,3 W/m <sup>2</sup> K**
Service tempearture		- 40 °C / + 120 °C				
UV protection		None (only inside application)				
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)				
Light transmission*	Clear (0010)	58% (±5)	58% (±5)	56% (±5)	54% (±5)	52% (±5)
	Opal (0035)	44% (±5)	44% (±5)	42% (±5)	40% (±5)	38% (±5)
Warranty		None				
* value according to inte	ernal test method *	* value certified acc	cording to UNI EN IS	0 10077-2:2012		

# APPLICATION AND STRENGTHS

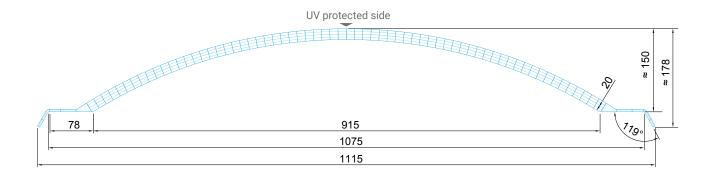
CEILING modular panels are mainly installed as false ceilings in industrial buildings. The various thicknesses available (from 12 mm to 30 mm) and the innovative 6-walls structure allow to comply with the thermal transmittance values required by current laws also coupled with GRECA, LIGHT or TOPLIGHT sheets. All CEILING panels are supplied without any UV protection because they are installed in solutions where the product isn't exposed to direct sunlight and snow / wind.

# **SPECIFICATIONS**

Construction of false ceilings with tongue&groove polycarbonate multiwall panel type CEILING, thickness 12 mm / 16 mm / 20 mm / 25 mm / 30 mm, 6-walls structure, closing of heads with aluminium adhesive tape (on request available also microperforated aluminium tape); 500 mm width, length on request; estimated thermal transmittance Ug = 2,2 W/ m<sup>2</sup> K (for 12 mm thick.) / Ug = 1,8 W/ m<sup>2</sup> K (for 16 mm thick.) / Ug = 1,6 W/ m<sup>2</sup> K (for 20 mm thick.) / Ug = 1,4 W/ m<sup>2</sup> K (for 25 mm thick.) / Ug = 1,3 W/ m<sup>2</sup> K (for 30 mm thick.).





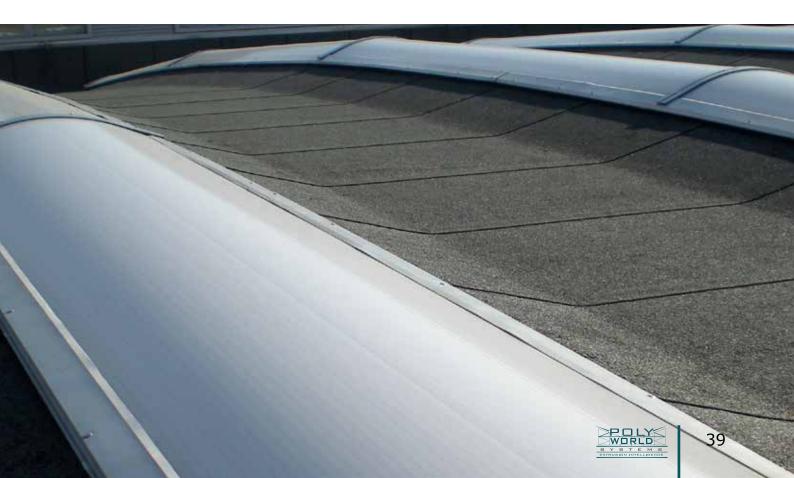


### Radius 1000

# **RADIUS 1000 CHARACTERISTICS**

Thickness		20 mm		
Structure		5 walls		
Panel width		1115 (± 5 mm)		
Panel length		On request		
Estimated thermal transmittance		1,6 W/m² K		
Service tempearture		- 40 °C / + 120 °C		
UV protection		Coextruded on the external side		
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)		
Light transmission*	Clear (0010)	55% (±5)		
	Opal (0035)	35% (±5)		
Warranty		Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission		

\* value according to internal test method



# **APPLICATION AND STRENGTHS**

RADIUS is an extruded multiwall polycarbonate panel produced already curved, with a 5-walls structure and a uniform thickness of 20 mm throughout the arch. Its special shape, OBTAINED DURING THE EXTRUSION PROCESS, allows it to have a particularly strong structure. These features make RADIUS a unique system, ensuring:

- high load resistance
- good thermal insulation (uniform throughout the arch)
- no limits due to thermal expansion movements because there isn't any fixing screw passing through polycarbonate
- possibility of extruding the sheet in one element, ensuring perfect air/water-tightness
- a uniform surface throughout the length of the skylight, without the typical interruption of modular systems or aluminium profiles used with multiwall sheets

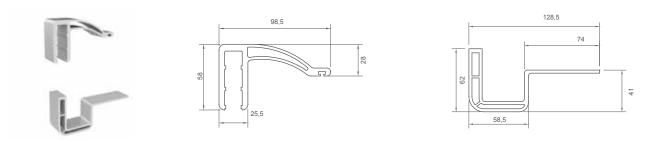
RADIUS is UV-protected thanks to the coextrusion applied to the outside surface that makes the product resistant to weather, accidental shocks, temperature fluctuations and hail. This innovative system allows a faster installation if compared with the classic solutions used today.

The fixing of the RADIUS is achieved through two metal profiles that allow the thermal expansion of the panel without causing breakage or infiltration. The bottom of the profile is screwed onto the concrete curb or on the metal structure of the sandwich panel so that the panel can be put in place. The upper part of the profile is then secured to the bottom without any drilling of the RADIUS panels. Aluminum joining profiles (required for particularly long skylights) and final heads complete the system.

# SPECIFICATIONS

Construction of flat skylights with polycarbonate multiwall panel type RADIUS 1000, thickness 20 mm, 5-walls structure, coextruded UV protection on the external side, closing of heads with aluminium adhesive tape (on request available also microperforated aluminium tape); 1115 mm width (chord), length on request; estimated thermal transmittance Ug = 1,6 W/m<sup>2</sup> K; ten-years limited warranty. Accessories: fixing elements provided with EPDM gaskets; closing of head with metal gables; special aluminium joining profiles between sheets (if required)

# ACCESSORIES



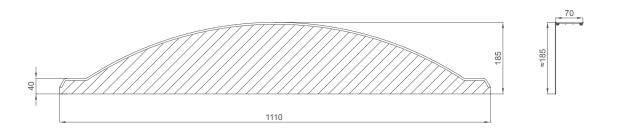
# ALUMINIUM FIXING ELEMENT



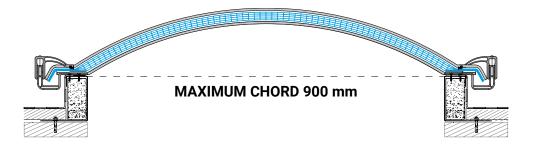
# JOINING PROFILE





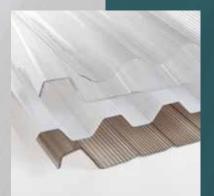


CLOSING GABLES



### INSTALLATION ON SANDWICH PANEL OR CONCRETE KERB





MULTIWALL CORRUGATED SHEETS (THICKNESS 2,5 MM) WITH COEXTRUDED UV PROTECTION **LHD** 





POLY WORLD



# LIGHT CHARACTERISTICS

Thickness		2,5 mm		
Structure		2 walls		
Panel length		On request (maximum recommended length 7 m)		
Estimated thermal transmittance		4,7 W/m² K		
Service tempearture		- 40 °C / + 120 °C		
UV protection		Coextruded on the external side		
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)		
Light transmission*	Clear (0010)	84% (±5)		
	Opal (0035)	76% (±5)		
Warranty		Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission		

\* value according to internal test method

# **APPLICATION AND STRENGTHS**

LIGHT sheets are multiwall corrugated sheets 2,5 mm thickness.

This product is extremely adaptable because it can used in the middle of the roof, in ridge to gutter applications and/or in side overlap with most metal corrugated sheets or sandwich panels currently available on the market. The multiwall structure of these sheets offers many advantages in terms of thermal insulation, limited condensation formation (compared to the same solid corrugated polycarbonate shapes), robustness and load resistance. LIGHT sheets can also be coupled with our CEILING panels used as false ceiling to increase the thermal insulation of the light spots on the industrial roofs.

# **SPECIFICATIONS**

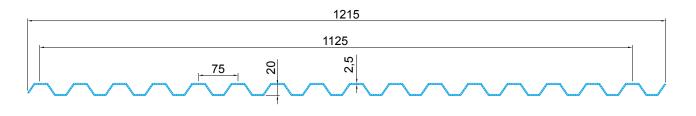
Construction of skylights and/or spot lights with polycarbonate multiwall corrugated sheets type LIGHT, thickness 2,5 mm, 2-walls structure, coextruded UV protection on the external side, thermosealed heads; variable width according to different shapes, length on request; estimated thermal transmittance Ug = 4,7 W/m<sup>2</sup> K; ten-years limited warranty. The following accessories are available on request: PE spacer (upper and / or lower) only for some shapes, fixing screw (for metal supports only), aluminium caps.

# **AVAILABLE SHAPES**

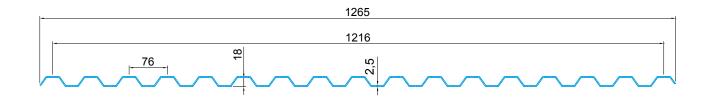
Poly World Systems can provide a wide range of different profiles, off-the-shelf products, compatible with most common metal corrugated sheets and/or sandwich panels available on the market. <u>New profiles and custom-made products can be developed on Client's request.</u>



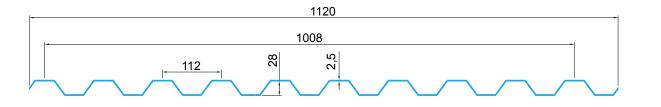
43



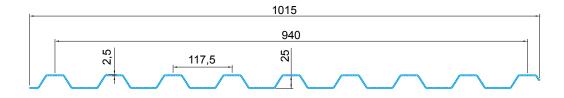
LIGHT T 75/20



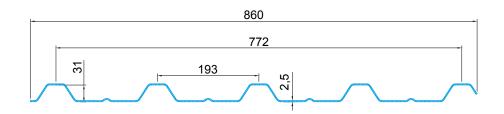
LIGHT T 76/18



LIGHT T 112/28

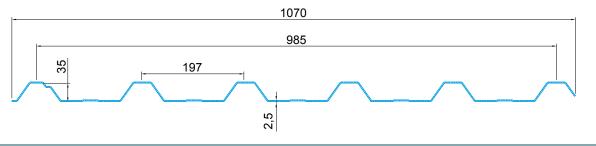


LIGHT T 117/25 compatible with "ISOLPACK SL940"

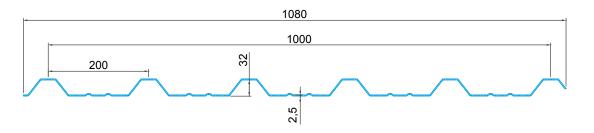


LIGHT T 193/32 compatible with "ONDULIT COVERIB 850"

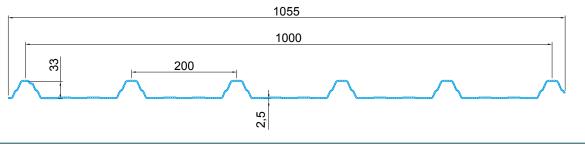




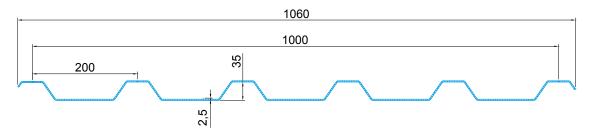
LIGHT T 197/35 compatible with "SILMA 6"



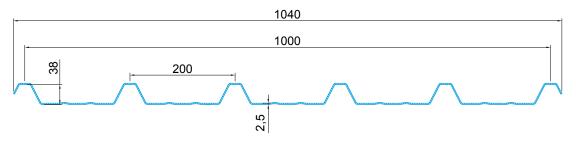
LIGHT T 200/32 compatible with "HIANSA MT32"



LIGHT T 200/35 compatible with "SANDRINI SAND35"

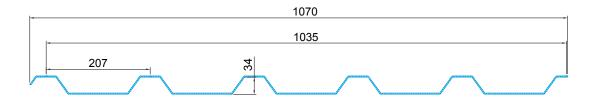


LIGHT T 200/35 compatible with "TR35"

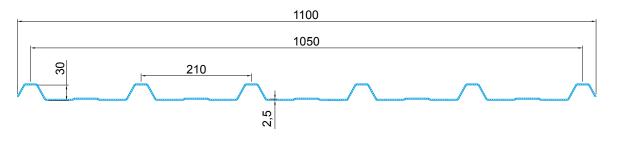


LIGHT T 200/38 compatible with "LATTONEDIL ISOCOPRE"

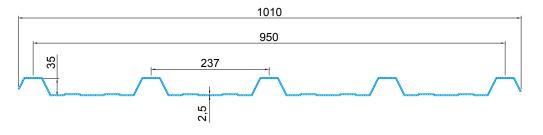




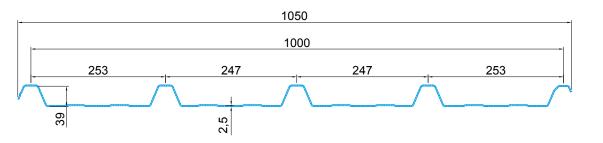
LIGHT T 207/35 compatible with "KLOCKNER 35/207"



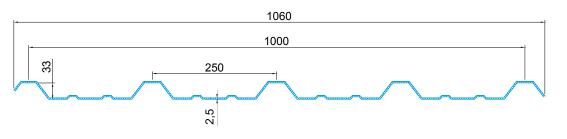
LIGHT T 210/30 compatible with "AISLUX 210/30"



LIGHT T 237/35 compatible with "DANIELI W950"

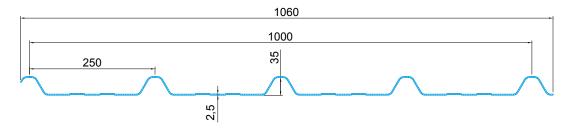


LIGHT T 247/39 compatible with "SILEX"

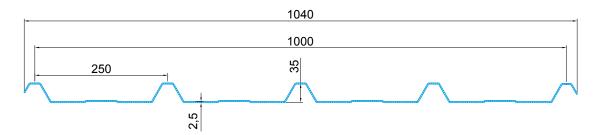


LIGHT T 250/33 compatible with "DANIELI SR 250R"

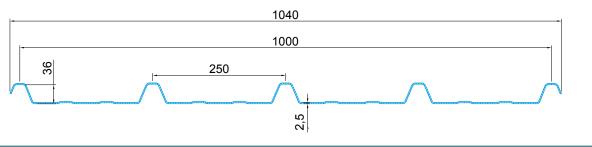




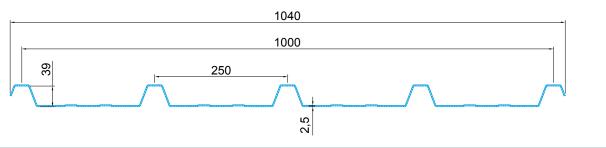
LIGHT T 250/35 compatible with "REX 33.250.1000"



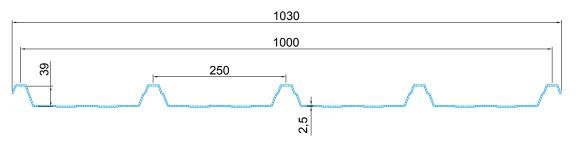
LIGHT T 250/35 compatible with "METECNO G5 TOPROOF"



LIGHT T 250/37 compatible with "LATTONEDIL EUROCINQUE"

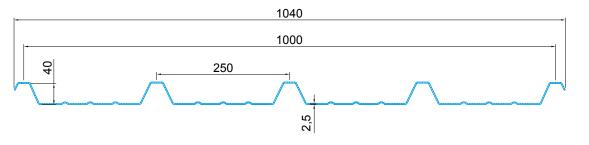




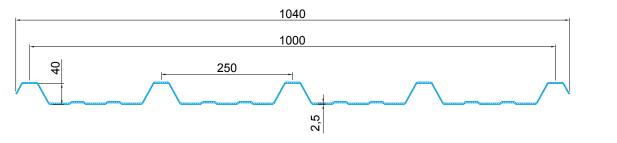


LIGHT T 250/39 compatible with "ITALPANNELLI PENTA"

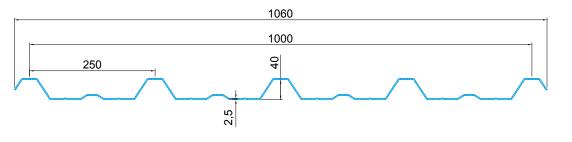




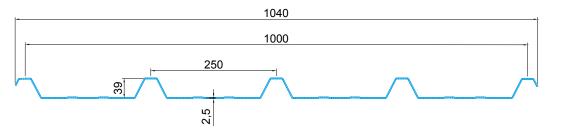
LIGHT T 250/40 compatible with "ISOLPACK DELTA 5A"



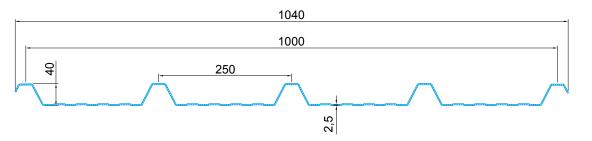
LIGHT T 250/40 compatible with "AISLUX 250/40"



LIGHT T 250/40 compatible with "ISOLPACK RW1000"

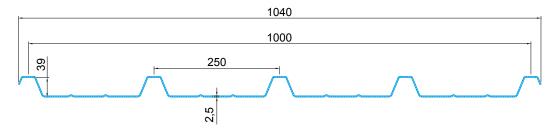




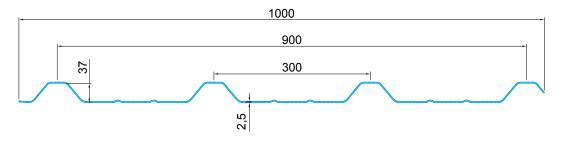


LIGHT T 250/40 compatible with "ALUBEL DACH"

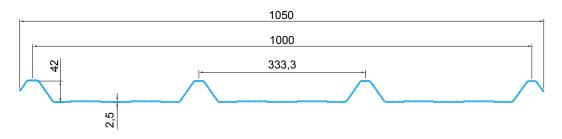




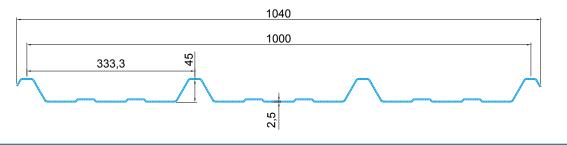
LIGHT T 250/40 compatible with "ISOPAN ISOCOP"



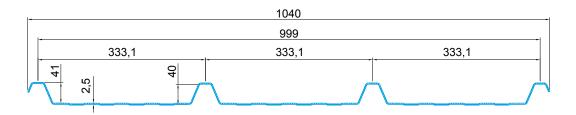
LIGHT T 300/37 compatible with "ONDULIT COVERIB 1000"



LIGHT T 333/42 compatible with "KINGSPAN KS1000"

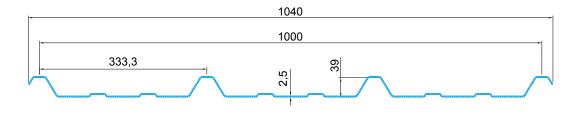




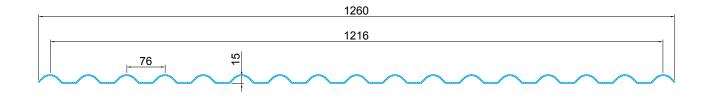


LIGHT T 333/40 compatible with "ISOCINDU ISOCOP 4G"

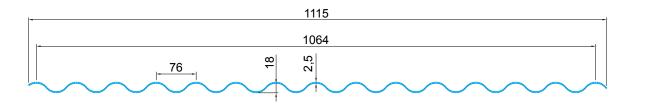




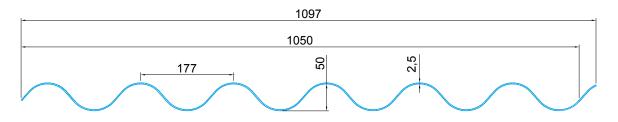
LIGHT T 333/39 compatible with "HAIRONVILLE 39/333"



LIGHT W 76/15

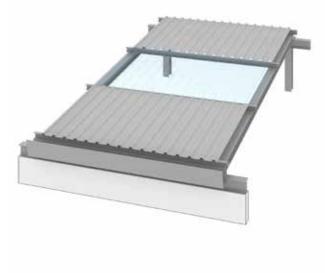


LIGHT W 76/18



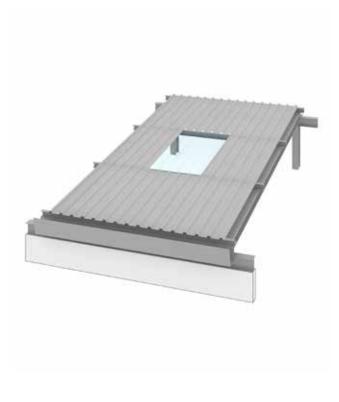
LIGHT W 177/51 compatible with "ETERNIT 177/51"





APPLICATION WITH OVERLAPPING

MIDDLE APPLICATION







MICROPRISMA MILLERIGHE

# TOPLIGHT SOLID CORRUGATED SHEETS WITH COEXTRUDED UV PROTECTION







# **TOPLIGHT CHARACTERISTICS**

Thickness		0,8 mm - 2 mm*		
Structure		Solid sheet		
Panel length		On request (maximum recommended length 7 m)		
Service tempearture		- 40 °C / + 120 °C		
UV protection		Coextruded on the external side (on request on both sides)		
Thermal expansion		65 x 10 <sup>-6</sup> K <sup>-1</sup> (=0,065 mm/m °C)		
Light transmission**	Clear (T011)	90% (±5)		
	Opal (T035)	76% (±5)		
Warranty		Limited 10 vrs warranty against brookage due to bailstones vellowing and less of light transmiss		

Warranty Limited 10-yrs warranty against breakage due to hailstones, yellowing and loss of light transmission

\* The available thicknesses can also vary according to the shapes. Please contact our offices for further details.

\*\* value determined by internal test (for some colors it is not possible to meet the tolerances indicated, for more information please contact our offices)

# **APPLICATION AND STRENGTHS**

TOPLIGHT sheets are solid corrugated polycarbonate sheets with coextruded UV protection on the outer side (on request it is possible to produce sheets with UV protection on both sides).

TOPLIGHT sheets are available with ten-years warranty against hail, yellowing and loss of light transmission and have an European fire certification (Euroclass B-s1-d0).

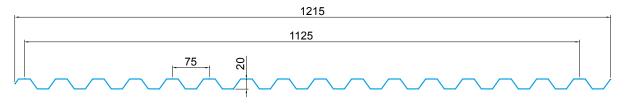
TOPLIGHT is an ideal product for industrial application, in combination with the main metal corrugated sheets or sandwich panels available on the market, as well as suitable for wall and roof applications in greenhouses. TOPLIGHT is also available in embedded versions:

- TOPLIGHT MICROPRISMA: sheets with microprismatic inner side, ideal for optimum diffusion of light.
- TOPLIGHT MILLERIGHE: sheets with inner side with miller frame for a permanent anti-condensation effect.

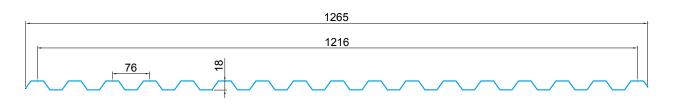
# **AVAILABLE SHAPES**

Poly World Systems can provide a wide range of different profiles, off-the-shelf products, compatible with most common metal corrugated sheets and/or sandwich panels available on the market. <u>New profiles and custom-made products can be developed on Client's request.</u>

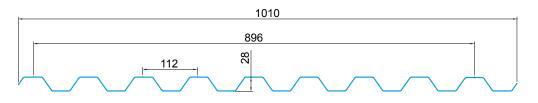




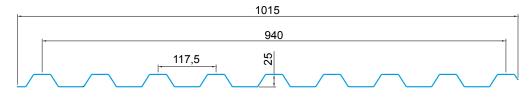
TOPLIGHT T 75/20



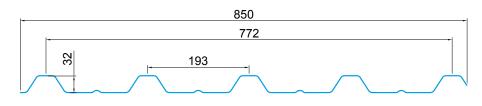
TOPLIGHT T 76/18



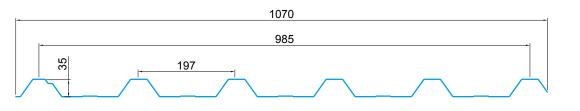
TOPLIGHT T 112/28



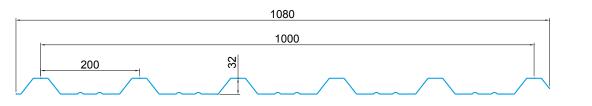
TOPLIGHT T 117/25 compatible with "ISOLPACK SL940"



TOPLIGHT T 193/32 compatible with "ONDULIT COVERIB 850"



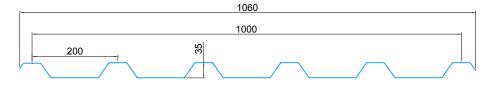
TOPLIGHT T 197/35 compatible with "SILMA 6"



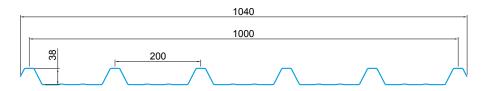
TOPLIGHT T 200/32 compatible with "HIANSA MT32"



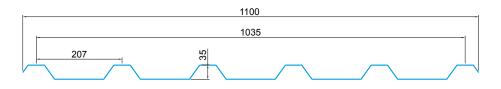
54



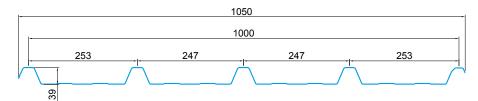
# TOPLIGHT T 200/35 compatible with "TR35"



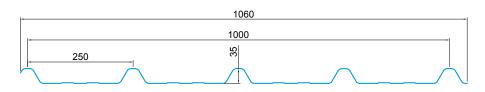
# TOPLIGHT T 200/38 compatible with "LATTONEDIL ISOCOPRE"



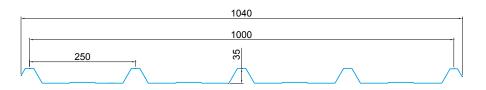
TOPLIGHT T 207/35 compatible with "KLOCKNER 35/207"



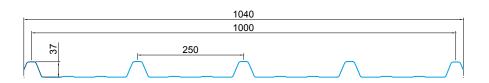
TOPLIGHT T 247/39 compatible with "SILEX"



TOPLIGHT T 250/35 compatible with "REX 33.250.1000"

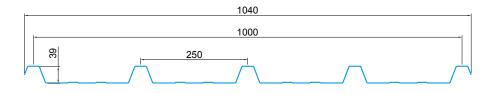


### TOPLIGHT T 250/35 compatible with "METECNO G5 TOPROOF"

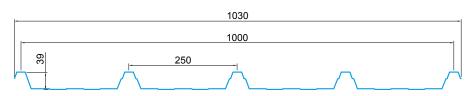


TOPLIGHT T 250/37 compatible with "LATTONEDIL EUROCINQUE"

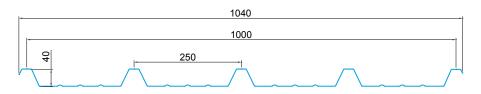




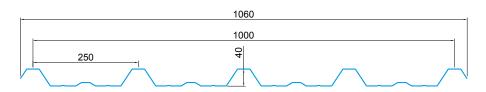
# TOPLIGHT T 250/39 compatible with "MARCEGAGLIA BROLLO"



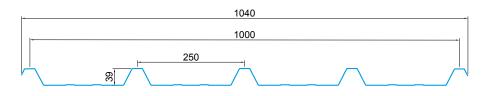
TOPLIGHT T 250/39 compatible with "ITALPANNELLI PENTA"



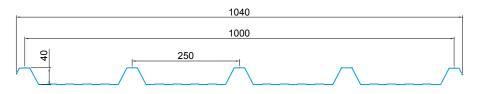
TOPLIGHT T 250/40 compatible with "ISOLPACK DELTA 5A"



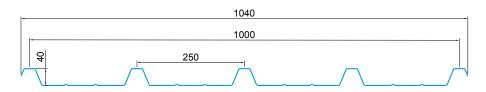
TOPLIGHT T 250/40 compatible with "ISOLPACK RW1000"



TOPLIGHT T 250/40 compatible with "SANDRINI SAND40"



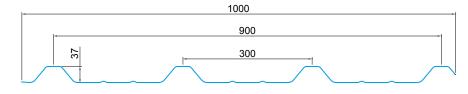
### TOPLIGHT T 250/40 compatible with "ALUBEL DACH"



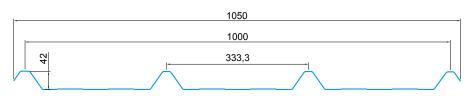
TOPLIGHT T 250/40 compatible with "ISOPAN ISOCOP"



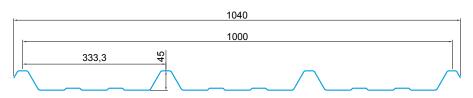
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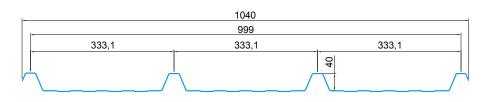
# TOPLIGHT T 300/37 compatible with "ONDULIT COVERIB 1000"



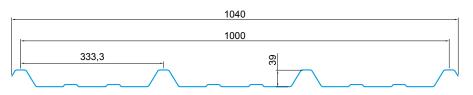
# TOPLIGHT T 333/42 compatible with "KINGSPAN KS1000"



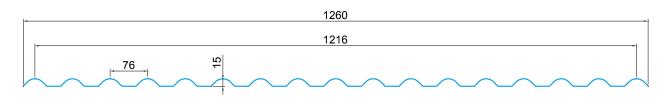
TOPLIGHT T 333/45 compatible with "REX 45.333.1000"



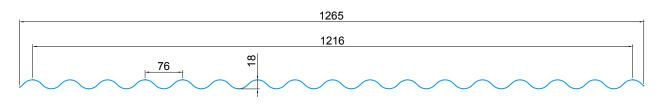
TOPLIGHT T 333/40 compatible with "ISOCINDU ISOCOP 4G"



# TOPLIGHT T 333/39 compatible with "HAIRONVILLE 39/333"

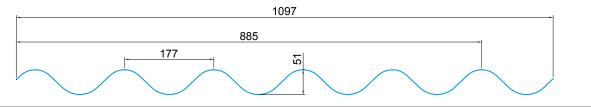


TOPLIGHT W 76/15

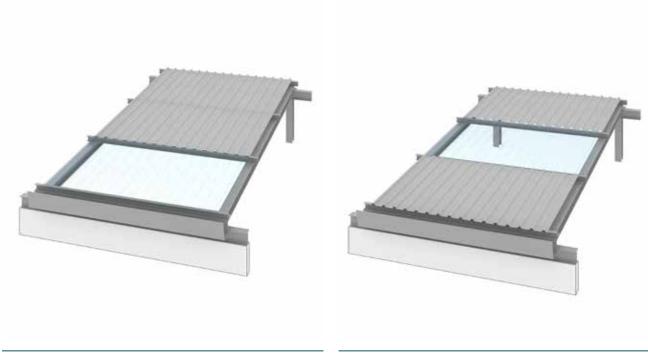


TOPLIGHT W 76/18



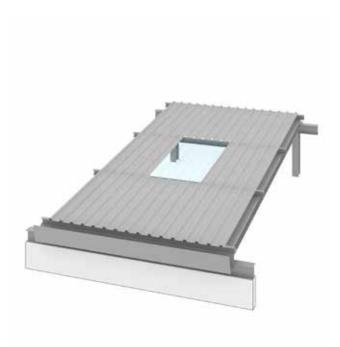






# APPLICATION WITH OVERLAPPING

MIDDLE APPLICATION



APPLICATION WITH 4 SIDES OVERLAPPING





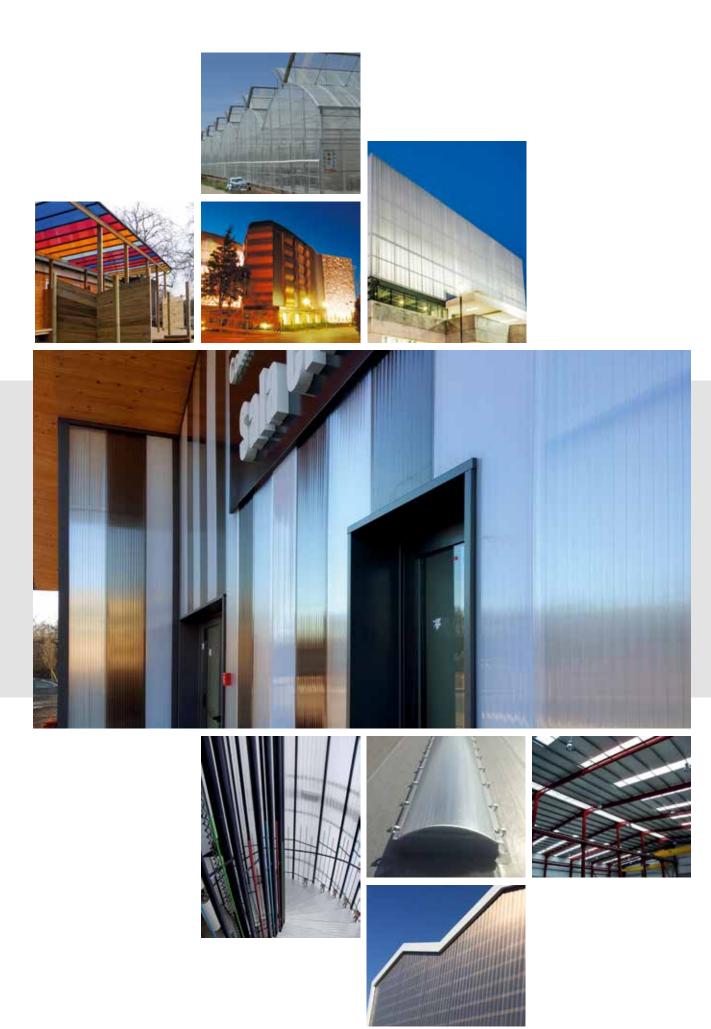














# CUTTING-EDGE POLYCARBONATE SOLUTIONS FOR AN EVER-EVOLVING CONSTRUCTION INDUSTRY



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