GENERAL CATALOGUE PLASTIC BUILDING PRODUCT

- COMPANY PROFILE
- MODULAR SYSTEMS
- MULTIWALL SHEETS
- SOLID SHEETS

dott.gallina

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SUMMARY

COMPANY PROFILE

1

Industrie Materie Plastiche Dott. Gallina Srl was founded in 1960 by Pier Aulo Gallina, originally to manufacture profiles for the automotive industry.
With developments in technology and the expansion of the market for thermoplastic materials, Dott. Gallina extended its range of products to include sectors such as construction and industry and is now a leading name on the international market.
The company currently has a workforce of some 150 people and production plants in Italy, Greece, Poland, the US and India.
Dott. Gallina manufactures plastic profiles for bodywork and upholstery for the automotive sector and supplies multi-wall sheets, solid sheets and modular polycarbonate panels for roofing and glazing applications to the construction industry.
These products are rapidly gaining ground in the marketplace for building materials due to their optical properties (transparency) similar to that of glass and superior mechanical and thermal characteristics.
Dott. Gallina is at the forefront of this development, committed to a policy of engineering and technological research, investing in leading-edge equipment and implementing strict quality control procedures.
The catalogue, with its new graphics and revised technical content, is a guide to our products and accessories that will help you choose the best solution depending on the type of application and technical specifications.
Our modular polycarbonate systems, multi-wall and solid polycarbonate sheets are innovative products and all guarantee good physical, mechanical and aesthetic properties.

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proimpianti S.R.L.

GALLINA POLAND

GA PLASTICS

GALLINA USA

TECHNOLOGY

POLYCARBONATE IN THE CONSTRUCTION INDUSTRY

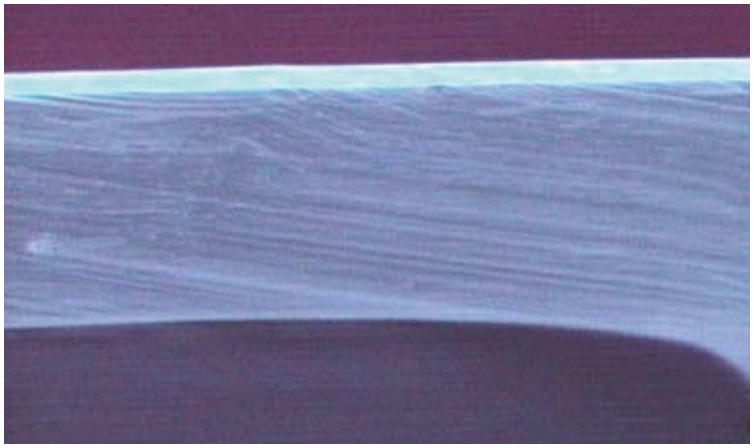
Polycarbonate is an innovative engineering plastic that is also versatile due to its transparency, good thermal insulation and impact strength. This makes it suitable for use in a wide range of residential and industrial building applications.

THE PRODUCTION PROCESS

Extrusion is a process used to produce continuously formed plastic multi-wall profiles and solid sheets.

UV PROTECTION

All products are co-extruded to ensure protection against exposure to ultraviolet radiation, extending their life and delaying the natural ageing of the material.



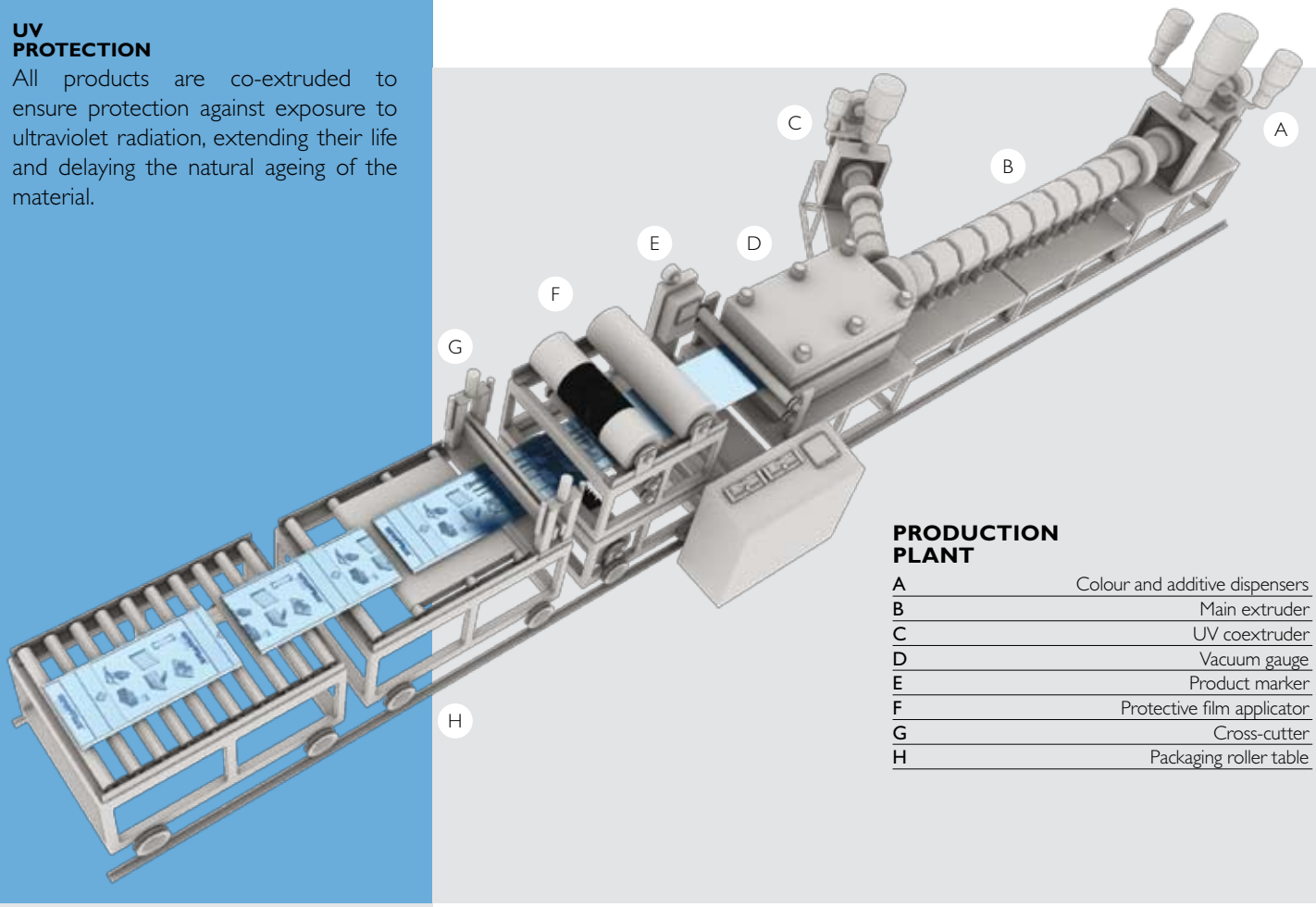
COEXTRUSION

Coextrusion observed with a microscope.

PoliCarb® MULTIWALL SHEETS

PoliComp® SOLID SHEETS

arcoPlus® MODULAR SYSTEMS



PRODUCTION PLANT

A	Colour and additive dispensers
B	Main extruder
C	UV coextruder
D	Vacuum gauge
E	Product marker
F	Protective film applicator
G	Cross-cutter
H	Packaging roller table



CERTIFICATION

QUALITY SYSTEM

The company operates a quality system certified to:

- ISO 9001
- ISO 14001
- ISO TS 16949

SINCERT
SISTEMA QUALITA' CERTIFICATO
[CERTO]
ISO 9001:2000
ISO 14001

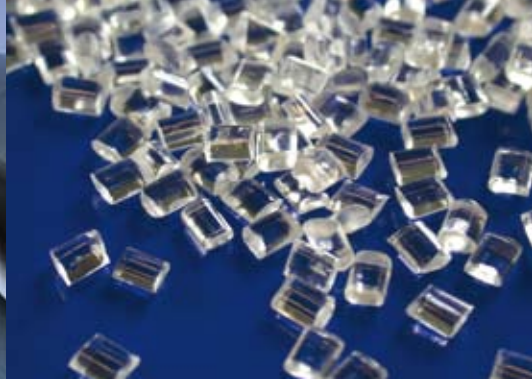
PRODUCT CERTIFICATION

Products are certified by authoritative laboratories and international bodies.

For further information please visit our website, www.gallina.it.

CERTIFICATION BODIES

ITC CSTB SOCOTEC ES MIAMI-DADE COUNTY



POLYCARBONATE

LIGHTWEIGHT

Polycarbonate is a lightweight material that is used in the construction industry to reduce building costs while guaranteeing compliance with positive and negative wind load requirements.

TRANSPARENT

A key feature of polycarbonate is its transparency. The use of natural lighting, achieved by installing transparent polycarbonate roofing and walls, creates a more comfortable ambience while also ensuring good thermal insulation. Polycarbonate can be suitably tinted to modulate light transmission, optimise shading and thus reduce overheating inside the building. Coloured pigments are used to achieve pleasant colour effects to satisfy the most demanding aesthetic and architectural requirements.

VERSATILE

We supply an extensive range of products for use in the construction of transparent roofing and walls, skylights, fixed and openable insulated windows.
Our continuous research has led to the development of a series of steel and aluminium accessories to complete the range.
These are designed to make installation simple and safe and ensure compliance with the applicable fire and load strength ratings and safety of building requirements. Our products are all certified to the latest thermal insulation and energy saving standards.

SAFE

Polycarbonate has a particularly high impact strength. Our products are therefore highly resistant to accidental impacts and hail and meet the requirements of safety standards for transparent glazing in public and work environments.

PHYSICAL PROPERTIES

	VALUE	TEST METHOD
Density	1.200 Kg/m^3	ISO 1183 - DIN 53479
Water absorption	± 0.19 %	ASTM D570

OPTICAL PROPERTIES

	VALUE	TEST METHOD
Light transmission	89 %	ASTM D570
Refraction index	1.58	ISO 489 - DIN 54391

MECHANICAL PROPERTIES

	VALUE	TEST METHOD
Resistance to tensile stress	66 MPa	ISO R527 DIN 53455
Resistance to yield stress	60 MPa	ISO R527 DIN 53455
Tensile modulus	2.300 MPa	ISO 178
Elongation at break	150 %	ISO R527 DIN 53455
Izod impact	860 J/m	ISO 180/4A

THERMAL PROPERTIES

	VALUE	TEST METHOD
Application temperature	-40 +120°C	
Linear thermal expansion	0,065 mm/m°C	
Vicat (B/50)	151 °C	ISO 306 - DIN 53460

UV AND HAIL-RESISTANT

The exterior surface of the panel is co-extruded with high-performance UV-absorbing polycarbonate to ensure excellent protection against ultra-violet rays, hail and accidental impacts even after prolonged exposure to sunlight.

AN ENVIRONMENTALLY FRIENDLY MATERIAL

The various phases of polycarbonate processing involve very low energy consumption and environmental impact.
Polycarbonate is an energy-efficient solution and is totally recyclable at the end of its life.



CHEMICAL RESISTANCE

	AGENT	VARIATION
ALCOHOLS	Methyl alcohol	Cracking
	Ethyl alcohol 50%	Unchanged
	n-Butyl alcohol	Unchanged
	Ethylene glycol	Unchanged
ALKALI	Sodium hydrate 1%	Unchanged
	Sodium hydrate 10%	Clouding
	Ammonium hydrate 10%	Browning
	Calcium hydrate 10%	Unchanged
INORGANIC ACIDS	Hydrochloric acid 35%	Cracking
	Hydrochloric acid 10%	Unchanged
	Sulphuric acid 70%	Unchanged
	Sulphuric acid 30%	Yellowing
	Nitric acid 40%	Yellowing
	Nitric acid 10%	Yellowing
	Cromic acid 10%	Unchanged
INORGANIC SALTS	Sodium chloride 10%	Unchanged
	Potassium nitrate 10%	Unchanged
	Potassium Bicrom. 10%	Yellowing
	Sodium sulphate 10%	Unchanged
	Ammonium chloride	Unchanged
	Sodium carbonate 10%	Unchanged
	Sodium bicarbonate 10%	Cracking
LUBRICATING OILS	Silicon oil	Unchanged
	Paraffin oil	Unchanged
	Machine oil	Unchanged
PLASTIFIED	Tricresyl phosphate	Clouding
	Dioctyl Adipate	Unchanged
	Butyl Stearate	Unchanged
	Trimetil. foreign acid	Unchanged
ORGANIC ACIDS	Acetic acid 70%	Unchanged
	Acetic acid 10%	Unchanged
	Formic acid 30%	Unchanged
	Lactic acid 5%	Unchanged
	Oxalic acid 10%	Unchanged
	Benzoic acid 10%	Unchanged
	Oleic acid 100%	Unchanged
VARIOUS	Benzol	Fast dissolution
	Toluol	Fast dissolution
	Industrial petrol	Yellowing - Cracking - Opacification
	Kerosene	Unchanged
	Naphtha Diesel	Unchanged
	n Heptane	Unchanged
	Methylethylketone	Clouding - Softening
	Acrylonitrile	Fast dissolution
	Vinyl acetate	Clouding - Softening
	Styrene	Clouding - Softening
	Ethylic ether (5 °C)	Swelling
	Diethylenetriamine	Dissolution
	Ethylenediamine	Dissolution
	Triethanolamine	Cracking
	Phenol 5%	Yellowing - Opacification
	Cresol 5%	Unchanged
	Formalin	Unchanged

Polycarbonate has good resistance to most chemicals with which it is likely to come into contact during normal use.
Specific tests are recommended for applications where the material is likely to come into contact with aggressive chemicals.
It is essential to verify their compatibility prior to use. The table at the side provides a summary of reactions with some of the main products used.

PoliCarb®

MULTIWALL SHEETS

Optical and Thermal properties

PROFILE	LIGHT TRANSMISSION (LT) %	SOLAR FACTOR (SF) %	SHADING COEFFICIENT (SC) %	THERMAL TRANSMITTANCE (U) W/m²K
Policarb 2P-4mm				3,9
Crystal	80	84	0,97	
Bronze	63	75	0,86	
Opal	50	66	0,76	
Policarb 2P-4,5mm				3,9
Crystal	80	84	0,97	
Bronze	63	75	0,86	
Opal	50	66	0,76	
Policarb 2P-6mm				3,6
Crystal	82	86	0,99	
Bronze	60	72	0,83	
Opal	50	66	0,76	
Policarb 2P-8mm				3,3
Crystal	82	88	1,01	
Bronze	65	75	0,86	
Opal	50	65	0,75	
Policarb 2P-10mm				3,0
Crystal	81	87	1,00	
Bronze	65	75	0,86	
Opal	50	64	0,74	
Policarb 16mm WIDE				2,5
Crystal	85	90	1,03	
Bronze	65	70	0,80	
Opal	50	65	0,74	
Policarb 3P-10mm				2,7
Crystal	74	80	0,92	
Bronze	65	72	0,83	
Opal	52	62	0,71	
Policarb 3P-16mm				2,3
Crystal	74	80	0,92	
Bronze	40	55	0,63	
Opal	52	57	0,66	
Blue	45	70	0,80	
Green	60	70	0,80	
Policarb 3P-20mm				2,1
Crystal	74	80	0,92	
Bronze	40	55	0,63	
Opal	52	63	0,72	
Policarb 4P-6mm				3,1
Crystal	79	82	0,94	
Opal	45	53	0,61	
Policarb 4P-8mm				2,7
Crystal	79	82	0,94	
Opal	45	53	0,61	
Policarb 4P-10mm				2,5
Crystal	79	82	0,94	
Opal	45	53	0,61	
Policarb 5P-16mm RDC				2,1
Crystal	66	70	0,80	
Bronze	30	45	0,52	
Opal	40	55	0,63	
Policarb 5P-20mm RDC				1,7
Crystal	66	70	0,80	
Bronze	30	45	0,52	
Opal	38	53	0,61	
Policarb 7P-25mm				1,5
Crystal	58	64	0,74	
Bronze	30	45	0,52	
Opal	30	50	0,57	
Reflecto	25	30	0,34	
Policarb 7P-32mm				1,4
Crystal	58	64	0,74	
Bronze	30	45	0,52	
Opal	30	54	0,62	
Reflecto	25	30	0,34	
Policarb 7P-40mm				1,1
Crystal	55	61	0,70	
Opal	40	50	0,57	
Reflecto	20	25	0,29	

LIGHT TRANSMISSION (LT)

Different pigments are used to obtain different light transmission values.

The values indicated in the table are based on calculations performed at specialist laboratories.

SOLAR FACTOR (SF)

Incoming solar radiation is reflected, partially absorbed, and transmitted to the inside.

The solar factor indicated in the table is the ratio, expressed as a percentage, between the total energy transmitted to the inside and total solar radiation.

SHADING COEFFICIENT (SC)

The shading coefficient of a transparent sheet is the ratio between the sheet's solar factor and the solar factor of a clear sheet of glass with a thickness of 3mm (SC=SF/0.87).



MODULAR SYSTEM

Optical, Thermal and acoustic properties

PROFILE	LIGHT TRANSMISSION (LT) %	SOLAR FACTOR (SF) %	SHADING COEFFICIENT (SC) %	THERMAL INSULATION (U) W/m²K	ACOUSTIC INSULATION dB
arcoPlus323				2,2	16
Crystal	78	83	0,95		
Green	70	75	0,86		
Bronze	65	72	0,83		
Opal	49	65	0,75		
arcoPlus344x				1,9	19
Crystal	72	77	0,89		
Green	65	70	0,80		
Bronze	50	62	0,71		
Opal	49	60	0,69		
arcoPlus547				1,1	22
Crystal	65	70	0,80		
Green	60	68	0,78		
Bronze	40	50	0,57		
Opal	40	45	0,52		
arcoPlus684				2,6	18
Crystal	72	77	0,89		
Blu	50	58	0,67		
Bronze	45	58	0,67		
Opal	47	52	0,60		
arcoPlus6104				2,4	18
Crystal	72	77	0,89		
Blu	50	58	0,67		
Bronze	45	58	0,67		
Opal	47	52	0,60		
arcoPlus6124				2,2	19
Crystal	72	77	0,89		
Blu	50	58	0,67		
Bronze	45	58	0,67		
Opal	47	52	0,60		
arcoPlus626				1,5	20
Crystal	65	68	0,78		
Green	48	53	0,61		
Bronze	30	42	0,48		
Opal	40	45	0,52		
arcoPlus613-arcoPlus613 Velario				2,7	16
Crystal	76	81	0,93		
Opal	58	65	0,75		
arcoPlusV16				2,2	16
Crystal	74	80	0,92		
Opal	52	57	0,66		
arcoPlus1000				2,68	16
Crystal	75	80	0,92		
Opal	50	57	0,66		
arcoPlusGrecaClick				3,0	16
Crystal	75	80	0,92		
Opal	50	57	0,66		
arcoPlusMiniGreca				3,0	16
Crystal	75	80	0,92		
Opal	50	57	0,66		
arcoPlusOnda				3,2	16
Crystal	78	84	0,97		
Opal	68	78	0,90		
arcoPlusPolivalente				1,28	21
Crystal	60	65	0,75		
Opal	45	58	0,67		
arcoPlusAisluxecure				1,42	21
Crystal	58	64	0,74		
Opal	30	50	0,57		
arcoPlusAisluxComplet				1,28	21
Crystal	58	64	0,74		
Opal	30	50	0,57		
arcoPlusAisluxPS				1,28	21
Crystal	58	64	0,74		
Opal	30	50	0,57		

arcoPlus®

THERMAL INSULATION (U-VALUE)

Heat loss is normally defined as thermal transmittance and referred to in physics as the "U-value". It is the rate of heat loss through a unitary surface per degree centigrade difference in temperature between the two sides and depends on the properties of the material of which the structure is made and the linear thermal transmittance conditions.

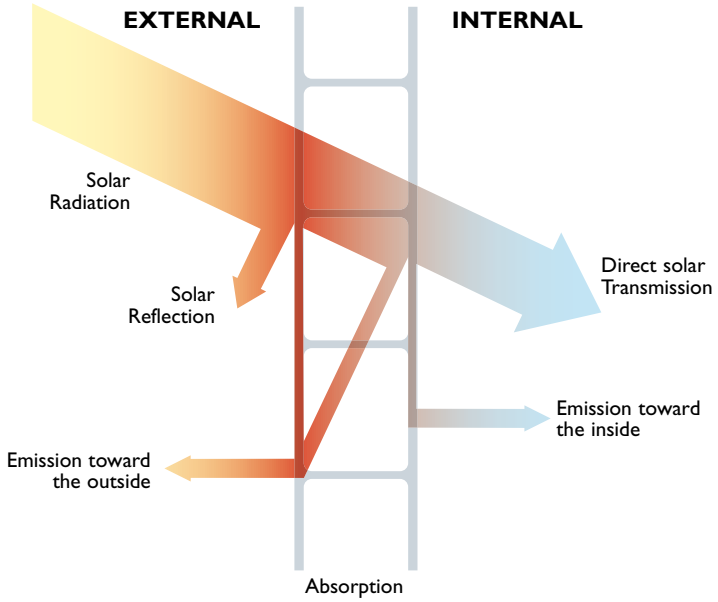
SOUND INSULATION

Sound insulation refers to the ability of the material to resist the transmission of impact sound. It varies according to the frequency and the physical properties, dimensions and installation constraints of the component.

ENERGY SAVING

ENERGY SAVING

The multi-wall structure of Policarb® and arcoPlus® offers a real advantage in terms of thermal insulation. Calculated according to the guidelines of DIN 4701, there is a significant difference in fuel consumption between an industrial building with glass windows and the same building with multiwall polycarbonate glazing.



CALCULATION OF FUEL SAVING

The following formula is the calculation of fuel savings:

$$E = \frac{\Delta K \cdot S \cdot Gg \cdot 24}{Pt \cdot h}$$

Where:

E	Yearly fuel saving (Kg)
ΔK	Difference between thermal transmittance values of glass and polycarbonate (Kcal/hm2°C)
S	Windows surface (m²)
Gg	Seasonal heating factor (heated days per temperature average difference) (°C h)
24	Conversion factor
PT	Heating power of the employed fuel (Kcal/Kg)
h	Production of the heating plant (normal h=0,7)

ESTIMATE EXAMPLE : industrial shed

Location: Turin

(degree per day) 2570 • 24 = 61680 (degree per hour) — **Gg • 24 = 61680 °C h**

Surface: 1,40 (height) x 100 (boundary development) — **S = 140 m²**

Difference "ΔK": between U-GLASS 27 et arcoPlus344x (5,0 x 1,7) = 3,3 Kcal/hm² °C — **ΔK = 3,3 Kcal/hm²°C**

Fuel: oil-fire 10.200 Kcal/Kg — **Pt = 10.200 Kcal/Kg**

Plant production — **h = 0,7**

Therefore the yearly fuel saving will be:

$$E = \frac{3.3 \times 140 \times 61.680}{10.200 \times 0.7} = 3.991 \text{ Kg}$$

LOWER HEATING POWER OF FUEL	Electric power	2.300	Kcal/KWh
	Oil-fired heating	10.200	Kcal/Kg
	Methane	8.200	Kcal/m³
SEASONAL HEATING FACTOR (degree per day)	Milan	2.340	°C
	Rome	1.440	°C
	Turin	2.570	°C
	Palermo	690	°C



USE AND MAINTENANCE

NEVER STORE THE MATERIAL IN A PLACE WHERE IT IS EXPOSED TO SUNLIGHT WHILE WRAPPED IN ITS PROTECTIVE FILM

INSTALL THE MATERIAL WITH THE UV-PROTECTED SIDE FACING THE EXTERIOR AND REMOVE THE PROTECTIVE FILM AFTER INSTALLING

ALLOW FOR THERMAL EXPANSION OF THE MATERIAL

ONLY USE POLYCARBONATE-COMPATIBLE SILICONE IF NECESSARY

USE ADHESIVE ALUMINIUM TAPE TO SEAL THE AIR CELLS

USE WATER AND NEUTRAL SOAP TO CLEAN THE SURFACES

USE SUITABLE HOISTING EQUIPMENT TO HANDLE THE MATERIAL

CLEANING

To clean sheets and panels we recommend the use of water and neutral detergent only.
Do not use abrasive products.

THERMAL EXPANSION

Polycarbonate is subject to thermal expansion of 0.065 mm/m°C.
When installing polycarbonate sheets and panels always allow enough room for expansion.
If anchoring systems are used these must consist of the specific brackets and connectors provided for each product.

HANDLING

Take all the appropriate precautions when handling the material to avoid accidental impacts and scratches on the surface which could spoil the material's appearance and undermine its mechanical properties.

STORAGE

Avoid exposure to direct sunlight and rain to prevent any excessive build-up of heat in the packaging or the formation of condensation in the cells.
Do not remove the protective film before installing, but immediately after installation.

SEALING

Only use neutral, polycarbonate-compatible silicone for sealing.

MODULAR SYSTEMS

2

arcoPlus®

2.1 Interlocking systems:

This group of modular systems all have a tongue and groove connector system. The structure is specifically designed to ensure a weatherproof finish.
All systems are supplied complete with a range of accessories to ensure correct installation.
They are particularly suitable for roofing applications, continuous translucent glazing and false ceilings.

2.2 Connector systems:

This group includes all the modular systems provided with a specific connector, depending on the type of application.
All systems are supplied complete with a range of accessories to ensure correct installation.
They are particularly suitable in roofing for cover large areas, translucent façades and glazing applications.

2.3 Overlapping systems:

This group of wall and roofing products can be used in continuous applications or with other insulated metal panels and corrugated sheets or panels. Their structural design and the use of a specific range of accessories guarantee a weatherproof finish.

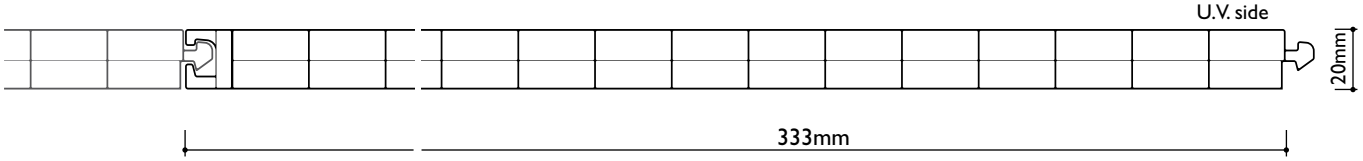
2.4 Openable systems:

This group of products can be used with the modular interlocking systems to create openable windows.

All arcoPlus® systems include aluminium profiles and anchor systems to guarantee resistance to positive and negative wind loads while allowing for linear expansion.


PERSHING

arcoPlus® 323



2.1
Modular system of UV protected multiwall polycarbonate for translucent curtain walls and glazing applications.

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation

APPLICATIONS

Vertical windows

PRODUCTION STANDARDS

thickness	20mm
structure	3 walls
effective modular width	333mm
panel length	no limit
colours available	see page 11

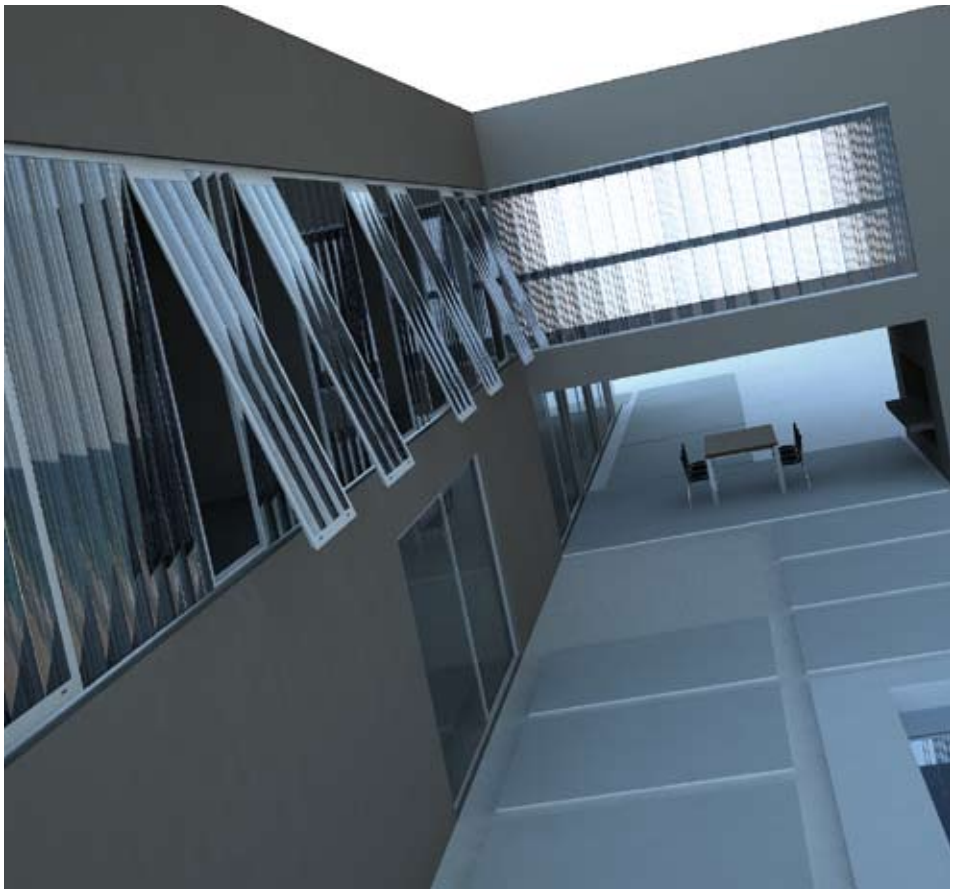
TECHNICAL FEATURES

Thermal insulation	2,2 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

arcoPlus®323 is a modular system of coextruded 3 walls polycarbonate panels with a thickness of 20mm, aluminium profiles, accessories and openable windows, designed for simple and versatile use.

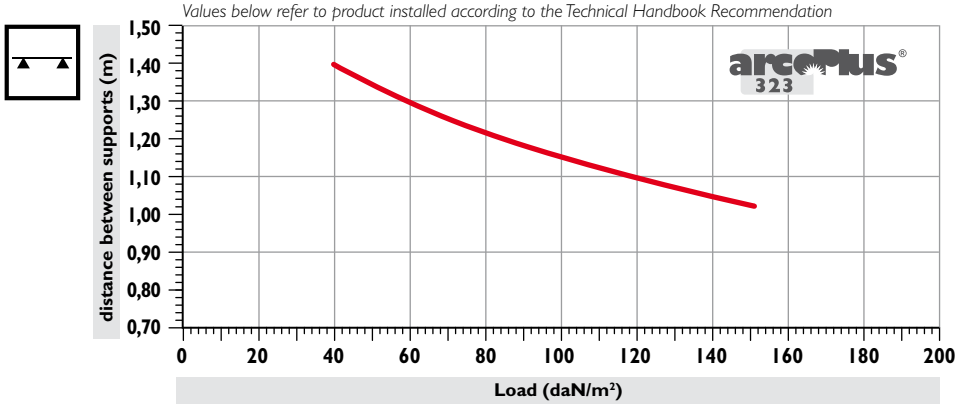
arcoPlus®323 is not suitable for roofing applications.



LOAD RESISTANCE

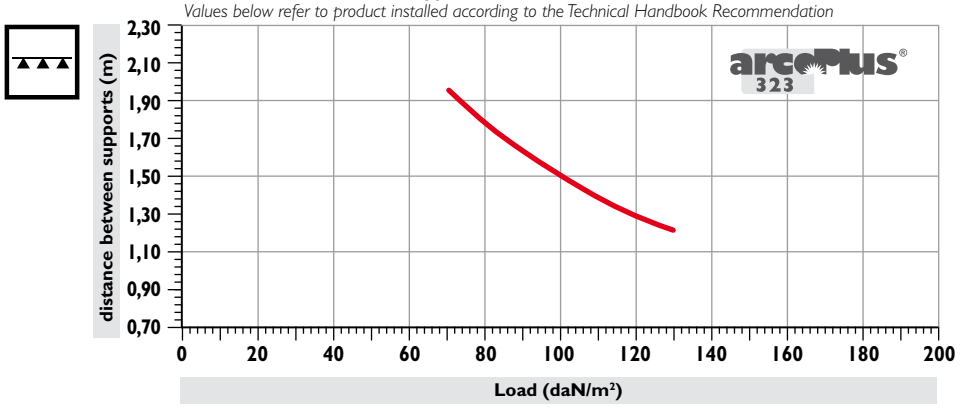
Maximum loads on two supports

Values below refer to product installed according to the Technical Handbook Recommendation



Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation

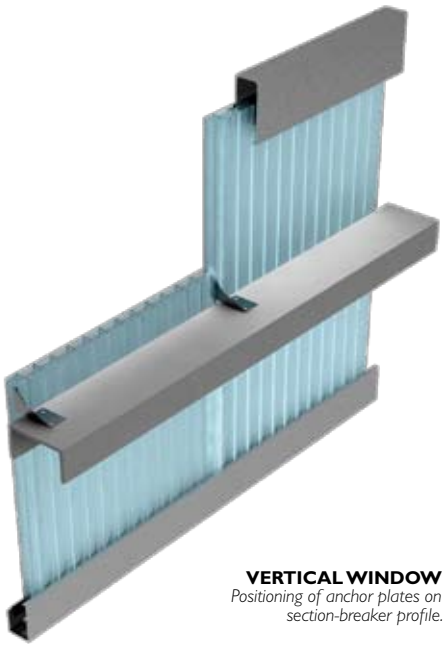


EASY AND LOW-COST INSTALLATION

The 20mm-thick, 3 walls structure with tongue and groove connection gives the panels remarkable flexural strength. It also allows the panels to be installed without the use of metal reinforcement frames, thus eliminating heat loss due to the thermal bridges caused by these structures.

The modular connection ensures a watertight seal for glazing with an inclination of up to 30°.

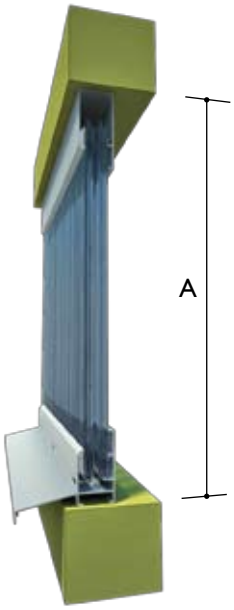
For installations exceeding 1.5m, a suitable section-breaker profile must be installed to which the arcoPlus® panels can then be fixed (see load capacity graph). This is done using the specific brackets to give the system the necessary resistance to negative wind load and permit sliding due to thermal expansion.



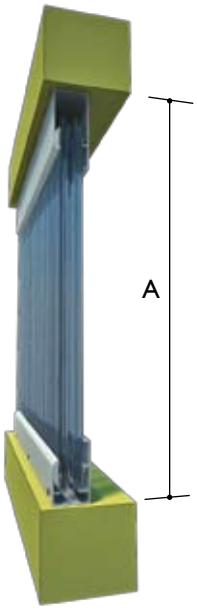
VERTICAL WINDOW

Positioning of anchor plates on section-breaker profile.

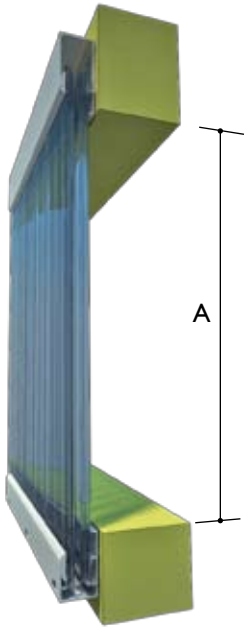
CALCULATION AND INSTALLATION EXAMPLES OF PANEL LENGTH (PL)



WITH EAVE
PL = A - 50 mm
A = opening measure



WITHOUT EAVE
PL = A - 40 mm
A = opening measure



OUTSIDE OF THE BUILDING
PL = A + 80 mm
A = opening measure

VERTICAL GLAZING
Construction of continuous transparent glazing, with section-breaker profile.

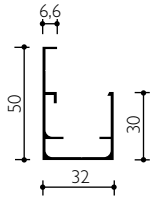


ACCESSORIES

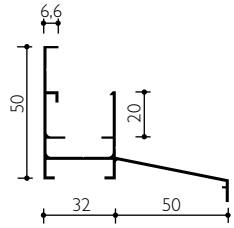
In addition to a complete range of aluminium profiles for installing the panels, the system also includes openable windows (manually operated or motorised) to ventilate the building (see openable systems on page 60).
The air cells of the polycarbonate panels must be sealed using vented aluminium breather tape.
This allows correct ventilation and prevents soiling on the inside.

METAL PROFILES

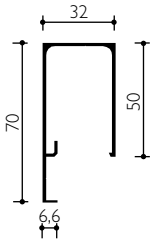
code 4062
Base AL profile



code 4064
Base AL profile with eave



code 4061
Upper and side AL profile

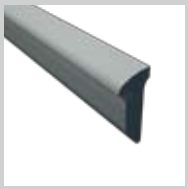


ACCESSORIES

code 4062
Base AL profile

code 4064
Base AL profile with eave

code 4061
Upper and side AL profile

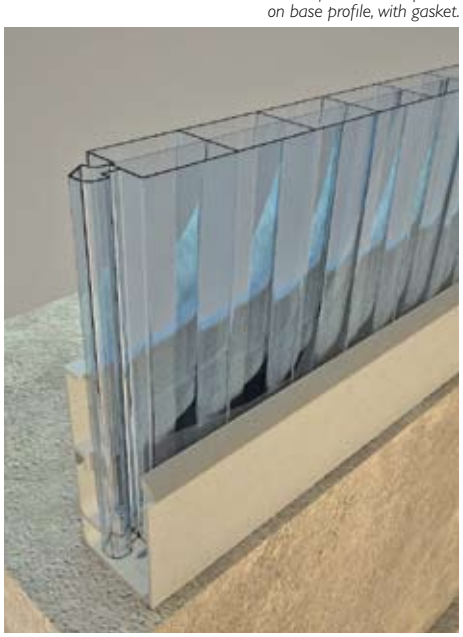


code 1169/B
Gasket

code 4063
Link plate

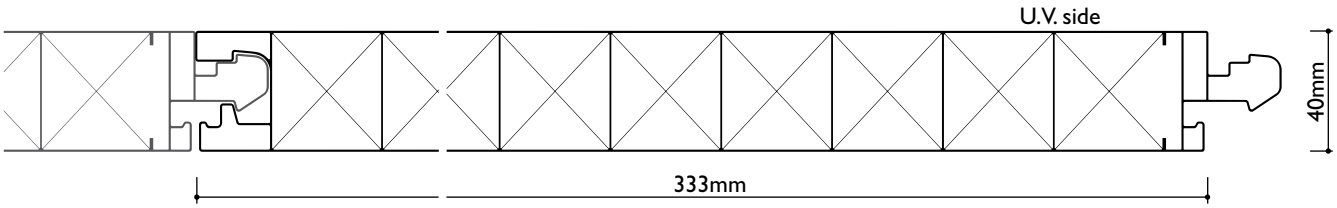
code 4066
Additional sealing tape

BASE PROFILE
Insertion of curtain wall panels on base profile, with gasket.



INSERTION OF PLATE
Insertion of stainless steel plates for anchorage to existing structures.

arcoPlus® 344x



2.1
Modular system of multiwall UV protected polycarbonate for windows and translucent roofing applications

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- High load resistance

APPLICATIONS

- Vertical windows
- Roofing

PRODUCTION STANDARDS

thickness	40mm
structure	4 walls
effective modular width	333mm
panel length	no limit
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	1,9 W/m²K
Acoustic insulation	19 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

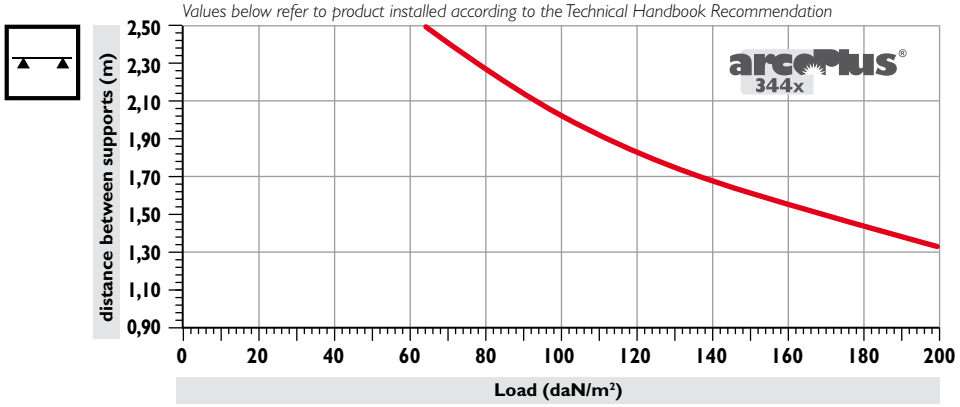
arcoPlus®344x is a modular system used in the residential and industrial building sectors. It is suitable for use in new buildings and for renovation and maintenance projects. The system consists of coextruded 4 walls polycarbonate panels with a thickness of 40mm, aluminium profiles, accessories and openable windows, designed for simple and versatile use.

arcoPlus®344x can be used for roofing applications with a minimum slope of 7%.

LOAD RESISTANCE

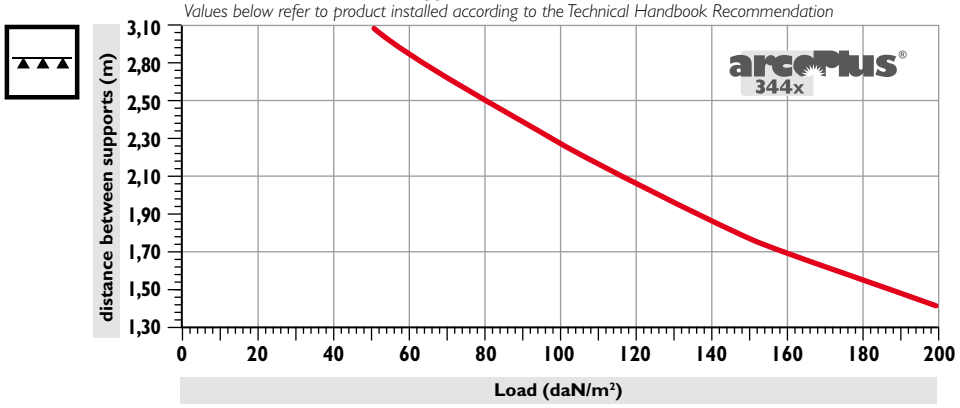
Maximum loads on two supports

Values below refer to product installed according to the Technical Handbook Recommendation



Maximum loads on more supports

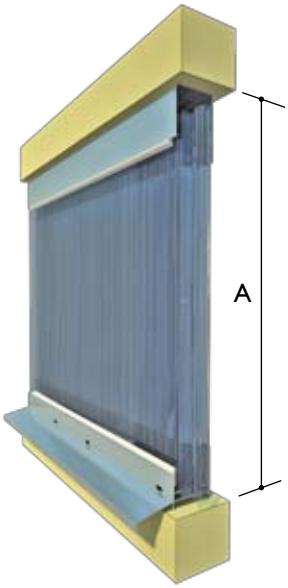
Values below refer to product installed according to the Technical Handbook Recommendation



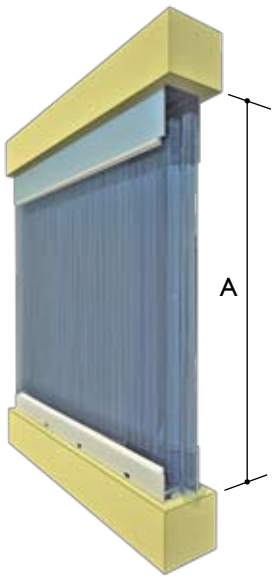
EASY AND LOW-COST INSTALLATION

The 40mm-thick, 4 walls design with tongue and groove connection gives the panels remarkable flexural strength. It also allows the panels to be installed without the use of metal reinforcement frames (continuous windows), thus eliminating heat loss due to the thermal bridges caused by these structures (discontinuous windows).
For installations exceeding 2.2m, a suitable section-breaker profile must be installed to which the arcoPlus® panels can then be fixed. This is done using the specific brackets to give the system the necessary resistance to negative wind load and permit sliding due to thermal expansion (see load capacity graph).

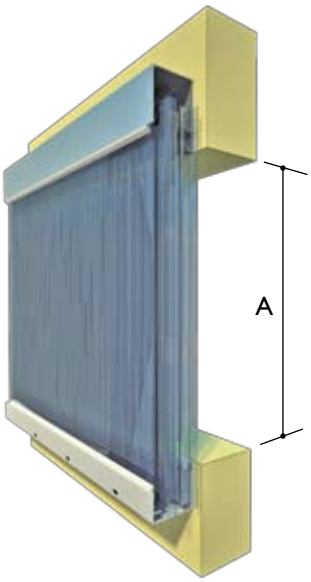
CALCULATION AND INSTALLATION EXAMPLES OF PANEL LENGTH (PL)



WITH EAVE
PL = A - 50 mm
A = opening measure



WITHOUT EAVE
PL = A - 45 mm
A = opening measure



OUTSIDE OF THE BUILDING
PL = A + 95 mm
A = opening measure

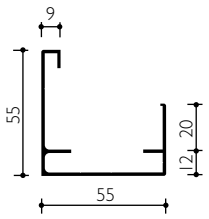
CONTINUOS WINDOWS
Construction of continuous transparent windows

ACCESSORIES

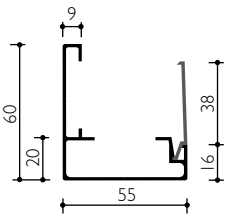
In addition to a complete range of aluminium profiles for installing the panels, the system also includes openable windows (manually operated or motorised) to ventilate the building (see openable systems on page 60).
The air cells of the polycarbonate panels must be sealed using vented aluminium breather tape.
This allows correct ventilation and prevents soiling on the inside.

METAL PROFILES

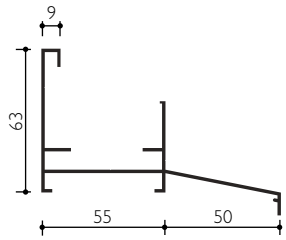
code 4047
Base AL profile



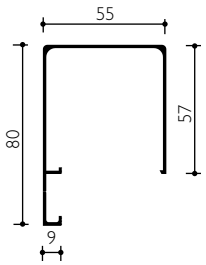
code 4140
Base AL profile with frontal opening



code 4046
Base AL profile with eave

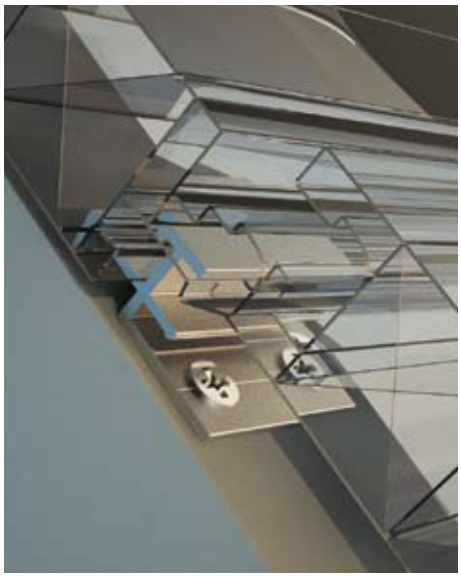


code 4045
Upper and side AL profile

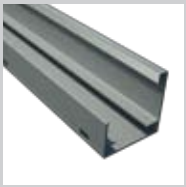


BASE PROFILE
Detail of curtain wall, insertion in base profile.

INSERTION OF PLATE
Insertion of aluminium plates for anchorage to existing structures.

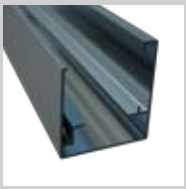


ACCESSORIES

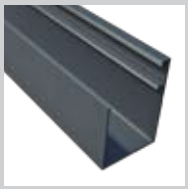


code 4047
Base AL profile

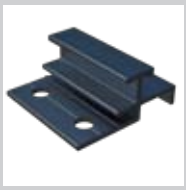
code 4046
Base AL profile with eave



code 4140
Base AL profile with frontal opening

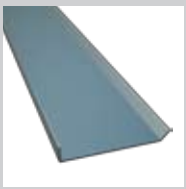


code 4045
Upper and side AL profile



code 4050
Aluminium bracket

code 4052
Inox bracket

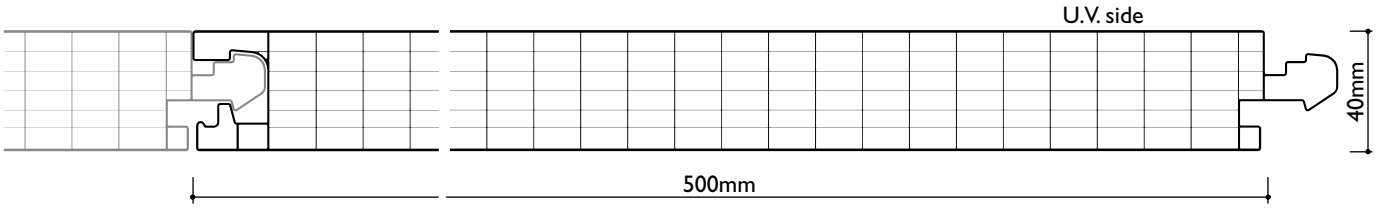


code 4312
Eclisse

code 1169/B
Gasket

code 4108
Additional sealing tape

arcoPlus® 547



2.1
Modular system of multiwall UV protected polycarbonate for windows and translucent roofing applications

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- High load resistance

APPLICATIONS

- Vertical windows
- Roofing

PRODUCTION STANDARDS

thickness	40mm
structure	7 walls
effective modular width	500mm
panel length	no limit
colours available	see page 11

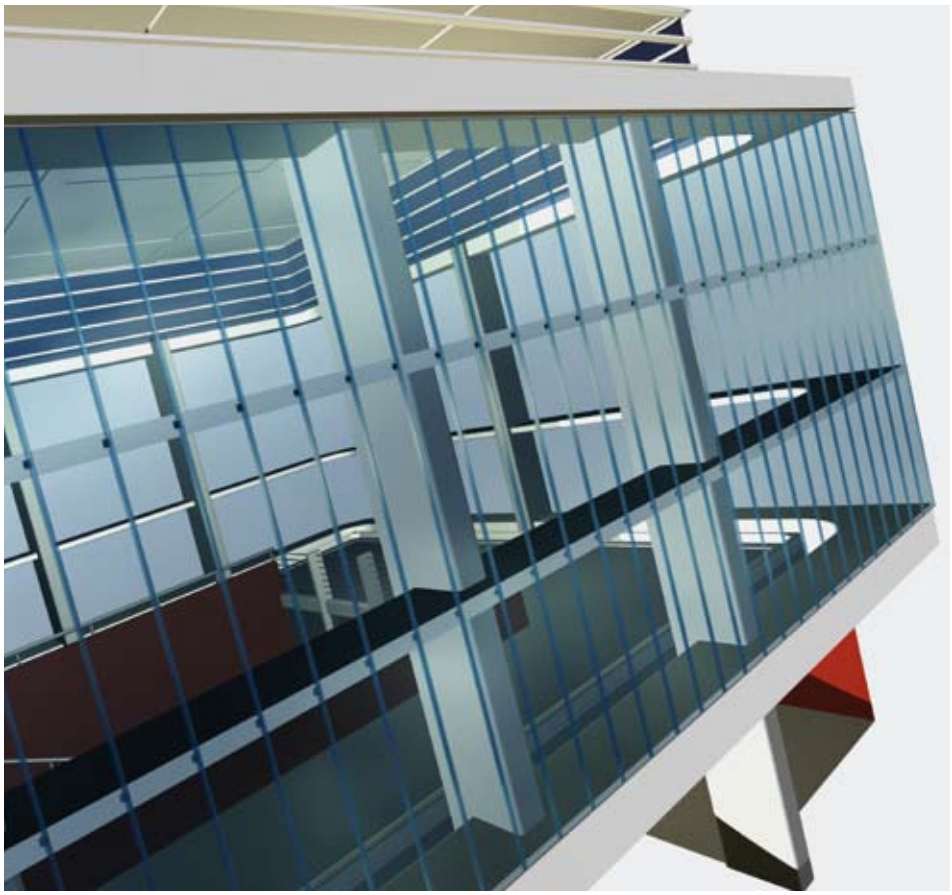
TECHNICAL FEATURES

Thermal insulation	1,1 W/m²K
Acoustic insulation	22 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

arcoPlus®547 is a modular system of coextruded 7 walls polycarbonate panels with a thickness of 40mm, aluminium profiles, accessories and openable windows, designed for simple and versatile use.

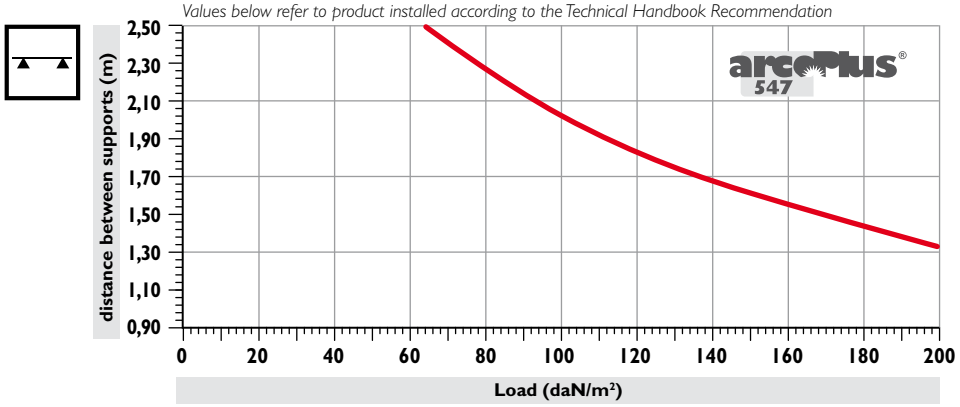
arcoPlus®547 can be used for roofing applications with a minimum slope of 7%.



LOAD RESISTANCE

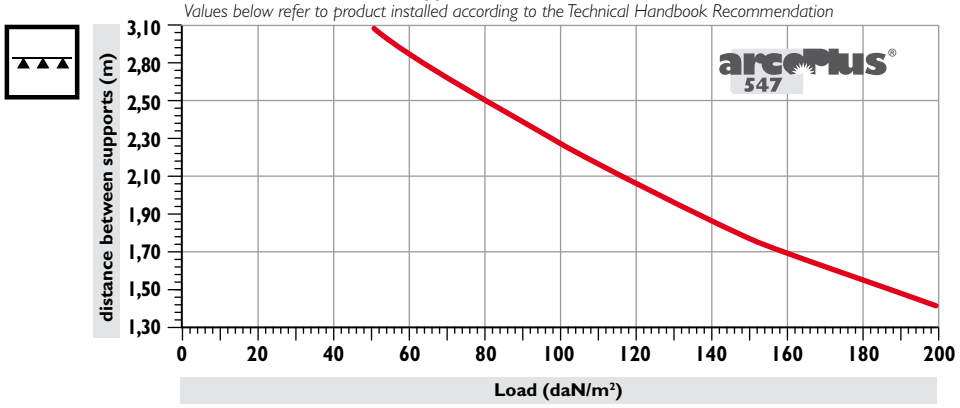
Maximum loads on two supports

Values below refer to product installed according to the Technical Handbook Recommendation



Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation



EASY AND LOW-COST INSTALLATION

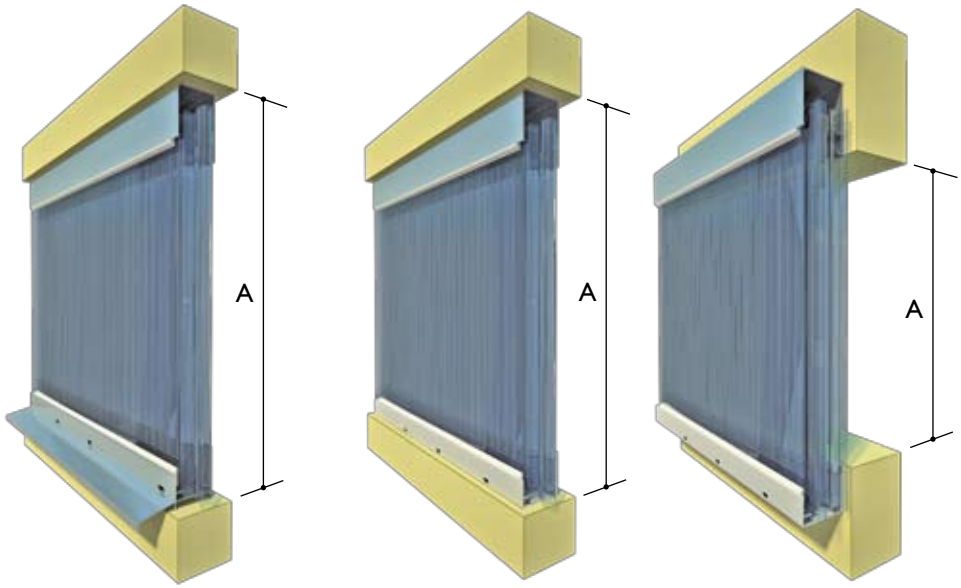
The 40mm-thick, 7 walls design with tongue and groove connection gives the panels remarkable flexural strength. It also allows the panels to be installed without the use of metal reinforcement frames (continuous glazing), thus eliminating heat loss due to the thermal bridges caused by these structures (discontinuous glazing).

For installations exceeding 2.2m, a suitable section-breaker profile must be installed to which the arcoPlus® panels can then be fixed. This is done using the specific brackets to give the system the necessary resistance to negative wind load and permit sliding due to thermal expansion (see load capacity graph).

INSERTION OF PLATE

Insertion of aluminium plates for anchorage to existing structures.

CALCULATION AND INSTALLATION EXAMPLES OF PANEL LENGTH (PL)

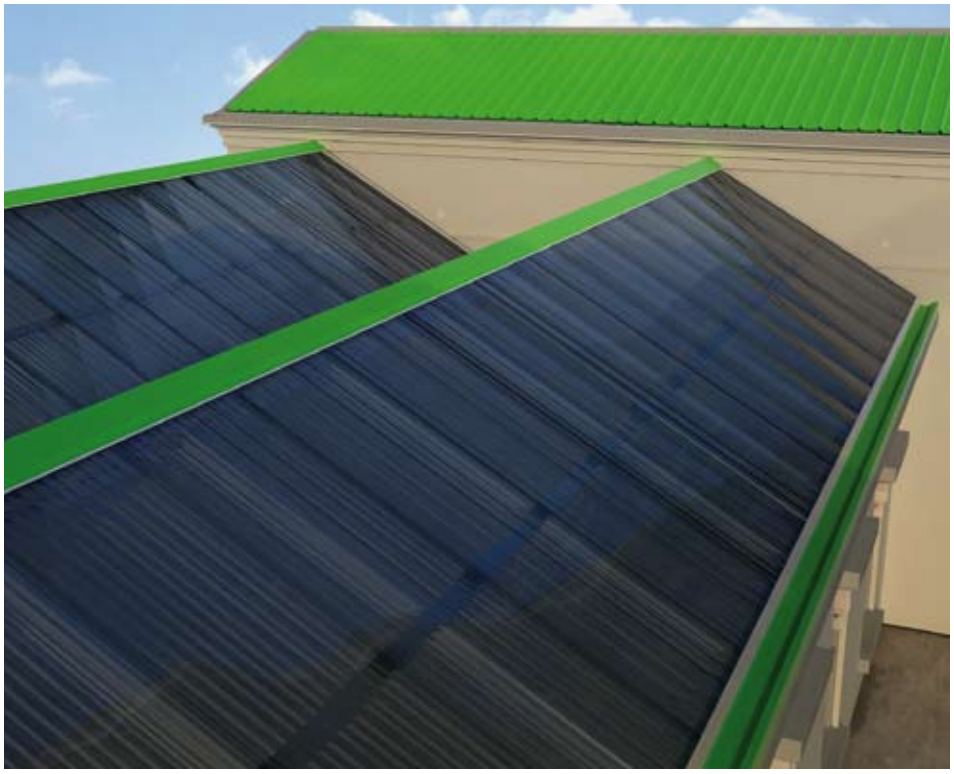


WITH EAVE
PL = A - 50 mm
A = opening measure

WITHOUT EAVE
PL = A - 45 mm
A = opening measure

OUTSIDE OF THE BUILDING
PL = A + 95 mm
A = opening measure

FLAT ROOFING
Construction of continuous transparent roofing.



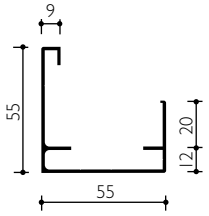


ACCESSORIES

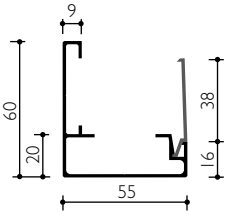
In addition to a complete range of aluminium profiles for installing the panels, the system also includes openable windows (manually operated or motorised) to ventilate the building (see openable systems on page 60).
The air cells of the polycarbonate panels must be sealed using vented aluminium breather tape.
This allows correct ventilation and prevents soiling on the inside.

METAL PROFILES

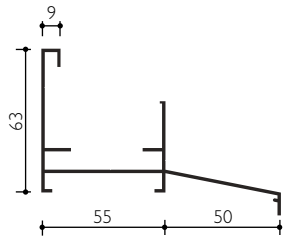
code 4047
Base AL profile



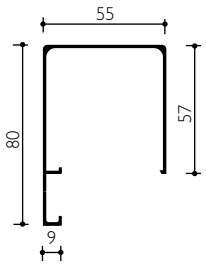
code 4140
Base AL profile with frontal opening



code 4046
Base AL profile with eave

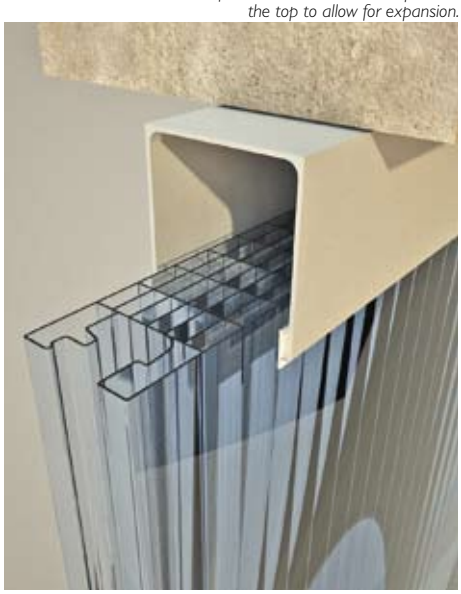


code 4045
Upper and side AL profile

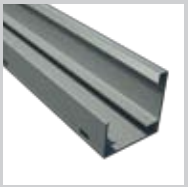


SIDE PROFILE
Detail of vertical curtain wall.

UPPER PROFILE
Detail of vertical curtain wall and space at the top to allow for expansion.

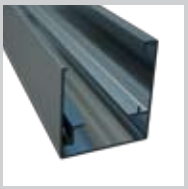


ACCESSORIES

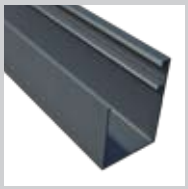


code 4047
Base AL profile

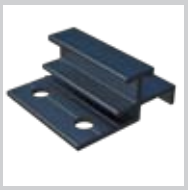
code 4046
Base AL profile with eave



code 4140
Base AL profile with frontal opening

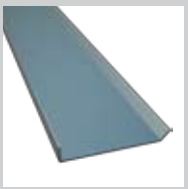


code 4045
Upper and side AL profileL



cod. 4050
Aluminium bracket

code 4052
Inox bracket

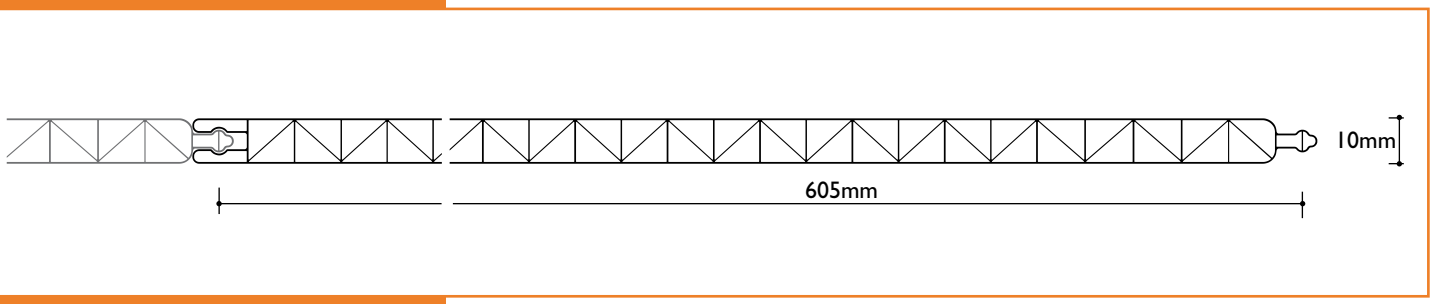


code 4312
Eclisse

code 1169/B
Gasket

code 4108
Additional sealing tape

arcoPlus® 613 Velario



2.1
Modular system of multiwall polycarbonate for false ceilings and partitions WITHOUT UV PROTECTION

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Thermal insulation
- Self-supporting

arcoPlus® 613

Modular system of UV protected polycarbonate for vertical window applications

APPLICATIONS

- Room partitions
- False ceilings
- Vertical windows (613)

PRODUCTION STANDARDS

thickness	10mm
structure	3 walls
effective modular width	605mm
panel length	no limit
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	2,7 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. protection Velario	Unprotected
U.V. protection 613	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

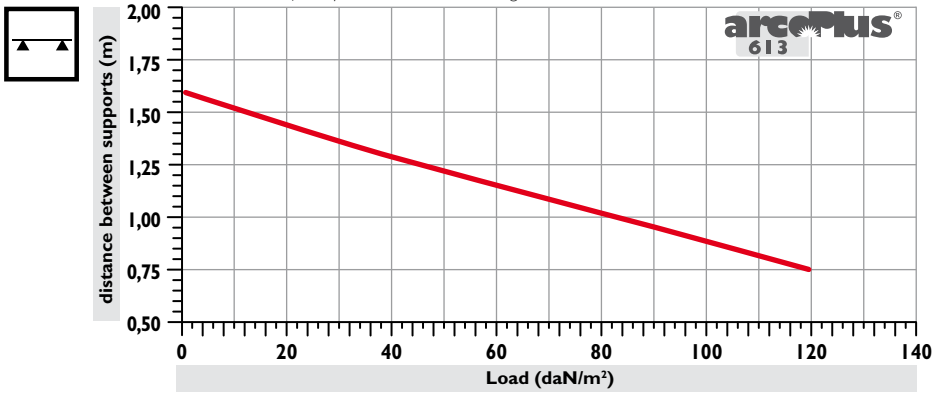
arcoPlus®613 is a modular system used in residential and industrial buildings, for new buildings as well as for renovation and maintenance operations.
It consists of coextruded (arcoPlus®613) 3 walls polycarbonate panels with a thickness of 10mm and tongue and groove connection.

ACCESSORIES

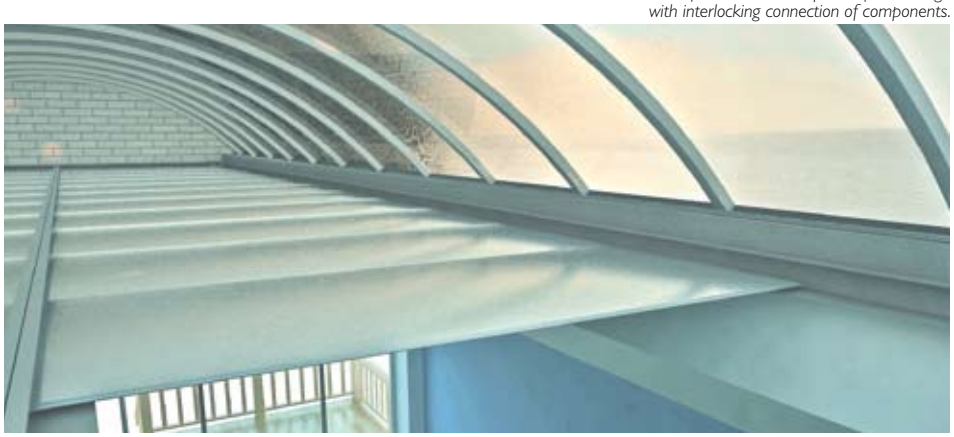
code 4226
Thermowelding

LOAD RESISTANCE

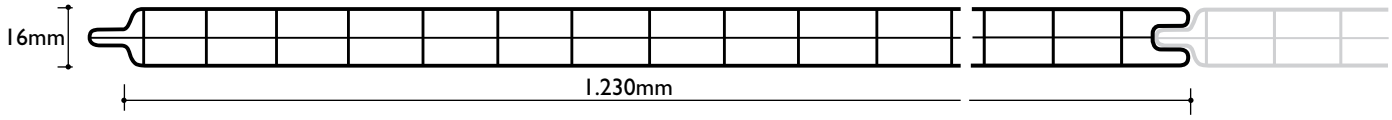
Maximum loads on two supports
Values below refer to product installed according to the Technical Handbook Recommendation



FALSE CEILINGS
Creation of continuous transparent false ceilings with interlocking connection of components.



arcoPlus® V16 Velario



PRODUCTION STANDARDS

thickness	16mm
structure	3 walls
effective modular width	1.230mm
panel length	no limit
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	2,2 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. protection	Unprotected
Fire reaction	EuroClass Bs1d0

DESCRIPTION

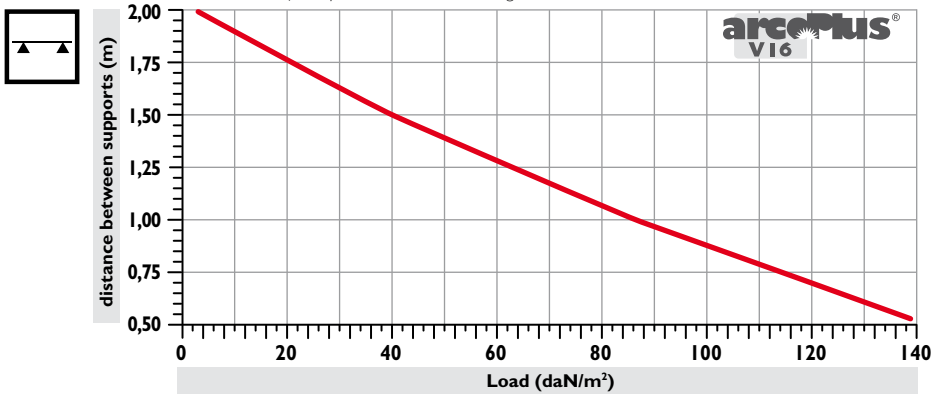
arcoPlus®V16 Velario is a modular system used in residential and industrial buildings, for new buildings as well as for renovation and maintenance operations. It consists of 3 walls polycarbonate panels with a thickness of 16mm, without UV protection and tongue and groove connection.
The new structure offers improved load strength and is suitable for areas of up to 1.8m.

ACCESSORIES

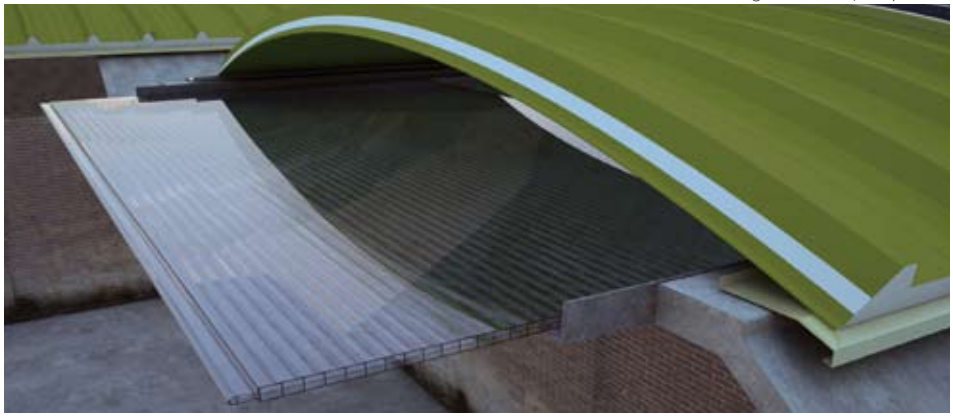
code 4073
Aluminium tape.

LOAD RESISTANCE

Maximum loads on two supports
Values below refer to product installed according to the Technical Handbook Recommendation



FALSE CEILINGS
Creation of continuous transparent false ceilings with interlocking connection of components.



2.1
Modular system of multiwall polycarbonate for false ceilings and partitions WITHOUT UV PROTECTION

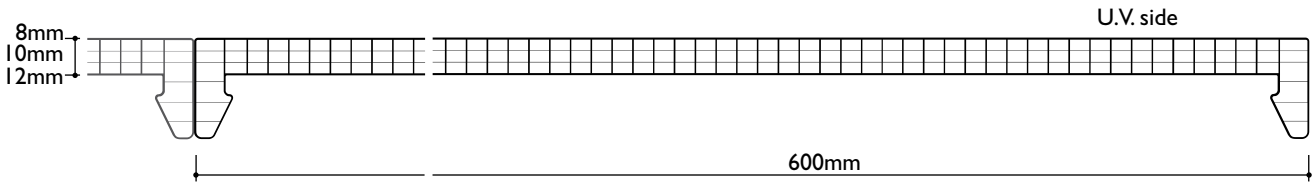
ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Thermal insulation
- Self-supporting

APPLICATIONS

- Room partitions
- False ceilings

arcoPlus®
684 | 6104 | 6124
th.8mm | th.10mm | th.12mm



2.2
Modular system of UV protected multiwall polycarbonate for translucent curtain walls and roofing applications.

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Self-supporting

APPLICATIONS

- Vertical windows
- Roofing
- Curved roofing

PRODUCTION STANDARDS

thickness	8-10-12mm
structure	4 walls
effective modular width	600mm
panel length	no limit
colours available	see page 11

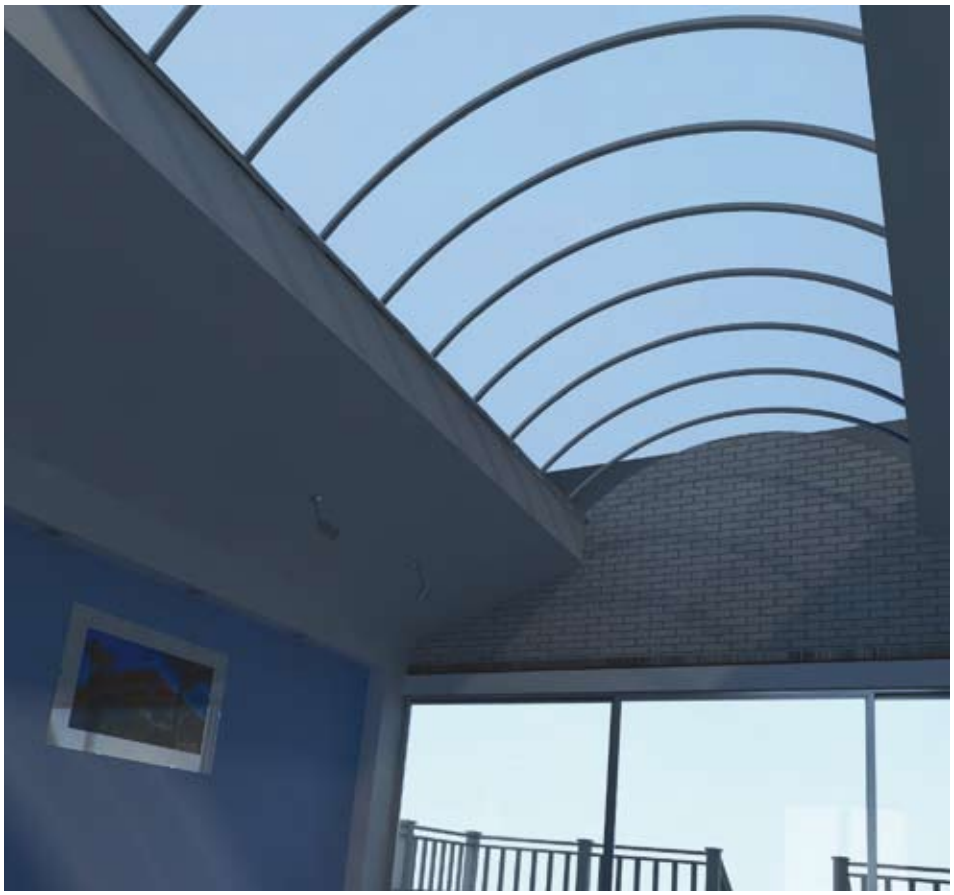
TECHNICAL FEATURES

Thermal insulation	2,6 - 2,4 - 2,2 W/m²K
Acoustic insulation	18 dB (th.8-10mm) 19 dB (th.12mm)
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

arcoPlus® 684-6104-6124 are three modular systems consisting of co-extruded 4 walls polycarbonate panels with thicknesses of 8-10 and 12mm, inserted on plasticised steel or aluminium profiles using a snap-on system.

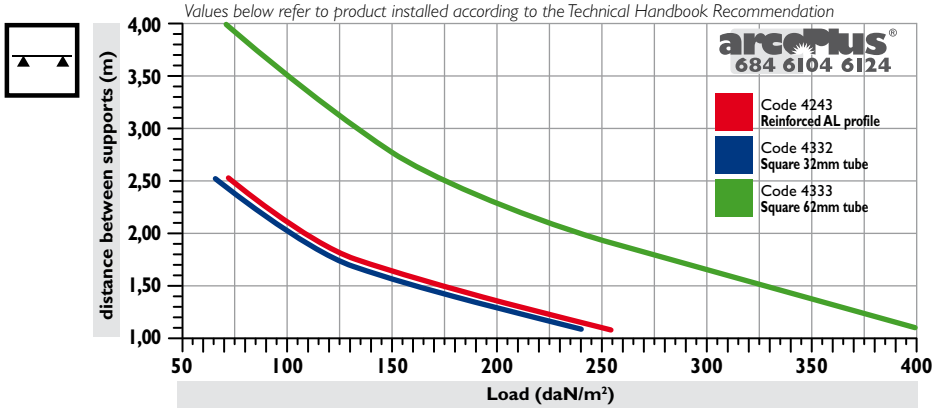
Used for vertical windows, flat roofing (min. slope 5%) and curved roofing (minimum radius 2.0m).



FLAT SYSTEM
LOAD RESISTANCE

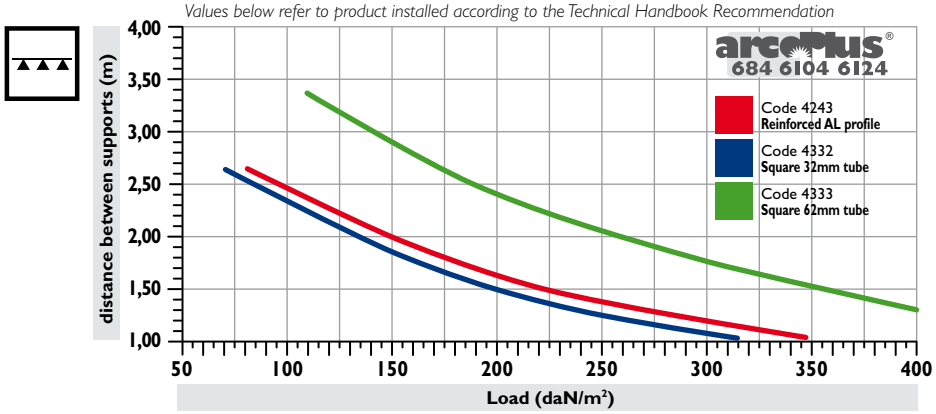
Maximum loads on two supports

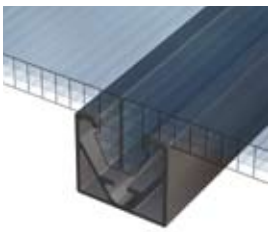
Values below refer to product installed according to the Technical Handbook Recommendation



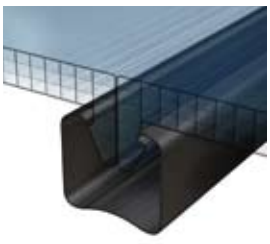
Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation

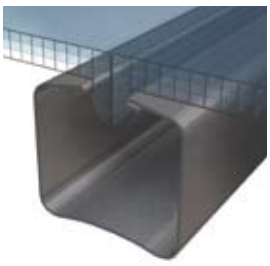




system with reinforced aluminium profile



system with square 32mm tube



system with square 62mm tube

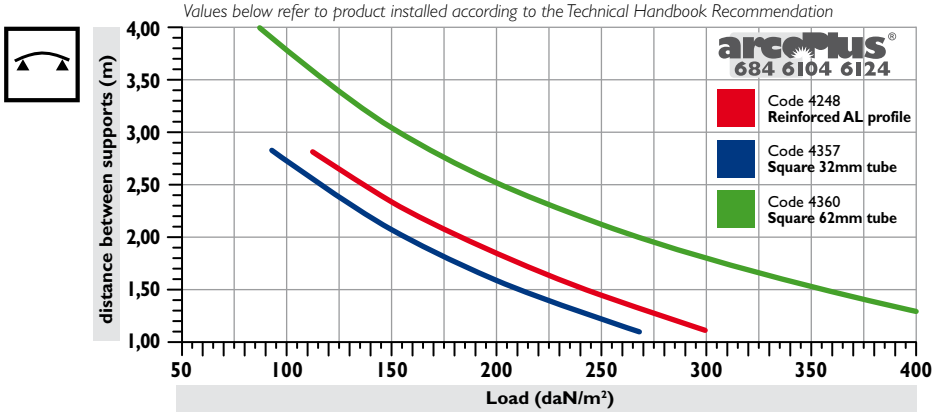
FLAT
SELF-SUPPORTING SYSTEM

The arcoPlus®684-6104-6124 systems can be used for vertical walls and flat roofing applications. The panels are inserted on open joint metal tubes using a snap-on system. This ensures the necessary wind and snow load resistance properties (see load capacity tables).

CURVED SYSTEM LOAD RESISTANCE

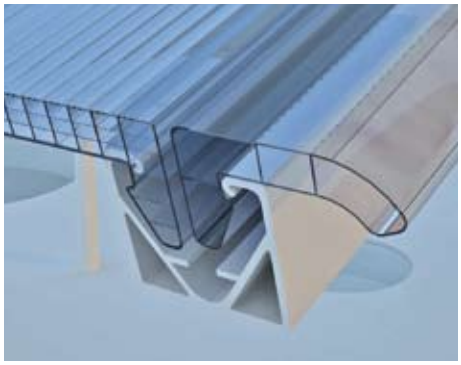
Maximum loads on two supports R.4.000mm

Values below refer to product installed according to the Technical Handbook Recommendation



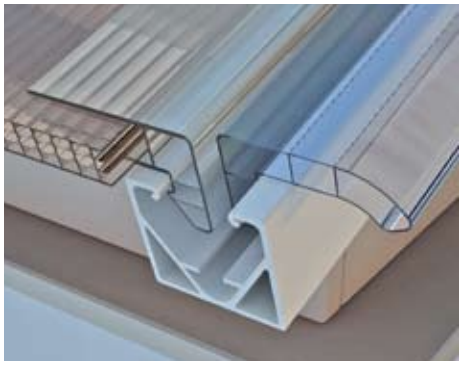
START PROFILE

Detail of insertion of start profile on roof.



END PROFILE

Detail of insertion of section-breaker profile to complete roofing.

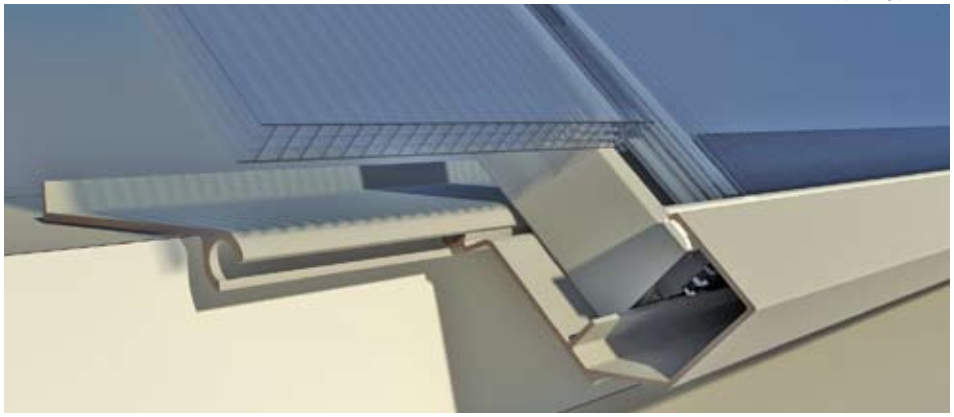


CURVED SELF-SUPPORTING SYSTEM

The metal reinforcement frames guarantee the load capacity of the entire system, while the polycarbonate staves create a continuous curtain walling effect.
Special adjustable supports guarantee a complete seal.
Different types of reinforcement frames are available to guarantee the required load and wind resistance properties according to the relative load capacity values and conditions of use.
Minimum bend radius R.2.000mm

SIDE SUPPORTS

Detail of insertion of the roof components on side supporting profiles





EASY AND LOW-COST INSTALLATION

The 4 walls design with snap-on connection to open joint tubes gives the panel remarkable flexural strength and is suitable for creating vertical walls and large areas of self-supporting roofing without the use of section-breaker profiles.

ACCESSORIES

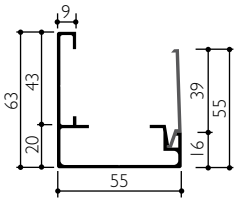
arcoPlus® includes a complete range of accessories that guarantee a perfectly watertight seal and significant wind load resistance.

DETAIL OF UPPER PROFILE
Upper profile with gasket and sealing pad.

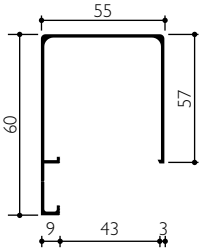
DETAIL OF BASE
Insertion of curtain wall profiles on removable base with front panel.

METAL PROFILES

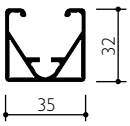
code 4140
Base AL profile with frontal opening



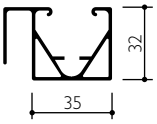
code 4045
Upper and side AL profile



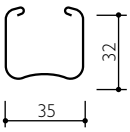
code 4243 (straight)
code 4248 (curved)
Reinforced AL profile



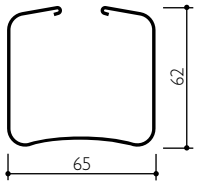
code 4244 (straight)
code 4249 (curved)
Gabled AL profile



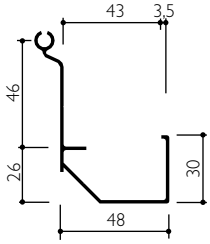
code 4332 (straight)
code 4357 (curved)
Square 32mm tube



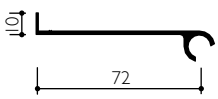
code 4333 (straight)
code 4360 (curved)
Square 62mm tube



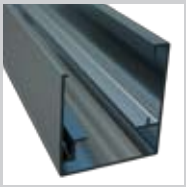
code 4245
U-shaped closing support in AL



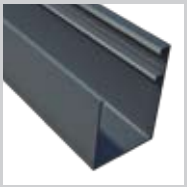
code 4252
closing support in AL



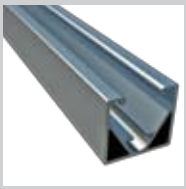
ACCESSORIES



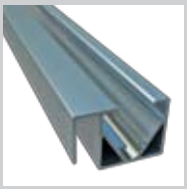
code 4140
Base AL profile with frontal opening



code 4045
Upper and side AL profile

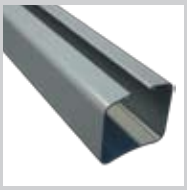


code 4243 (straight)
code 4248 (curved)
Reinforced AL profile

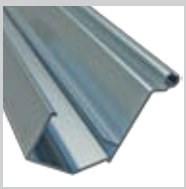


code 4244 (straight)
code 4249 (curved)
Gabled AL profile

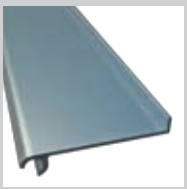
code 4332 (straight)
code 4357 (curved)
Square 32mm tube



code 4333 (straight)
code 4360 (curved)
Square 62mm tube



code 4245
U-shaped closing support in AL



code 4252
closing support in AL

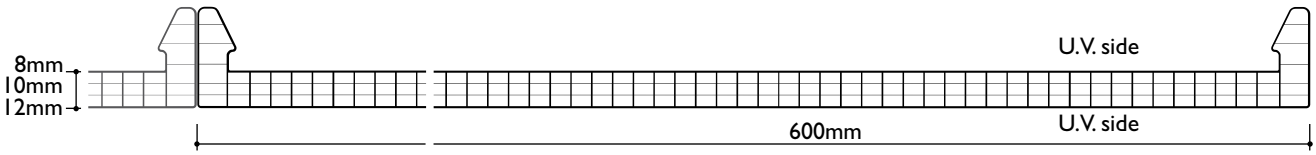
sp. 8-10mm code 2147
Start profile 684-6104 in polycarbonate

sp.12mm code 2245
Start profile 6124 in polycarbonate

sp. 8mm code 2148
sp.10mm code 2265
sp.12mm code 2250
End profile in PC

40x35x580 code 4213
70x40x580 code 4221
Pad PE-LD

arcoPlus®
Reversò 684|6104|6124
th.8mm | th.10mm | th.12mm



2.2
Modular system of bi-protected multiwall polycarbonate for translucent roofing applications

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Bendability R.min=2,5m

APPLICATIONS

- Roofing
- Curved roofing

PRODUCTION STANDARDS

thickness	8-10-12mm
structure	4 walls
effective modular width	600mm
panel length	no limit
colours available	see page 11

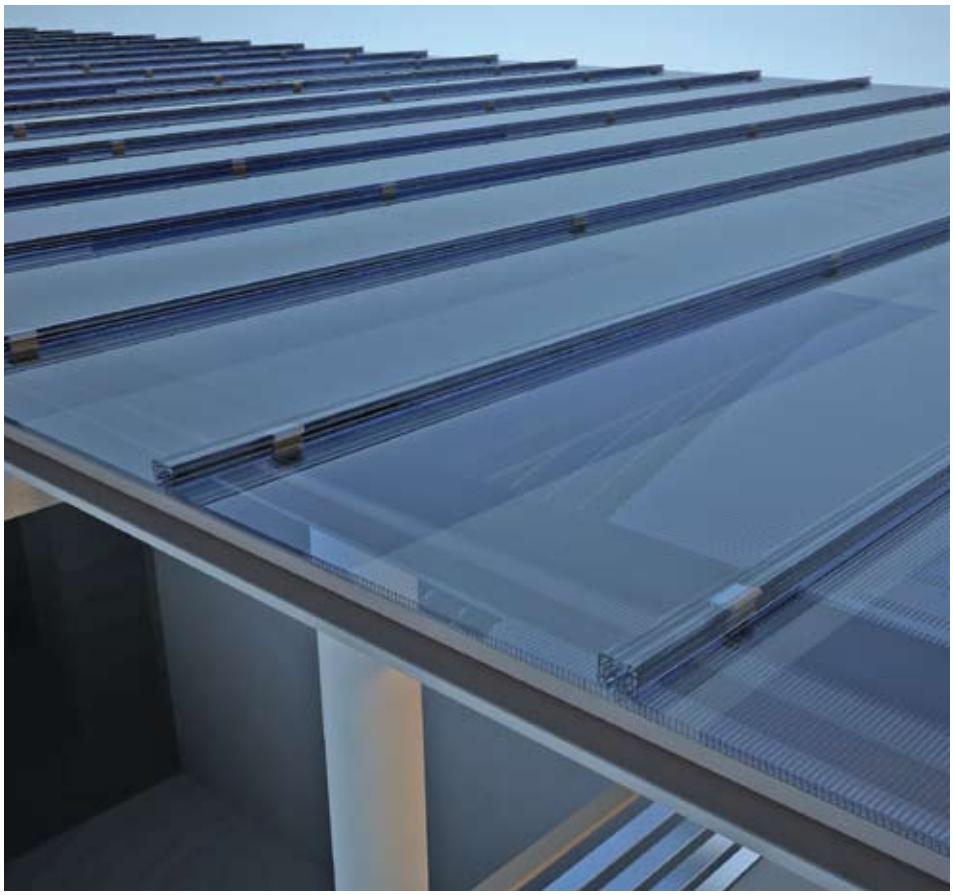
TECHNICAL FEATURES

Thermal insulation	2,6 - 2,4 - 2,2 W/m²K
Acoustic insulation	18 dB (th.8-10mm) 19 dB (th.12mm)
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	2 sides Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

arcoPlus® 684-6410-6412 reversò are three modular systems consisting of 4 walls polycarbonate panels with UV protection on two sides and thicknesses of 8-10-12mm. They are anchored to the existing structures using specific anchor brackets. The panels are joined together using a protected polycarbonate or aluminium cover plate profile assembled using a snap-on system to guarantee a perfectly watertight seal.

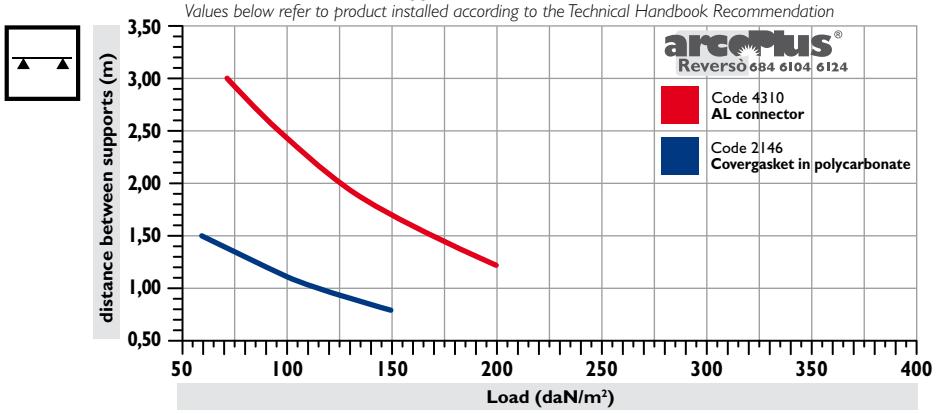
CONTINUOUS ROOFING
Example of roofing with polycarbonate cover plate.



FLAT SYSTEM LOAD RESISTANCE

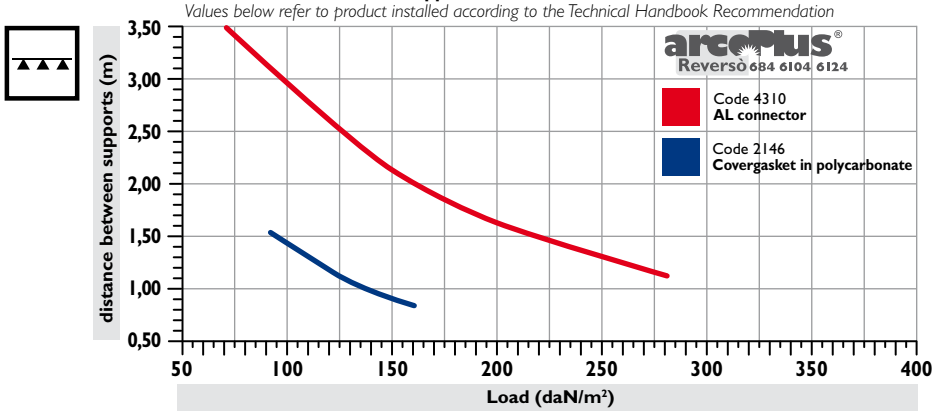
Maximum loads on two supports

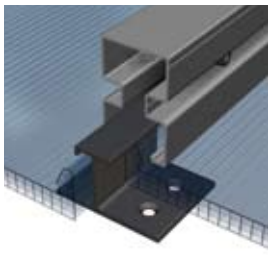
Values below refer to product installed according to the Technical Handbook Recommendation



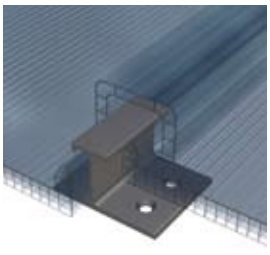
Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation





System with aluminium connector



System with polycarbonate covergasket

EASY AND LOW-COST INSTALLATION

To ensure compliance with snow load and negative wind load resistance requirements, anchor brackets should be fitted for each purlin.

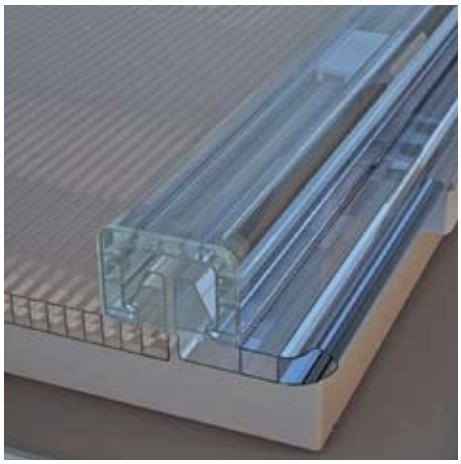
The polycarbonate panels are fastened to the underlying structure using specific brackets, which must be anchored to the purlins using suitable self-drilling/self-tapping screws (on metal structures) and tap bolts (for wooden structures). These screws and bolts are not supplied.

Different connector profiles can be used, depending on the required load specifications.

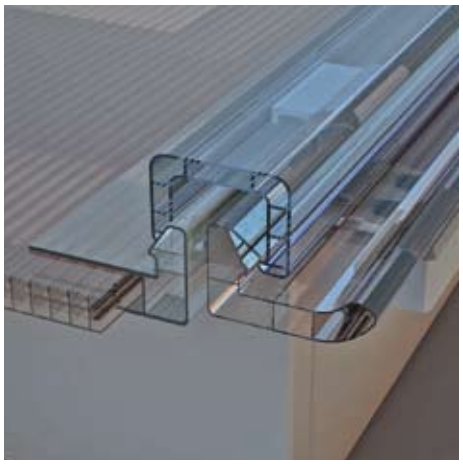
COMPLETE SYSTEM FOR ROOFING

The modular polycarbonate panels can be used to create flat or curved roofing.
They are fixed to the supporting structures using specific aluminium brackets.
Depending on the load capacity values required, or the distance between the purlins of the underlying structures, either polycarbonate cover plates can be used or, for greater strength, aluminium connectors.

START PROFILE
Detail of insertion of start profile on roof.



END PROFILE
Detail of insertion of section-breaker profile to complete roofing.



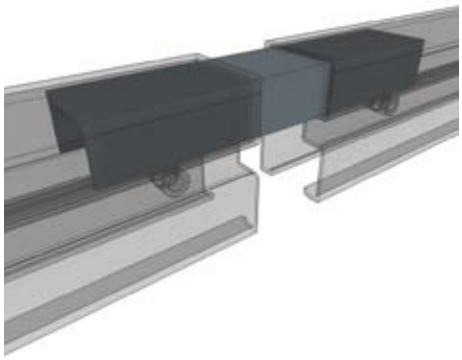
DETAIL OF COMPLETE SYSTEM
Start profile with panel, cover plate, plate and air cell cover profiles.



ACCESSORIES

The arcoPlus® system includes a complete range of accessories to facilitate installation. For correct installation the ends of the air cells in the panels must be heat-sealed to prevent soiling on the inside.

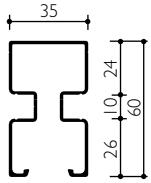
CONNECTOR JOINT
AL connector profiles with eclypse.



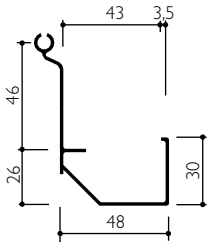
DETAIL OF CONNECTOR
Use of aluminium joint screwed down and end closed with PE-LD pad.

METAL PROFILES

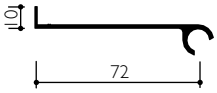
code 4310
Connector AL profile with screw



code 4245
U-shaped closing support in AL

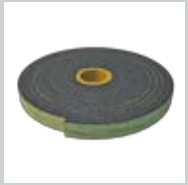


code 4252
closing support in AL



40x35x580 code 4213
70x40x580 code 4221
Pad PE-LD

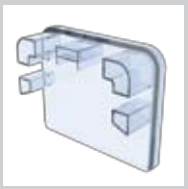
code 4318
Pad PE-LD for connector



code 4329
Guarnizione PE-LD 4x15mm

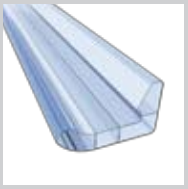
code 4316 **M6 nut**
code 4315 **M6x20 screw**
Accessories for connector

ACCESSORIES

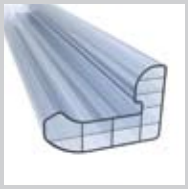


code 4303
Covergasket stopper

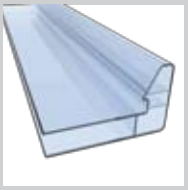
code 2146
Covergasket in polycarbonate



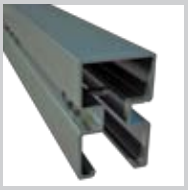
code 2147
Start profile 684-6104 in polycarbonate



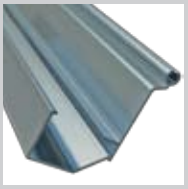
code 2245
Start profile 6124 in polycarbonate



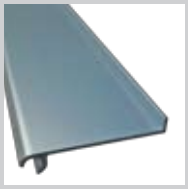
sp. 8mm code 2148
sp.10mm code 2265
sp.12mm code 2250
End profile in PC



code 4310
Connector AL profile with screw



code 4245
U-shaped closing support in AL



code 4252
closing support in AL

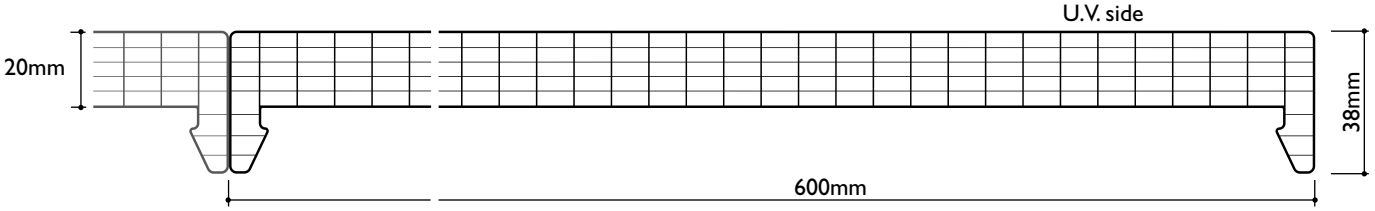
code 4319/200
AL eclisse for connector

sp. 8mm code 4326
sp.10mm code 4350
sp.12mm code 4355
AL plate

code 4264
Stainless steel plate for flat connection

code 4138
Stainless steel plate for vertical connection

arcoPlus® 626



2.2

Modular system of UV protected multiwall polycarbonate for translucent curtain walls and roofing.

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Self-supporting

APPLICATIONS

- Vertical windows
- Roofing
- Curved roofing

PRODUCTION STANDARDS

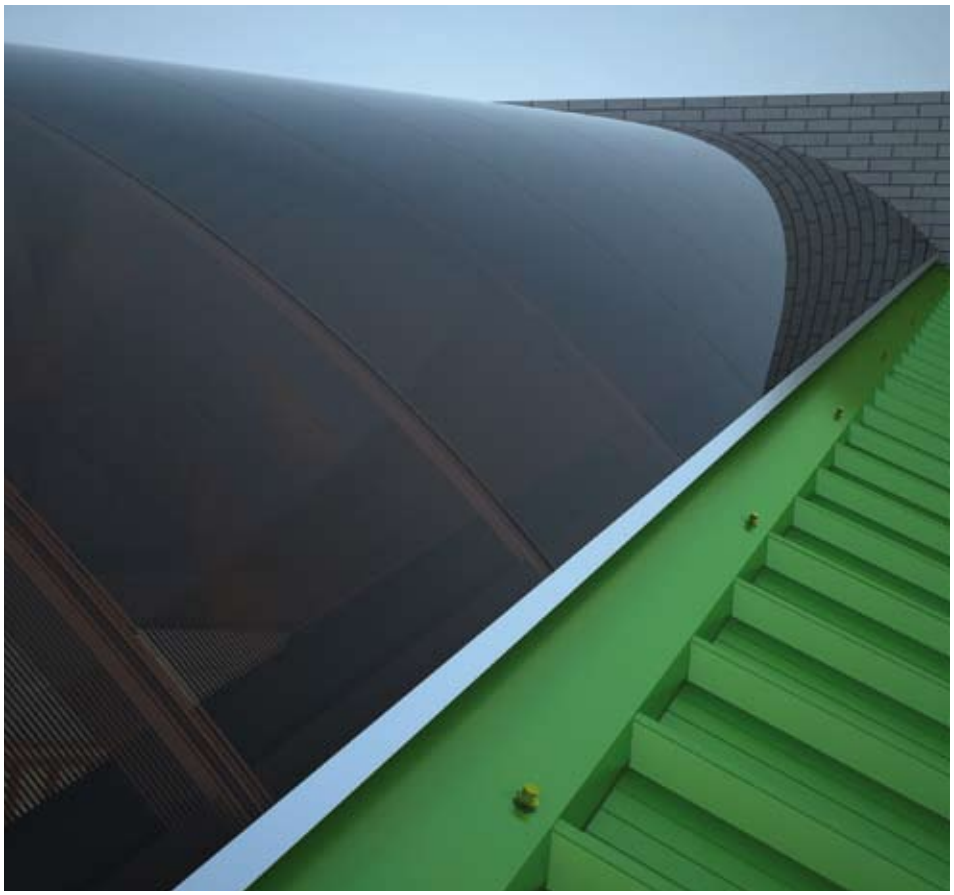
thickness	20mm
structure	6 walls
effective modular width	600mm
panel length	no limit
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	1,5 W/m²K
Acoustic insulation	20 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

DESCRIPTION

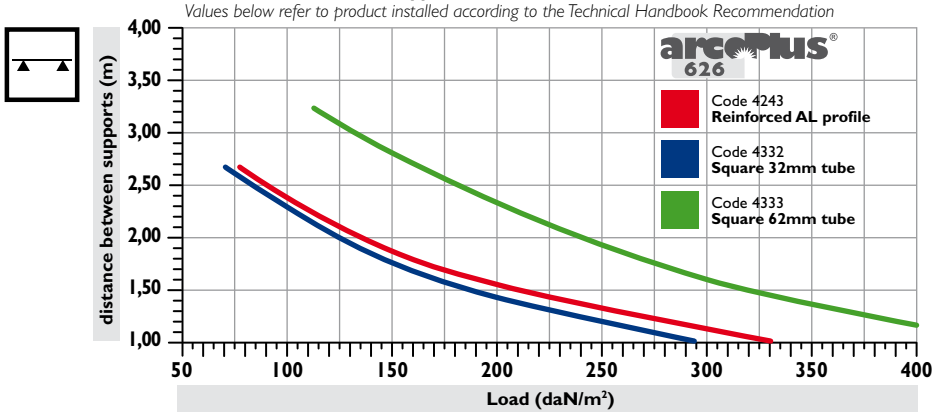
arcoPlus®626 is a modular system of co-extruded 6 walls polycarbonate panels with a thickness of 20mm, and 600mm module, assembled using a snap-on system to plasticised steel or aluminium profiles.
Used for vertical glazing, flat roofing (min. slope 5%) and curved roofing (minimum radius 4m).



FLAT SYSTEM
LOAD RESISTANCE

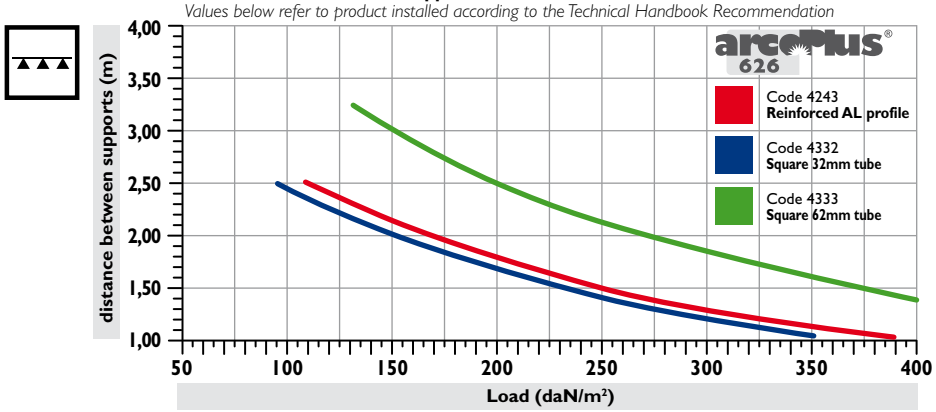
Maximum loads on two supports

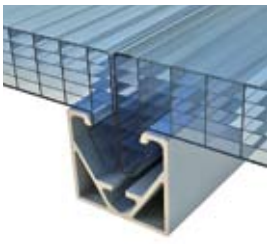
Values below refer to product installed according to the Technical Handbook Recommendation



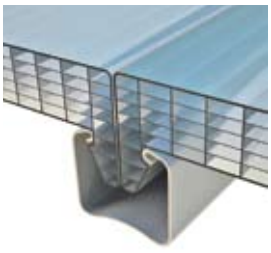
Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation

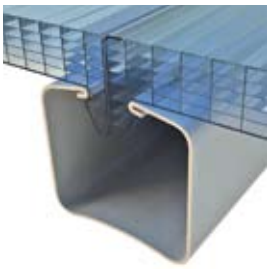




system with reinforced aluminium profile



system with square 32mm tube



system with square 62mm tube

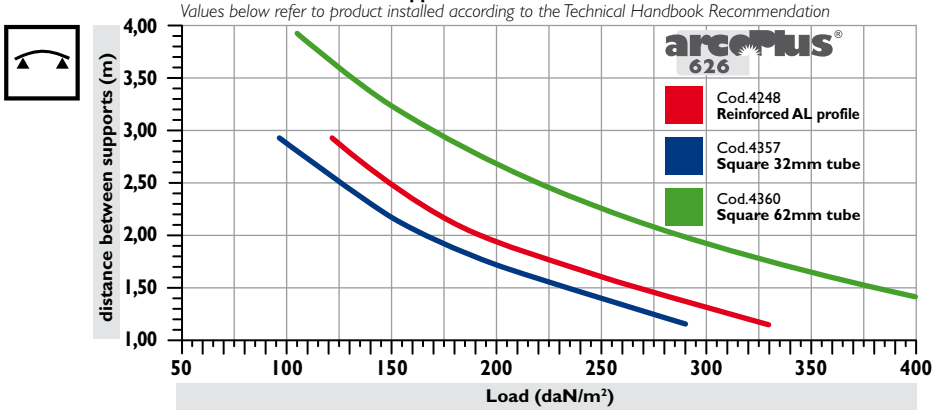
EASY AND LOW-COST INSTALLATION

The 6 walls design with snap-on connection to open joint tubes gives the panel remarkable flexural strength. It is suitable for vertical curtain walls and large areas of self-supporting roofing without the use of section-breaker profiles.
The snap-on connection and complete range of accessories and aluminium perimeter profiles combine to guarantee a perfectly watertight seal and considerable wind load resistance.

CURVED SYSTEM LOAD RESISTANCE

Maximum loads on two supports R.4.000mm

Values below refer to product installed according to the Technical Handbook Recommendation

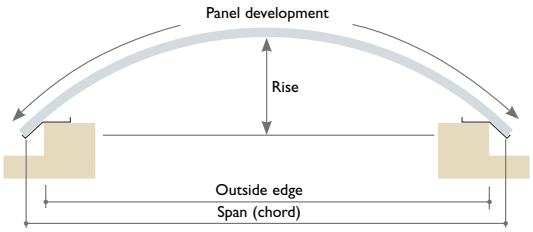


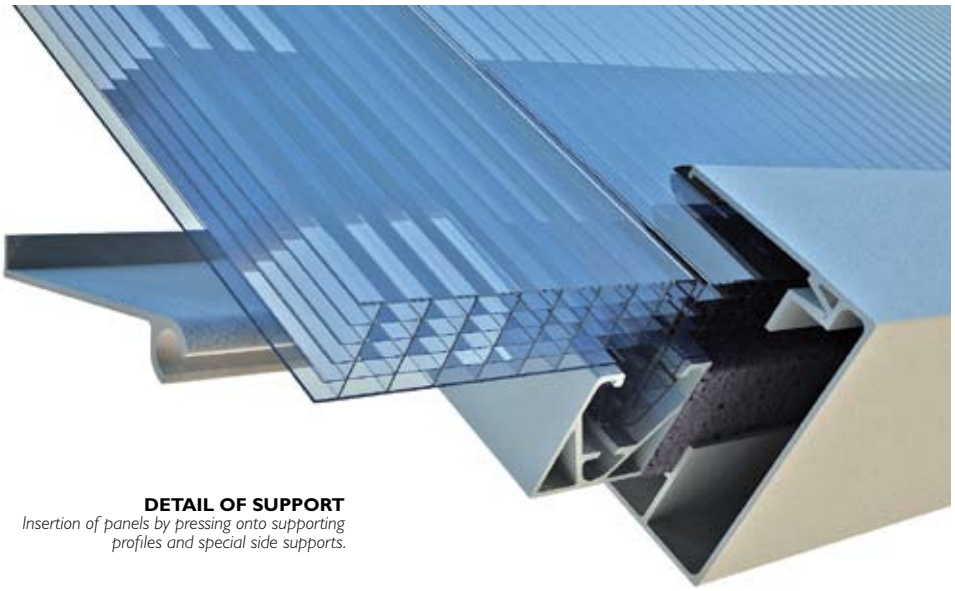
CURVED SELF-SUPPORTING SYSTEM

The metal reinforcement frames guarantee the load capacity of the entire system, while the polycarbonate staves create a continuous curtain walling effect.
Special adjustable supports guarantee a complete seal. Different types of reinforcement frames are available to guarantee the required load and wind resistance properties according to the relative load capacity values and conditions of use.

DESCRIPTION

Span and rise are measured on the inside of the upright.

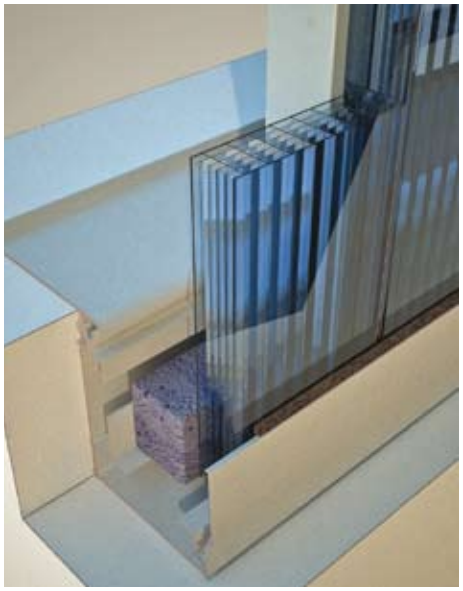




DETAIL OF SUPPORT
Insertion of panels by pressing onto supporting profiles and special side supports.



WALL SYSTEM
Construction of continuous transparent walls, with insertion on aluminium profile using a snap-on system.

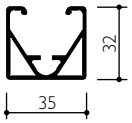


ACCESSORIES

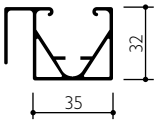
The arcoPlus® system includes a complete range of accessories to facilitate installation. The air cells of the panels must be sealed using a specific polycarbonate profile or vented aluminium breather tape.
This allows correct ventilation and prevents soiling on the inside.

METAL PROFILES

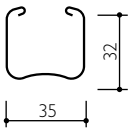
code 4243 (straight)
code 4248 (curved)
Reinforced AL profile



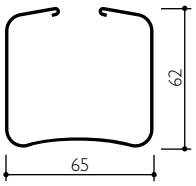
code 4244 (straight)
code 4249 (curved)
Gabled AL profile



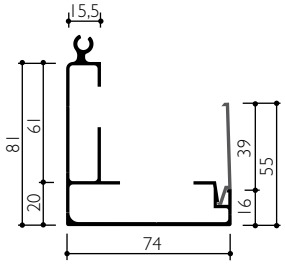
code 4332 (straight)
code 4357 (curved)
Square 32mm tube



code 4333 (straight)
code 4360 (curved)
Square 62mm tube

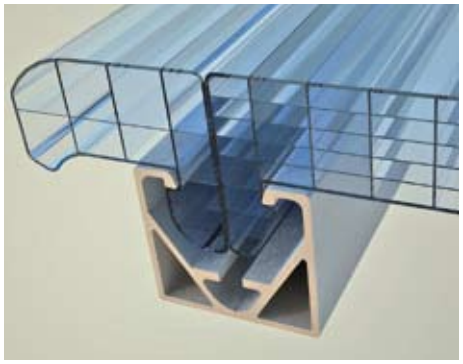


code 4271
Base-side AL profile with frontal opening

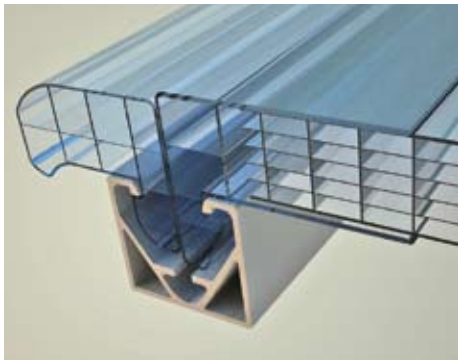


code 4252
closing support in AL

START PROFILE
Detail of insertion of start profile on roof.

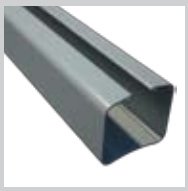


END PROFILE
Detail of insertion of section-breaker profile to complete roofing.

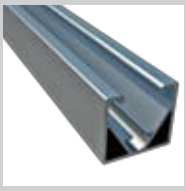


ACCESSORIES

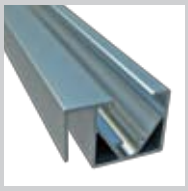
code 4332 (straight)
code 4357 (curved)
Square 32mm tube



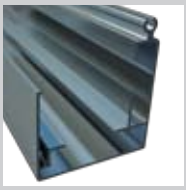
code 4333 (straight)
code 4360 (curved)
Square 62mm tube



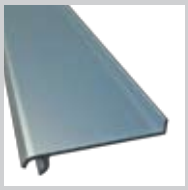
code 4243 (straight)
code 4248 (curved)
Reinforced AL profile



code 4244 (straight)
code 4249 (curved)
Gabled AL profile



code 4271
Base-side AL profile with frontal opening



code 4252
closing support in AL

code 2179
Start profile in polycarbonate

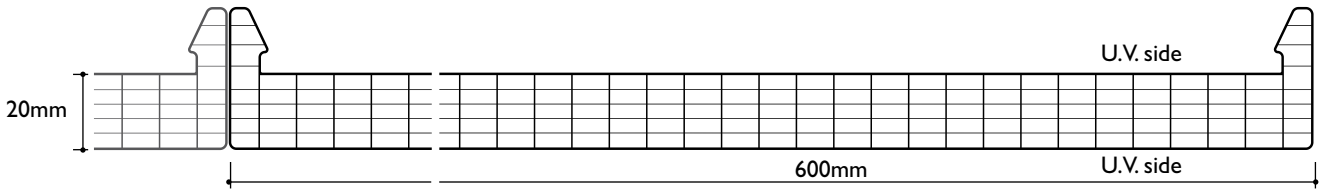
code 2180
End profile in polycarbonate

40x35x580 code 4213
70x40x580 code 4221
Pad PE-LD

code 2182
Block cover

code 4327
Additional tape

arcoPlus® Reversò 626



2.2
Modular system of bi-protected multiwall polycarbonate for translucent roofing applications

PRODUCTION STANDARDS

thickness	20mm
structure	6 walls
effective modular width	600mm
panel length	no limit
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	1,5 W/m²K
Acoustic insulation	20 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	2 sides Coextrusion
Fire reaction	EuroClass Bs1d0

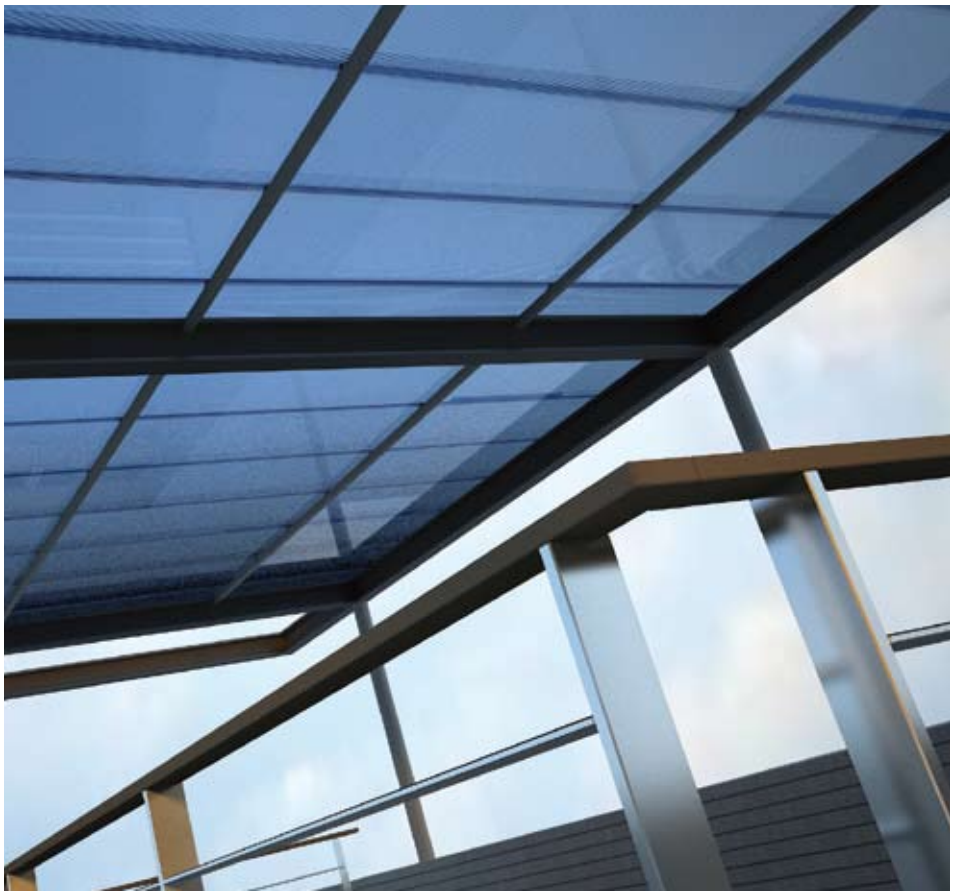
DESCRIPTION

arcoPlus® 626 reversò is a modular system of co-extruded six-wall polycarbonate panels with a thickness of 20 mm.

These are fixed to the existing structure using specific anchor brackets. The panels are joined together by a protected polycarbonate cover plate assembled using a snap-on system, or by an aluminium connector, for a perfectly watertight seal.

ADVANTAGES

- Easy and low-cost installation
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Bendability R.min=2,5m



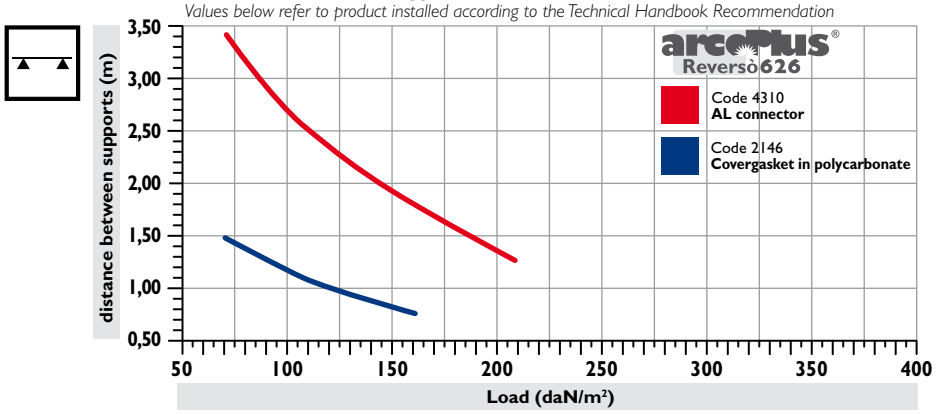
APPLICATIONS

- Roofing
- Curved roofing

FLAT SYSTEM LOAD RESISTANCE

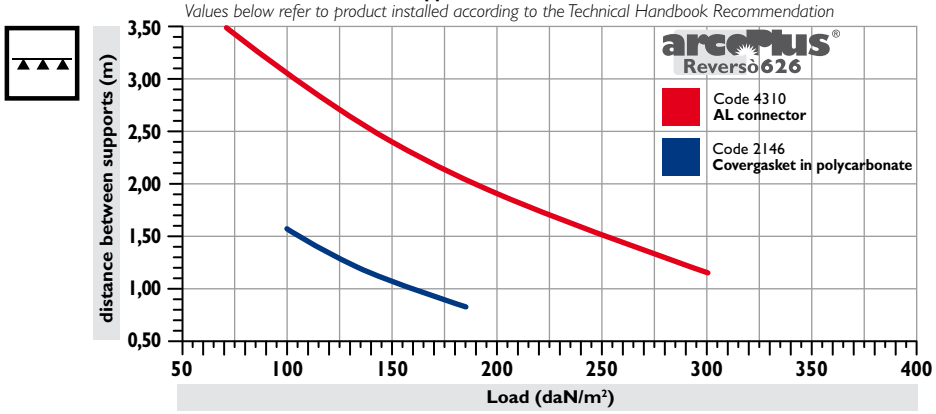
Maximum loads on two supports

Values below refer to product installed according to the Technical Handbook Recommendation

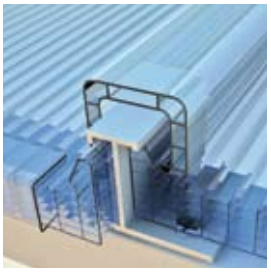


Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation



System with aluminium connector



System with polycarbonate covergasket

EASY AND LOW-COST INSTALLATION

To ensure compliance with snow load and negative wind load resistance requirements, anchor brackets should be fitted for each purlin.

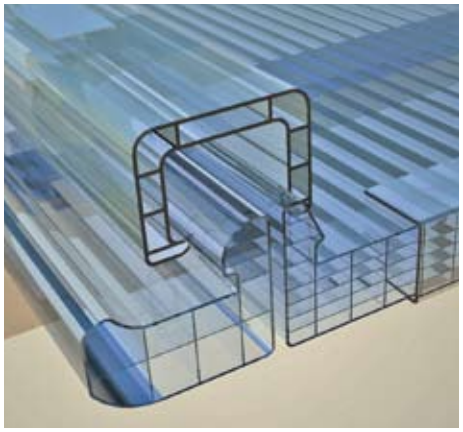
The polycarbonate panels are fastened to the underlying structure using specific brackets, which must be anchored to the purlins using suitable self-drilling/self-tapping screws (on metal structures) and tap bolts (for wooden structures). These screws and bolts are not supplied.

Different connector profiles can be used, depending on the required load specifications.

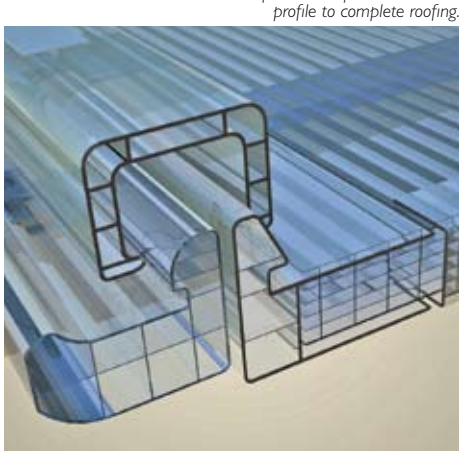
COMPLETE ROOFING SYSTEM

Modular multiwall polycarbonate panels for the construction of flat or curved roofing. The panels are anchored to the supporting structure using specific aluminium brackets to guarantee load strength.
Depending on the load capacity values required, or the distance between the purlins of the underlying structures, either polycarbonate cover plates can be used or, for greater strength, aluminium connectors.

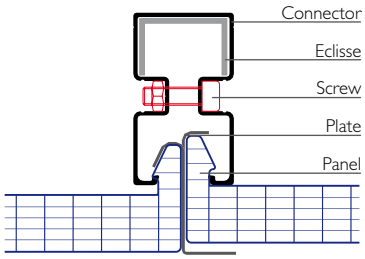
DETAIL OF START PROFILE
Start profile with panel, cover plate, plate and air cell cover profiles.



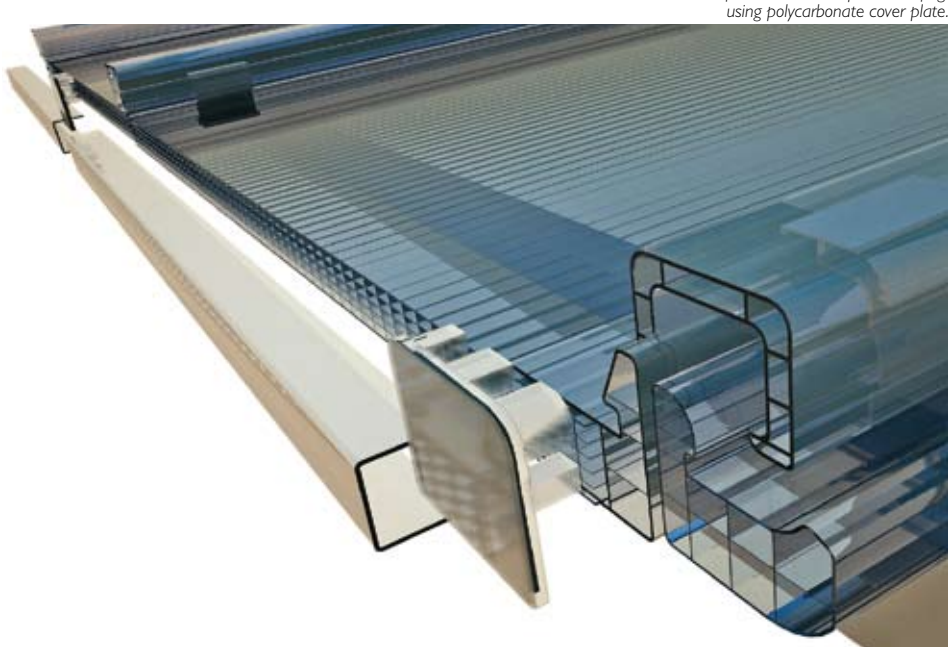
DETAIL OF END PROFILE
Detail of insertion of section-breaker profile to complete roofing.



DETAIL
of fitting connector with screw



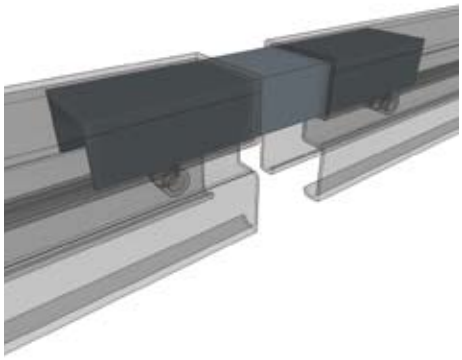
CONTINUOUS ROOFING
Construction of continuous transparent roofing, using polycarbonate cover plate.



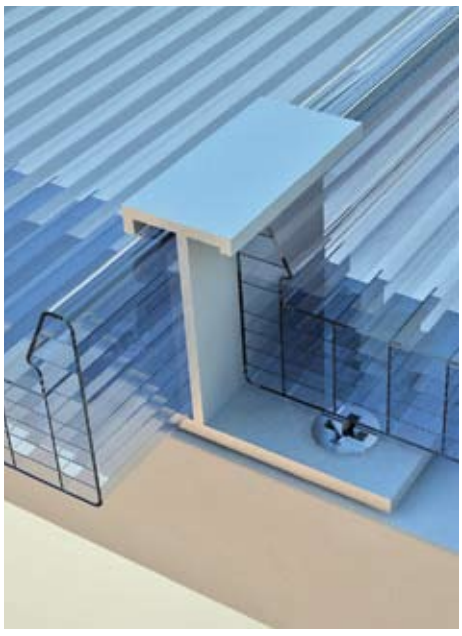
ACCESSORIES

The arcoPlus® system includes a complete range of accessories to facilitate installation. The air cells of the panels must be sealed using a specific polycarbonate profile or vented aluminium breather tape. This allows correct ventilation and prevents soiling on the inside.

CONNECTOR JOINT
AL connector profiles with eclypse.

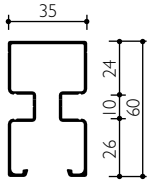


DETAIL OF ANCHORAGE
Profiles anchored to supporting structures using aluminium plates.

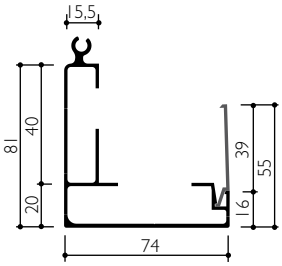


METAL PROFILES

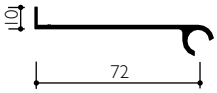
code 4310
Connector AL profile with screw



code 4271
Base-side AL profile with frontal opening



code 4252
closing support in AL



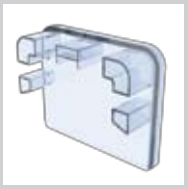
code 4327
Additional tape

code 2182
Block cover

code 4319/200
AL eclypse for connector

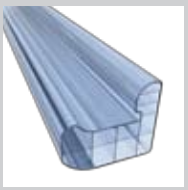
code 4316 **dado M6**
code 4315 **vite M6 x 20**
Accessories for connector

ACCESSORIES

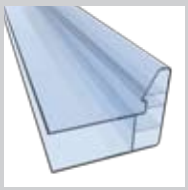


code 4303
Covergasket stopper

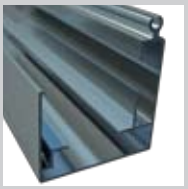
code 2146
Covergasket in polycarbonate



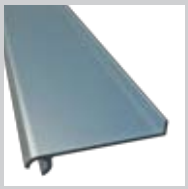
code 2179
Start profile in polycarbonate



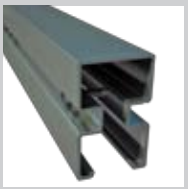
code 2180
End profile in polycarbonate



code 4271
Base-side AL profile with frontal opening



code 4252
closing support in AL



code 4310
Connector AL profile with screw

code 4328
AL plate

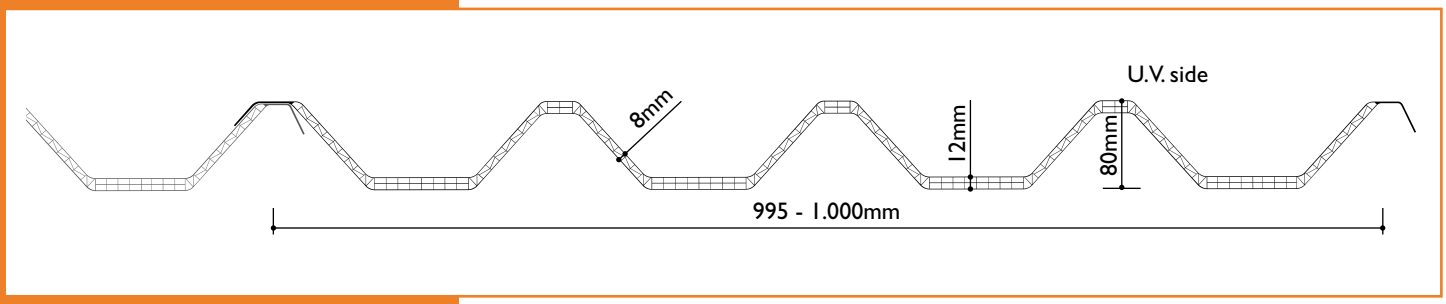
code 4263
Stainless steel plate for flat connection

code 4264
Stainless steel plate for vertical connection

code 4318
Pad PE-LD for connector

35x40x580 code 4213
70x40x580 code 4221
Pad PE-LD

arcoPlus® 1000 Piano



2.3
Modular system of corrugated UV protected multiwall polycarbonate for translucent curtain walls and roofing

ADVANTAGES

- High load resistance
- Longitudinal overlap
- Transverse overlap
- Thermowelded panels
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation

APPLICATIONS

- Vertical windows
- Roofing

PRODUCTION STANDARDS

thickness	variable 8÷12mm
profile height	80mm
structure	3 walls
modular width	995 - 1.000mm
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	2,68 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0
Accidental shock resistance	1.200 Joule

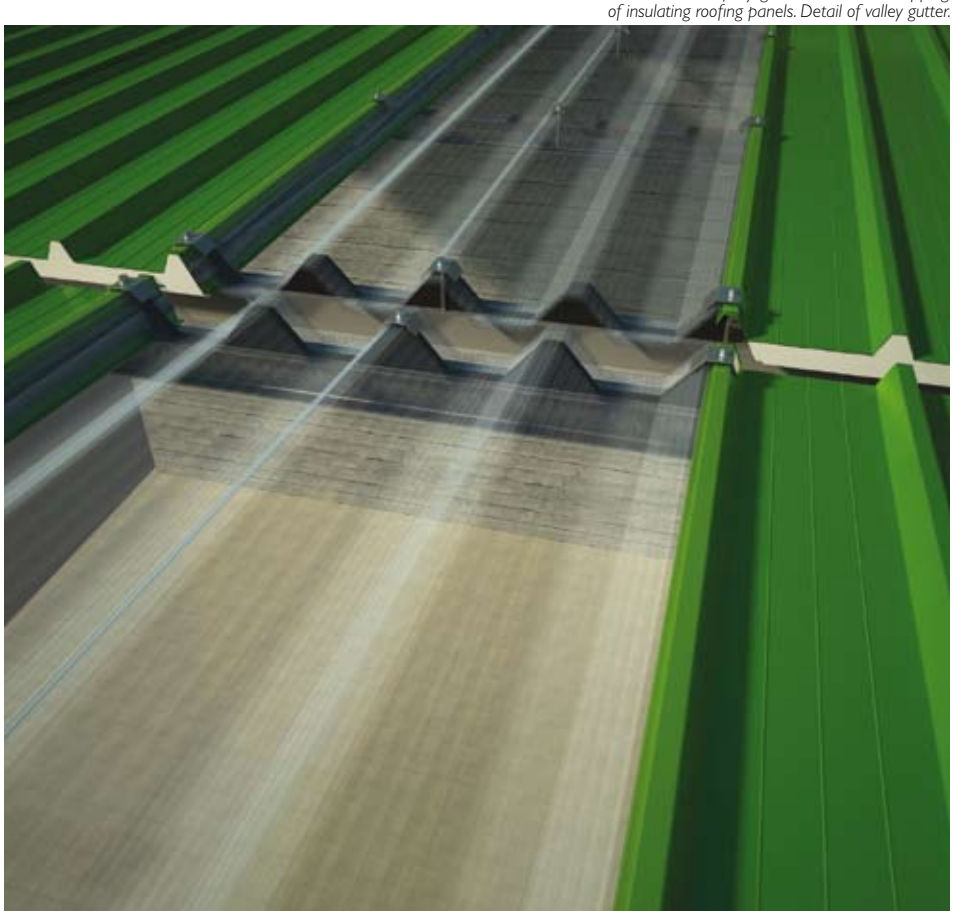
EASY AND LOW-COST INSTALLATION

The distance between supports depends on the required load capacity values. The table shows the load capacity values, for profiles with a longitudinal overlap fixed at the ends of each flute.

Used with insulated panels:
maximum length 5,000mm

Continuous roofing:
maximum length 3,500mm

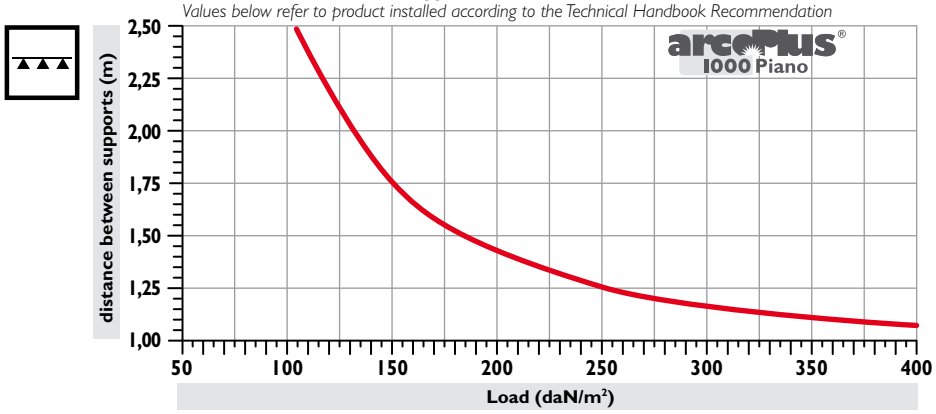
SKYLIGHT - PANEL APPLICATION
Construction of skylight with lateral overlapping of insulating roofing panels. Detail of valley gutter.



LOAD RESISTANCE
SKYLIGHT - SINGLE PANEL SYSTEM

Maximum loads on more supports

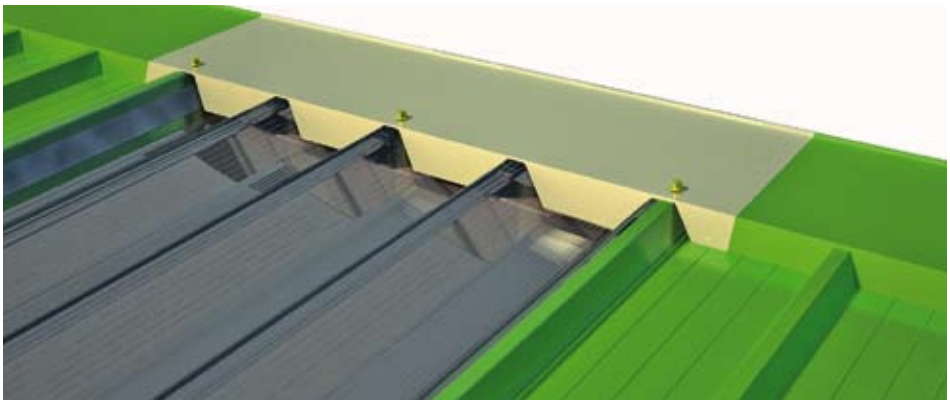
Values below refer to product installed according to the Technical Handbook Recommendation



SKYLIGHT GUTTER RIDGE APPLICATION

Panels laterally overlapping insulated corrugated metal roofing panels.
Thanks to the specific design of the profile the system is perfectly compatible for overlapping all the main types of panel.
Minimum slope 5%.

SHEET METAL RIDGE
Pre-painted galvanised steel sheet ridge profile, consisting of two half-ridges

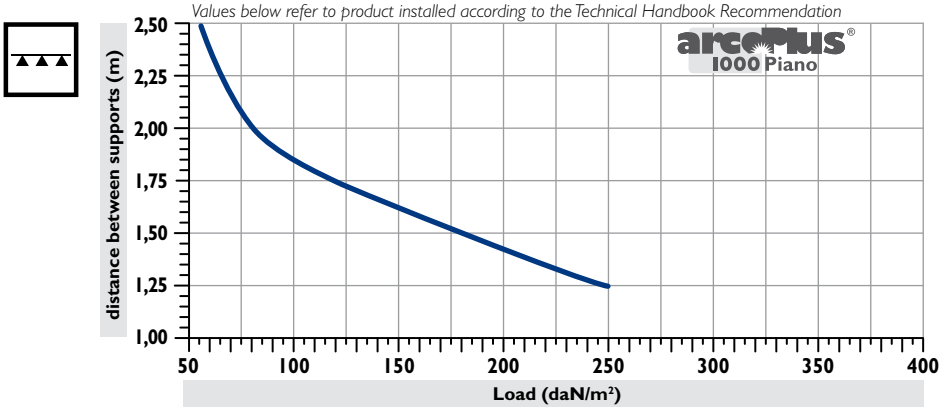


COVER FOOT
Detail of lateral overlapping with insulated metal panels. Fastening of cover foot.

LOAD RESISTANCE OF MULTIPLE PANEL CONTINUOUS ROOFING SYSTEM

Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation



APPLICATION ON CONTINUOUS ROOFING

Construction of continuous roofing/wall with continuous lateral overlapping of polycarbonate panels.
For roofing, recommended minimum slope 7%.

CONTINUOUS ROOFING

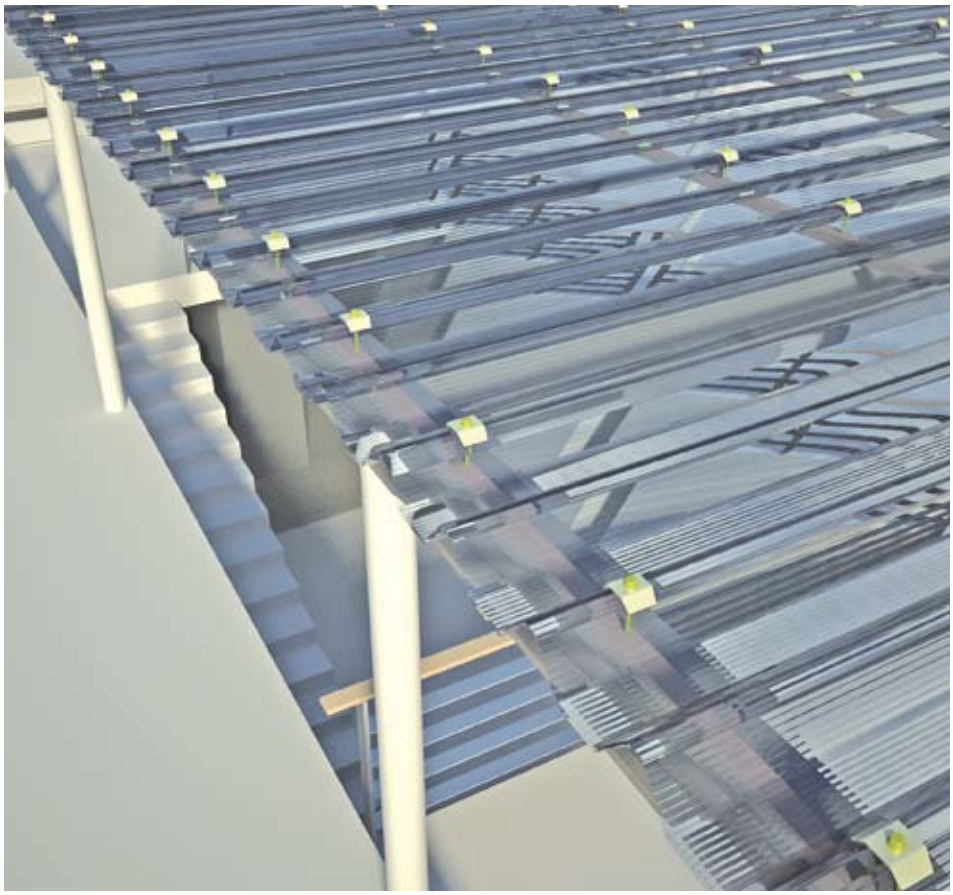
Construction of continuous translucent roofing, with overlapping of panels. Recommended minimum slope 7%.



ACCESSORIES

arcoPlus®1000 is a complete system for the construction of translucent curtain walls/ roofing. It includes a range of accessories that make it suitable for all purposes. In addition to complete fastening assemblies, the system includes a tongue and groove seal, a flat strip for sealing overlap areas, a range of steel profiles including bracing brackets, and a special press-formed profile to be inserted as a reinforcement on the groove side of the panel. For continuous roofing the panels are arranged with a continuous lateral overlap.
A flat ridge to place over the adjacent ridge profiles completes the range of accessories. Standard panels are supplied with heat-sealed ends to prevent soiling inside the air cells.

ANCHORAGE OF ROOFING
This is done using an aluminium cap with Vipla washer and self-drilling screw.



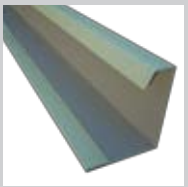
ACCESSORIES

code 4234
Cappellotto in AL con guarnizione

code 4233
Screw with 6.3x120 Vipla washer

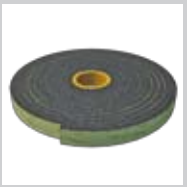
code 4229
Guarnizione PE-LD maschio-femmina

code 4250
Guarnizione gronda PE-LD

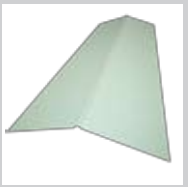


code 4236
Distanziale lato femmina in AZ prev. BG

code 4235
Staffa di rinforzo in AZ

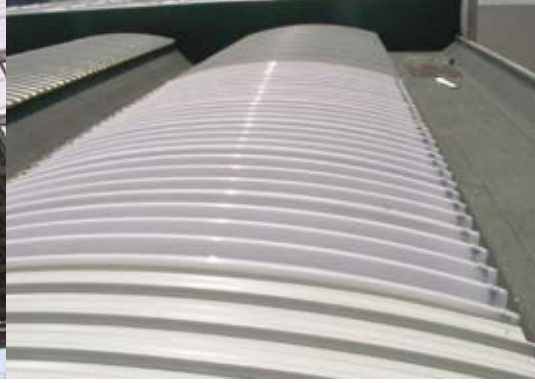


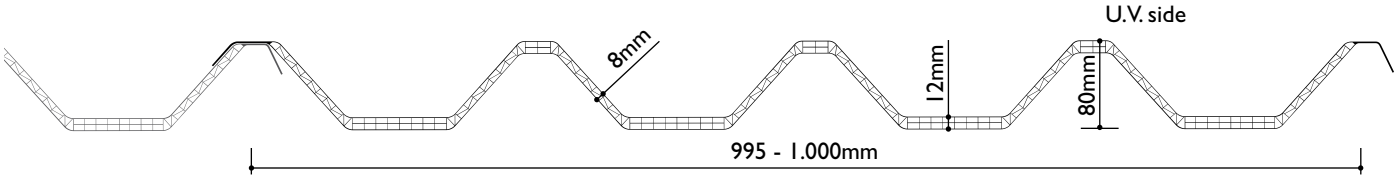
code 4232
Guarnizione piana PE-LD 20x10



code 4231
Colmo liscio in AZ prev.BG (2 pezzi)

arcoPlus® 1000 Curvo





2.3
Modular system of corrugated UV protected multiwall polycarbonate for curved translucent roofing

ADVANTAGES

- High load resistance
- Longitudinal overlap
- Thermowelded panels
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation

APPLICATIONS

Curved roofing

PRODUCTION STANDARDS

thickness	variable 8÷12mm
profile height	80mm
structure	3 walls
modular width	995 - 1.000mm
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	2,68 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0
Accidental shock resistance	1.200 Joule

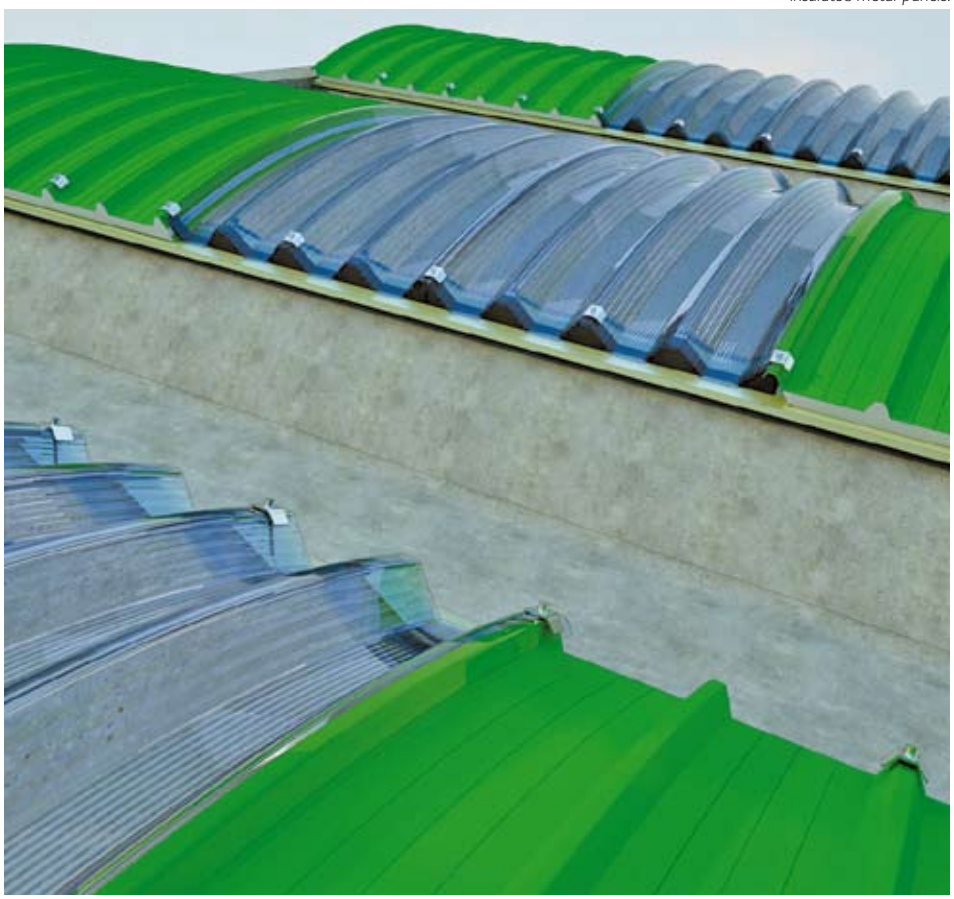
SKYLIGHT PANEL

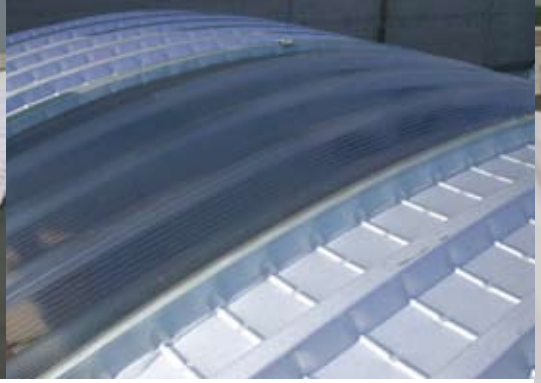
Creation of skylights, achieved by means of lateral overlapping of translucent components with curved metal insulated panels.

CONTINUOUS ROOFING

Creation of continuous roofing, achieved by means of continuous lateral overlapping of polycarbonate panels. Components are manufactured with a bend radius of R.3,300mm or R.6,000mm.

CURVED ROOFING
Detail of curved roofing in use with insulated metal panels.

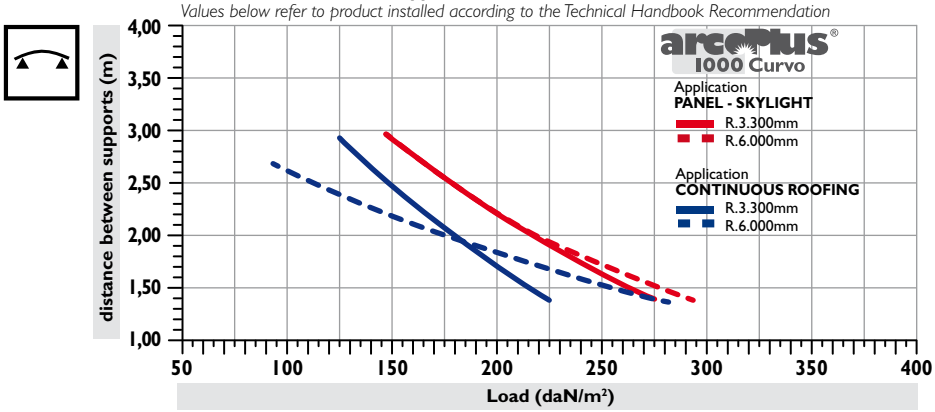



CURVED SYSTEM LOAD RESISTANCE

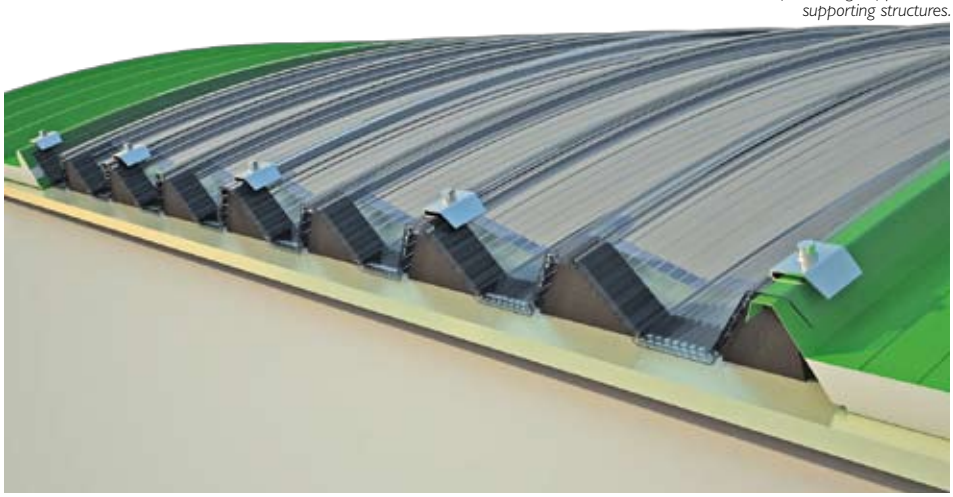
Maximum loads on two supports - R.3.300 - R.6.000mm

Values below refer to product installed according to the Technical Handbook Recommendation



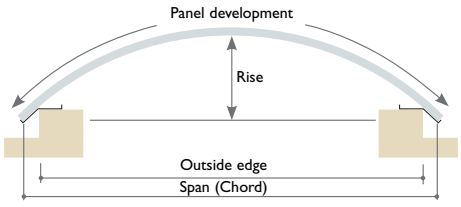
DETAIL OF ANCHORAGE

Detail of anchorage of panels to supporting structures.



DEVELOPMENT TABLE

	R.3.300mm		R.6.000mm	
Span	Rise	Development	Rise	Development
1.000	38	1.016	21	1.008
1.200	55	1.221	30	1.231
1.400	75	1.428	41	1.413
1.600	98	1.635	54	1.616
1.800	125	1.845	68	1.820
2.000	155	2.056	84	2.024
2.200	189	2.270	102	2.228
2.400	226	2.486	121	2.434
2.600	267	2.704	143	2.640
2.800	312	2.926	166	2.846
3.000	361	3.151	191	3.054
3.200	414	3.380	217	3.263
3.400	472	3.613	246	3.472
3.600	534	3.851	276	3.683
3.800	602	4.095	309	3.895
4.000	675	4.345	343	4.108
4.200	754	4.601	380	4.322
4.400	840	4.867	418	4.538
4.600	935	5.141	458	4.756
4.800	1.035	5.426	501	4.975



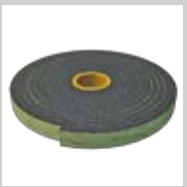
ACCESSORIES

code 4234
Cappellotto in AL
con guarnizione

code 4233
Screw with 6.3x120
Vipla washer

code 4250
Guarnizione gronda
PE-LD

code 4235
Staffa di rinforzo
in AZ



code 4232
Guarnizione piana
PE-LD 20x10

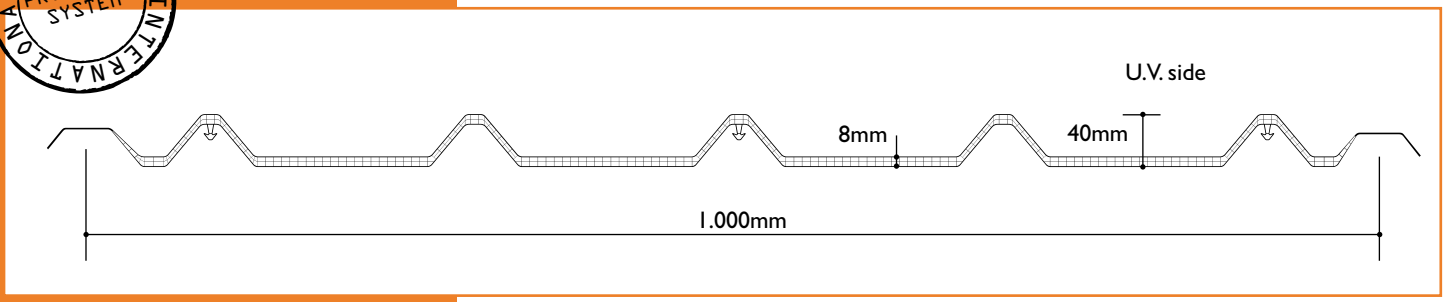
ACCESSORIES

arcoPlus®1000 is a complete system for the construction of translucent roofing and includes a range of accessories that make it suitable for all purposes.
Standard panels are supplied with heat-sealed ends to prevent soiling inside the air cells.

arcoPlus® GRECAClick

rigga

PATENT - INTERNATIONAL - PROTECTED SYSTEM



2.3

Modular system of corrugated UV protected multiwall polycarbonate, assembled using a snap-on system without drilling for translucent curtain walls and roofing.

ADVANTAGES

- Pressed on without drilling holes in panels
- Anchor brackets hidden in the structure
- Transverse and longitudinal overlap
- Resistance to U.V. rays and to hail
- Light transmission
- Thermowelded sheets
- Thermal insulation

APPLICATIONS

- Roofing and skylights
- Vertical windows

PRODUCTION STANDARDS

thickness	8mm
profile height	40mm
structure	3 walls
modular width	1.000mm
colours available	see page 11

TECHNICAL FEATURES

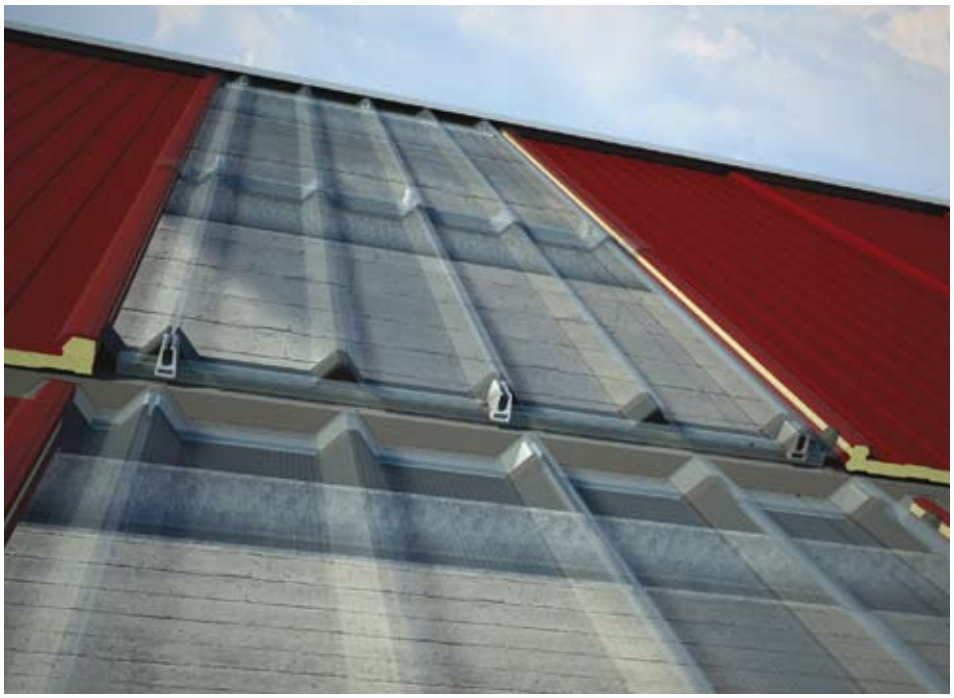
Thermal insulation	3,0 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

ANCHORAGE OF ROOFING

This is done by pressing onto the anchor bracket.

EASY AND LOW-COST INSTALLATION

Innovative patented roofing system, anchored by pressing it onto specific anchor brackets that allow the polycarbonate sheets to expand without undermining load strength.





SKYLIGHT GUTTER RIDGE APPLICATION

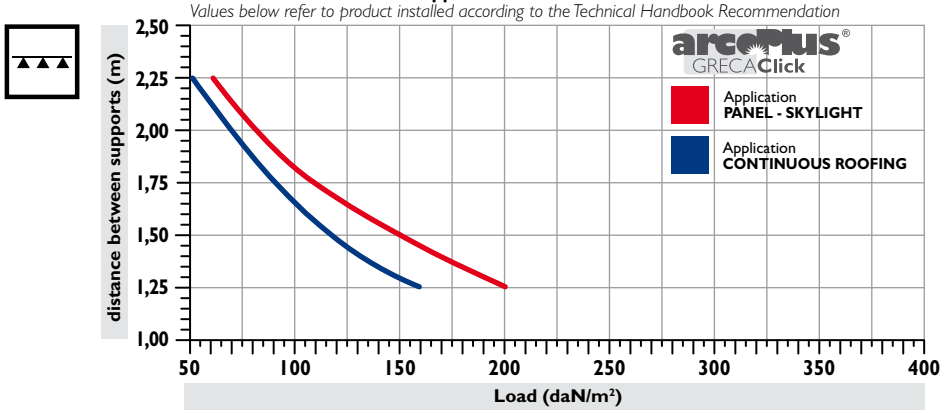
Skylight obtained by laterally overlapping with all types of foamed roofing panels or corrugated sheets. The special method of connection guarantees resistance to dynamic wind loads while at the same time allowing the material to expand.
Recommended minimum slope 5%.

CONTINUOUS ROOFING APPLICATION

Construction of continuous roofing with continuous lateral overlapping of components.
Recommended minimum slope 7%.

LOAD RESISTANCE

Maximum loads on more supports
Values below refer to product installed according to the Technical Handbook Recommendation



ACCESSORIES

GrecaClick connection kit

code 4420 **Kit 20**
code 4423 **Kit 30**
code 4424 **Kit 40**

GrecaClick overlap kit

code 4425 **Kit 20**
code 4427 **Kit 30**
code 4429 **Kit 40**

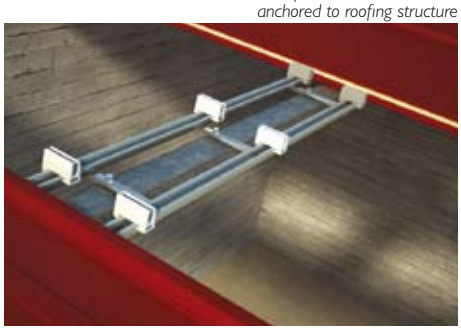
PE-LD GrecaClick ridge bird comb kit

code 4406 **Kit 0**
code 4407 **Kit 20**
code 4408 **Kit 30**
code 4409 **Kit 40**

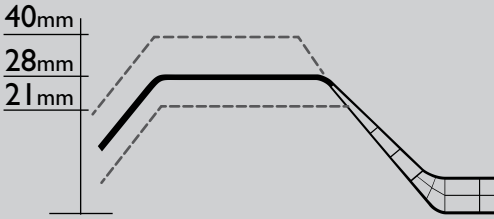
arcoPlus®GrecaCLICK
Supplied with thermowelded ends

DETAIL OF RIDGE
Detail of ridge with PE-LD seal

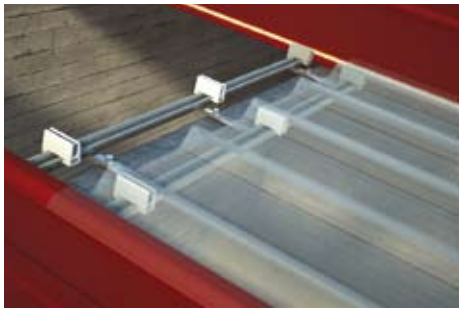
OVERLAP – STEP 1
Detail of double anchor bracket anchored to roofing structure



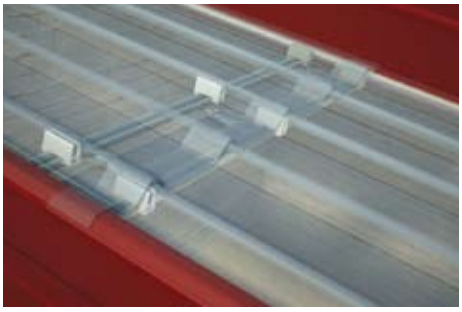
arcoPlus®GrecaCLICK
The ends of the sheets can be modified for use with different roofing profiles.



OVERLAP – STEP 2
Insertion of lower sheet by pressing

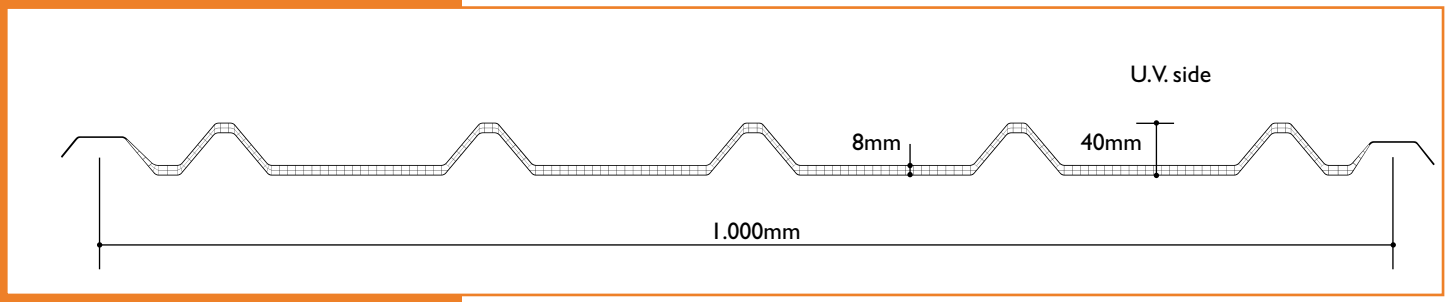


OVERLAP – STEP 3
Insertion of upper sheet by pressing



DETAIL OF GUTTER
Detail of insertion of the PE-LD seal.

arcoplus® MiniGRECA



2.3
Modular system of corrugated UV protected multiwall polycarbonate for translucent curtain walls and roofing applications

ADVANTAGES

- Transverse and longitudinal overlap
- Resistance to U.V. rays and to hail
- Light transmission
- Thermowelded sheets
- Thermal insulation

APPLICATIONS

Roofing and skylights

PRODUCTION STANDARDS

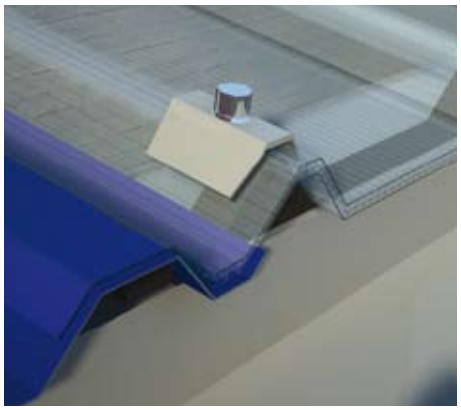
thickness	8mm
profile height	40mm
structure	3 walls
modular width	1.000mm
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	3,0 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0

ANCHORAGE OF ROOFING

This is done by drilling and inserting a screw with Vipla washer and cap.



EASY AND LOW-COST INSTALLATION

Construction of continuous roofing or gutter ridge skylights with lateral and transverse overlapping of components, for use with all the main insulating panels and corrugated sheets available on the market.

SKYLIGHT GUTTER RIDGE APPLICATION

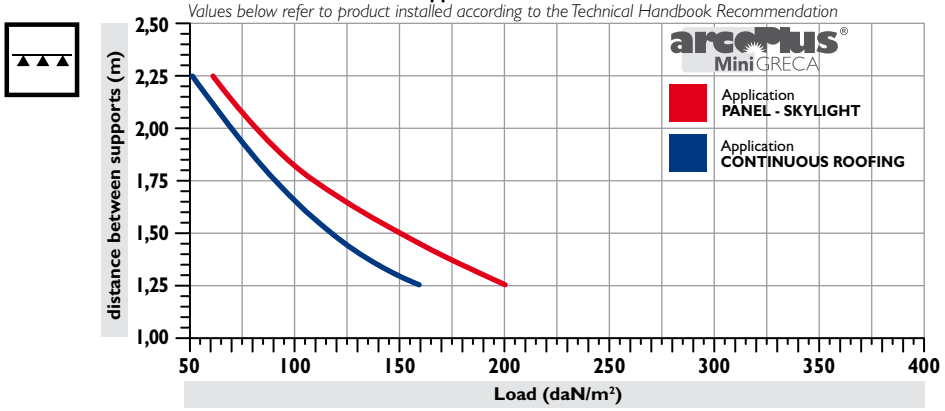
Skylight obtained by means of lateral overlapping with any type of corrugated roofing sheet.
Recommended minimum slope 5%.

CONTINUOUS ROOFING APPLICATION

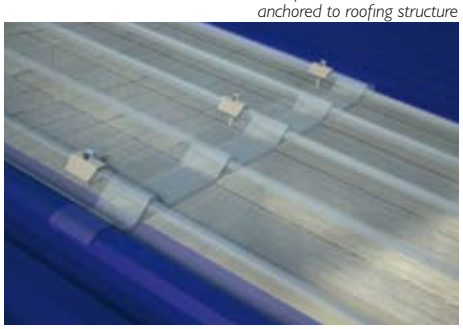
Construction of continuous roofing with continuous lateral overlapping of panels.
Recommended minimum slope 7%.

LOAD RESISTANCE

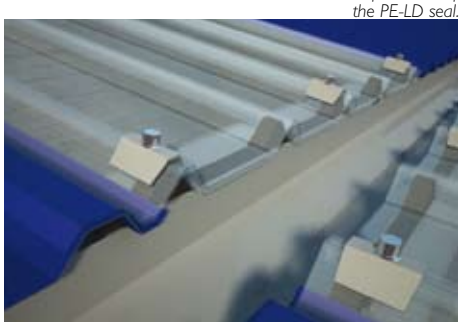
Maximum loads on more supports
Values below refer to product installed according to the Technical Handbook Recommendation



DETAIL OF OVERLAP
Detail of double anchor bracket anchored to roofing structure

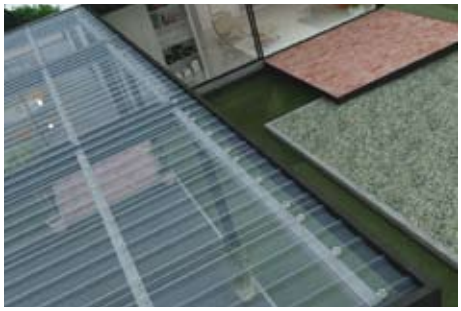


DETAIL OF GUTTER
Detail of insertion of the PE-LD seal.



CONTINUOUS ROOFING
Creation of large areas of transparent roofing.

CONTINUOUS ROOFING
Anchorage of roof components



ACCESSORIES

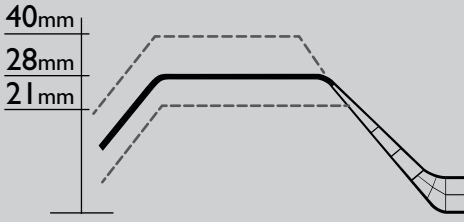
code 4433
Cappellotto in AL con guarnizione

code 4233
Screw with 6.3x60 Vipla washer

PE-LD GrecaClick ridge bird comb kit

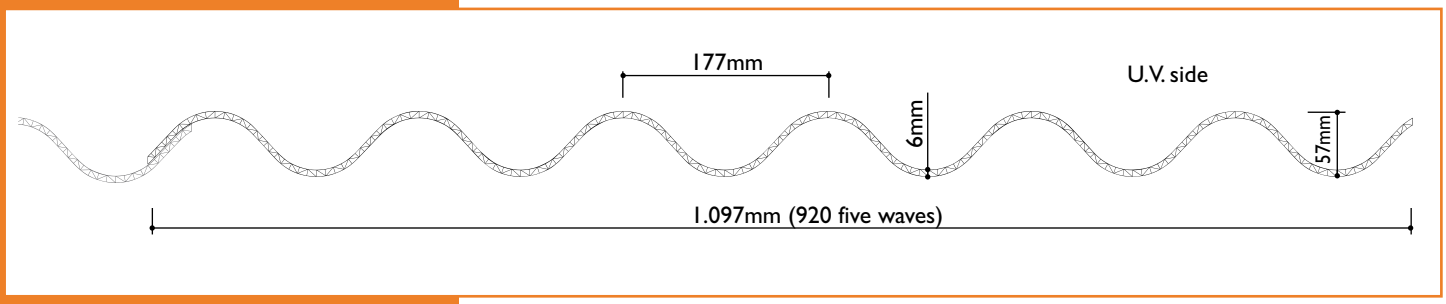
code 4406 **Kit 0 - 40**
code 4404 **Kit 21 - 28**

arcoPlus®MINIGreca, is a complete system for the construction of translucent curtain walls and roofing and includes a range of accessories that make it suitable for all purposes.
Thanks to the specific design of the profile the system is perfectly compatible with all the main types of panel. In addition to the complete anchor assemblies, the system also includes a tongue and groove seal.
Standard panels are thermowelded at the ends.



arcoPlus®MiniGRECA
The ends of the sheets can be modified to fit the different types of roofing profile.

arcoPlus® Onda Piano



2.3
Modular system of corrugated UV protected multiwall polycarbonate for vertical walls and roofings translucent and opaque

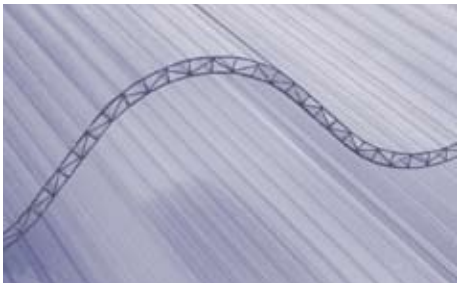
PRODUCTION STANDARDS

thickness	6mm
profile height	51mm
corrugation pitch	177mm
structure	3 walls with "N" structure
modular width	1.050mm (875 on request)
length	5.000mm (max adviced length)
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	3,2 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0
Accidental shock resistance	1.200 Joule

OVERLAP
detail of overlapping components



ADVANTAGES

- High load resistance
- Longitudinal and lateral overlap
- Thermowelded panels
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Easy to install

APPLICATION

- Vertical windows
- Roofing



SKYLIGHT GUTTER RIDGE APPLICATION

Panels laterally overlap insulated corrugated roofing panels, or fibre cement sheets. Recommended minimum slope 7%.

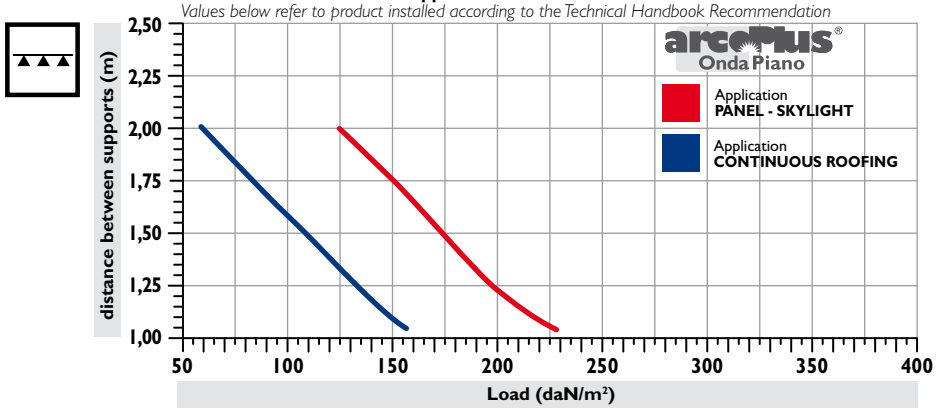
ROOFING-CONTINUOUS WALL APPLICATION

Construction of continuous roofing/wall with continuous lateral overlapping of polycarbonate panels.

FLAT SYSTEM LOAD RESISTANCE

Maximum loads on more supports

Values below refer to product installed according to the Technical Handbook Recommendation



EASY AND LOW-COST INSTALLATION

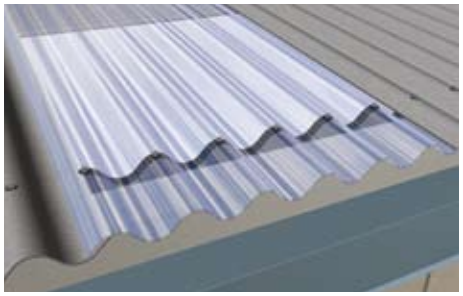
The arcoPlus®Onda Piano system can be used to construct continuous translucent roofing or combined with fibre cement sheets. The panels must be installed with the UV protected side facing the exterior, to preserve the optical and mechanical properties of the material.

If one or more transverse overlaps are required, installation must start from the cover foot (bottom) and then proceed upwards towards the ridge following the slope of the roof. In particularly windy areas, two-flute overlaps are advisable.

Overlapping can be used to create gutter ridge skylights and continuous skylights with lateral panel overlap.

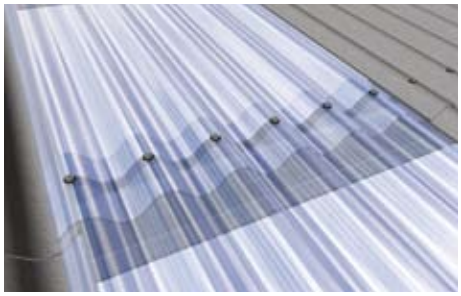
COVER FOOT

detail of gutter line with gasket.



OVERLAP

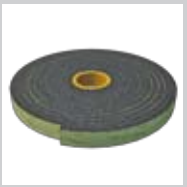
detail of overlapping components.



ACCESSORIES

code 4256
Gasket for gutter
PE-LD

6,3x 20 code 4262
6,3x 90 code 4261
6,3x120 code 4274
Fixing screw
with Buzzer



code 4232
Sealant tape
PE-LD 20x10

ACCESSORIES

arcoPlus®Onda, system has a complete set of accessories enabling simple installation.

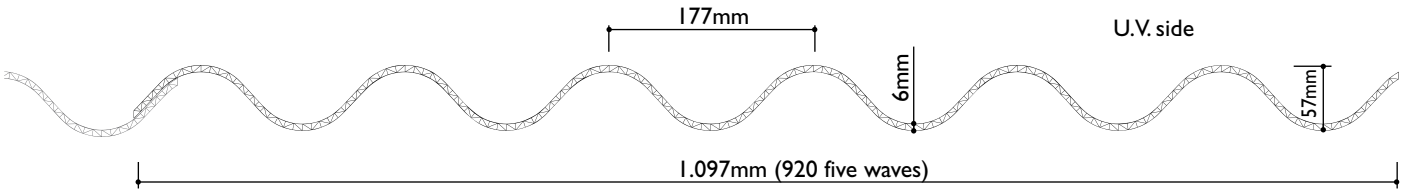
The structure has fixing elements, and gaskets in order to increase resistance in overlapped areas.

arcoPlus®Onda is delivered, as a standard product, with thermowelded extremities.

THERMOWELDING

arcoPlus®Onda is delivered, as a standard product, with thermowelded extremities, up to a max length of 5.000mm.

arcoPlus® Onda Curvo



2.3
Modular system of corrugated UV protected multiwall polycarbonate for curved translucent and opaque roofing

ADVANTAGES

- High load resistance
- Longitudinal and lateral overlap
- Thermowelded panels
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Easy to install

APPLICATIONS

Curved roofing

PRODUCTION STANDARDS

thickness	6mm
profile height	51mm
corrugation pitch	177mm
structure	3 walls with "N" structure
modular width	1.050mm (875 on request)
length	5.000mm (max adviced length)
colours available	see page 11

TECHNICAL FEATURES

Thermal insulation	3,2 W/m²K
Acoustic insulation	16 dB
Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. rays protection	Coextrusion
Fire reaction	EuroClass Bs1d0
Accidental shock resistance	1.200 Joule

CURVED SYSTEM APPLICATION

The arcoPlus®Onda Curvo system can be used to create continuous translucent roofing or used, by means of lateral overlapping, with curved fibre cement sheets or insulating panels with a curve radius of **R.3,500mm**.

The arcoPlus®Onda profile must be installed with the UV protected side facing the exterior, to preserve the optical and mechanical properties of the material.



SKYLIGHT PANEL

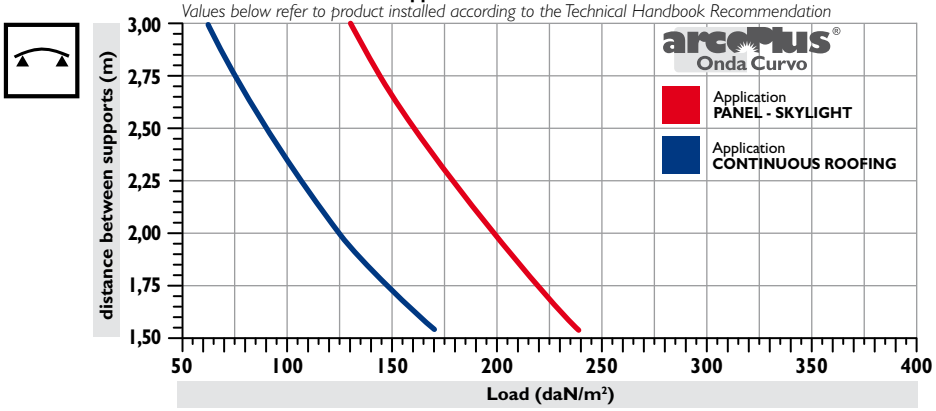
Panels laterally overlap insulated corrugated roofing panels, or fibre cement sheets. Recommended minimum slope 7%.

CONTINUOUS ROOFING

Construction of continuous roofing with continuous lateral overlapping of polycarbonate panels.
Components are manufactured with a bend radius of **R.3.500mm**.

CURVED SYSTEM LOAD RESISTANCE

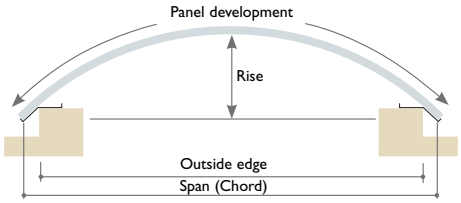
Maximum loads on two supports - R.3.500mm
Values below refer to product installed according to the Technical Handbook Recommendation



DEVELOPMENT TABLE

R.3.500 mm

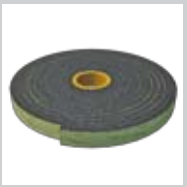
Span	Rise	Development
1.000	36	1.015
1.200	52	1.220
1.400	71	1.420
1.600	93	1.630
1.800	118	1.835
2.000	146	2.045
2.200	177	2.255
2.400	212	2.470
2.600	250	2.685
2.800	292	2.905
3.000	338	3.125



ACCESSORIES

code 4256
Gasket for gutter
PE-LD

6,3x 20 code 4262
6,3x 90 code 4261
6,3x120 code 4233
Fixing screw
with Buzzer

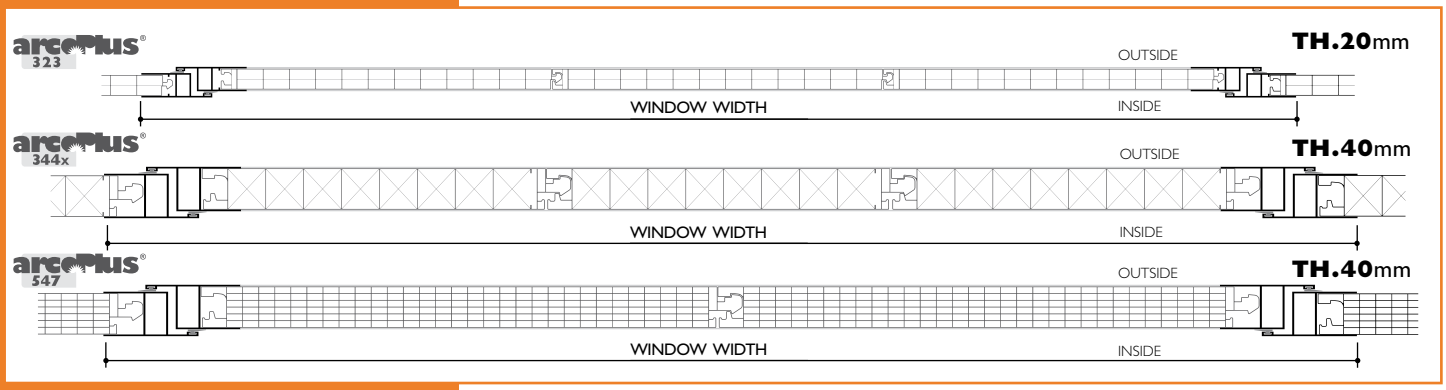


code 4232
Sealant tape
PE-LD 20x10

ACCESSORIES

arcoPlus®Onda, system has a complete set of accessories enabling simple installation.
The structure has fixing elements, and gaskets in order to increase resistance in overlapped areas.
arcoPlus®Onda is delivered, as a standard product, with thermowelded extremities.

arcoplus® OPENABLE SYSTEM



2.4
Openable windows in UV protected polycarbonate to ventilate buildings

ADVANTAGES

- High load resistance
- Light transmission
- Resistance to U.V. rays and to hail
- Thermal insulation
- Easy to install

APPLICATIONS

- Vertical openable windows

DESCRIPTION

Openable acroplus systems with UV protected polycarbonate curtain walling guarantee the correct natural ventilation of the building without any interruption in the appearance and functionality of the fixed part of the arcoplus system.

TECHNICAL FEATURES

arcoplus® 323

WINDOW HEIGHT	WINDOW WIDTH			
	3 panels	4 panels	5 panels	6 panels
	1.180	1.513	1.846	2.180
till 1.000mm	*	*	*	*
1.250mm	*	*	*	*
1.500mm	*	*	*	*
1.750mm	*	*	–	–

NB:
Openable systems with a thickness of 20mm that are more than 1,513mm (4 staves) wide, are supplied with external hinges.

arcoplus® 344x

WINDOW HEIGHT	WINDOW WIDTH			
	3 panels	4 panels	5 panels	6 panels
	1.250	1.580	1.915	2.250
till 1.000mm	*	*	*	*
1.250mm	*	*	*	*
1.500mm	*	*	*	*
1.750mm	*	*	–	–
2.000mm	*	*	–	–
2.250mm	*	*	–	–
2.500mm	*	*	–	–

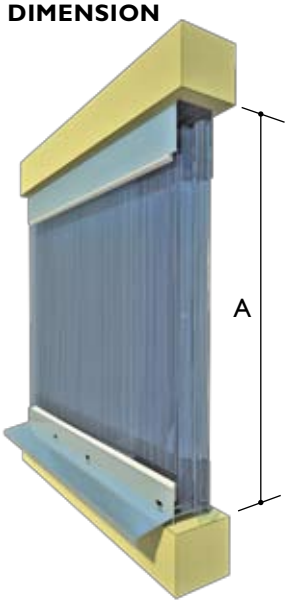
NB:
Manually-operated openable systems with a thickness of 40mm are only supplied with the multi-function control.

arcoplus® 547

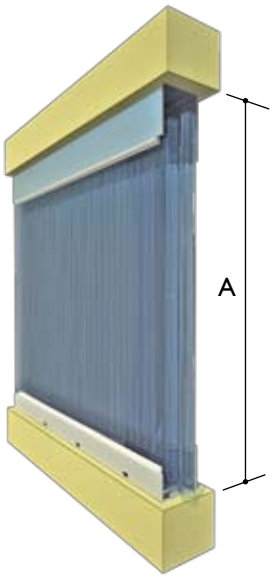
WINDOW HEIGHT	WINDOW WIDTH		
	2 panels	3 panels	4 panels
	1.250	1.750	2.250
till 1.000mm	*	*	*
1.250mm	*	*	*
1.500mm	*	*	*
1.750mm	*	*	–
2.000mm	*	*	–
2.250mm	*	*	–
2.500mm	*	–	–



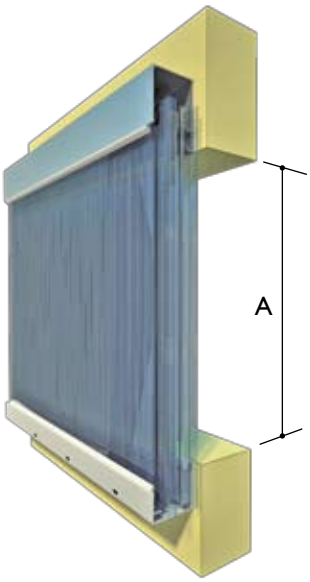
WINDOWS DIMENSION



WITH EAVE
H. window th.20 = A - 50mm
H. window th.40 = A - 50mm



WITHOUT EAVE
H. window th.20 = A - 40mm
H. window th.40 = A - 45mm



OUTSIDE OF THE BUILDING
H. window th.20 = A + 80mm
H. window th.40 = A + 95mm

With the arcoPlus® openable systems, manually or motor-operated windows can be fitted into the curtain walling to ventilate the building.
These consist of suitably sized aluminium frames, which are housed in the same base profile used for the fixed part.

The frames are supplied complete with compass hinges for widths of up to 4 staves. External hinges are provided for widths of more than this.
The windows are supplied complete with gaskets. The air cells of the polycarbonate panels must be sealed using vented aluminium breather tape.
This allows correct ventilation and prevents soiling on the inside.

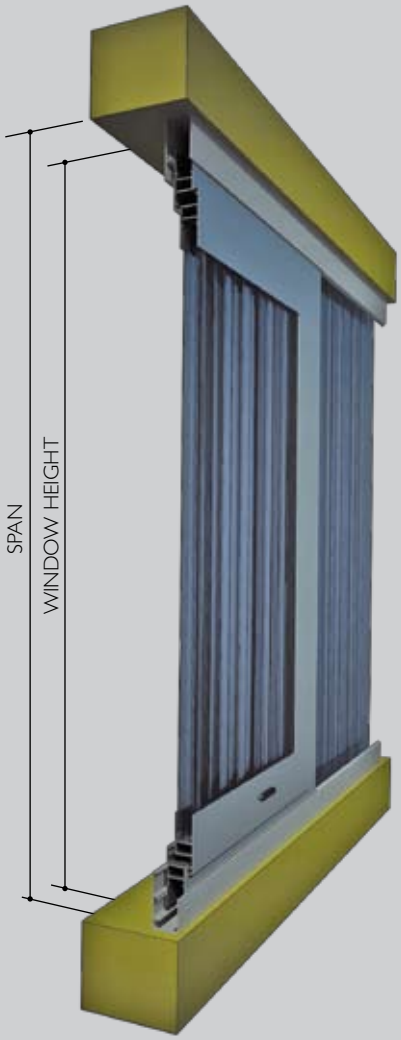
ACCESSORIES

code 4208
Electric motor

code 4209
Manually-operated handle

code 4210
Multi-function manual control

code 4309
External hinges for frame



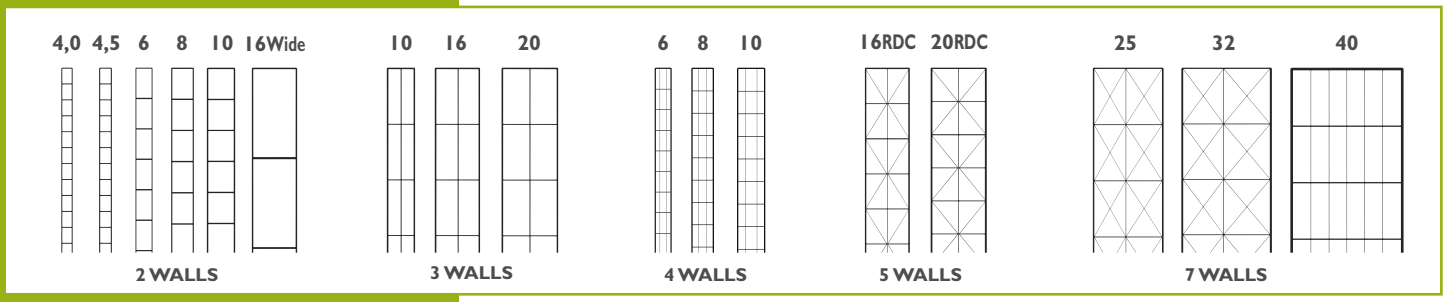
MULTIWALL SHEETS

3

PoliCarb®

By concentrating on technological innovation and continuous research into the choice of raw materials and new methods of achieving UV protection, we have been able to develop a wide range of multiwall sheets, each with their own specific properties, to meet the demands of the various market sectors.
These products are classified according to their design and number of walls to make it easy to find the best product for each specific application.
The multiwall structure combined with the properties of polycarbonate ensure superior thermal insulation and excellent impact strength.
Policarb® sheets have UV protection on the side facing the exterior (both sides upon request) for good ageing resistance even after prolonged exposure to the sun and atmospheric agents.
Policarb® multiwall sheets are used for roofing, glazing, greenhouses, skylights, verandas, gazebos, shelters and false ceilings.

PoliCarb®



3.1
Multiwall U.V. protected polycarbonate sheets

PRODUCTION STANDARD

	STRUCTURE	THICKNESS	WEIGHT	U TERMIC	WIDTH	LENGHT
	walls	mm	Kg/mq	W/m²K	mm	mm
2 WALLS						
Policarb 2P-4mm	2	4	0,80	3,9	2.100	6.000
Policarb 2P-4,5mm	2	4,5	1,00	3,9	2.100	6.000
Policarb 2P-6mm	2	6	1,30	3,6	2.100	6.000
Policarb 2P-8mm	2	8	1,50	3,3	2.100	6.000
Policarb 2P-10mm	2	10	1,70	3,0	2.100	6.000
Policarb 16mm WIDE	2	16	3,90	2,5	980-1.200-1.250	6.000
3 WALLS						
Policarb 3P-10mm	3	10	2,10	2,7	980-1.200-1.250-2.100	6.000
Policarb 3P-16mm	3	16	2,70	2,3	980-1.200-1.250-2.100	6.000
Policarb 3P-20mm	3	20	3,20	2,1	980-1.200-1.250-2.100	6.000
4 WALLS						
Policarb 4P-6mm	4	6	1,40	3,1	2.100	6.000
Policarb 4P-8mm	4	8	1,55	2,7	2.100	6.000
Policarb 4P-10mm	4	10	1,75	2,5	2.100	6.000
5 WALLS						
Policarb 5P-16mm RDC	5	16	2,55	2,1	980-1.250-2.100	6.000
Policarb 5P-20mm RDC	5	20	3,10	1,7	980-1.250-2.100	6.000
7 WALLS						
Policarb 7P-25mm	7	25	3,30	1,5	980-1.200-1.250	6.000
Policarb 7P-32mm	7	32	3,70	1,25	980-1.200-1.250	6.000
Policarb 7P-40mm	7	40	3,90	1,1	980-1.200-1.250	6.000

ADVANTAGES

- Light transmission
- Resistance to U.V. rays and to hail
- Energy saving
- Economical
- Versatile

TECHNICAL FEATURES

Linear thermal expansion	0,065mm/m°C
Temperature range	-40°C +120 °C
U.V. protection	Coextrusion (both sides upon request)
Fire reaction	EuroClass Bs1d0

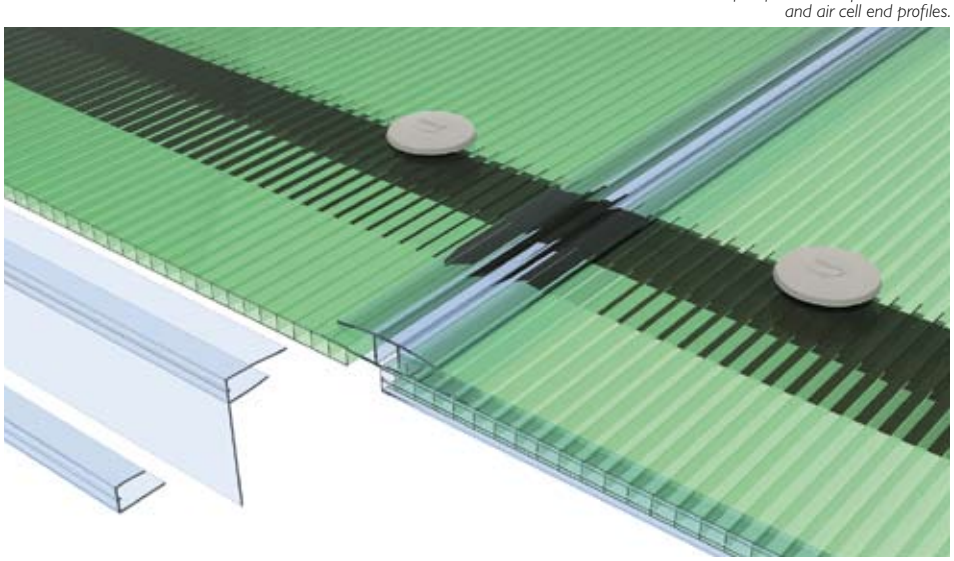
SELF-EXTINGUISHING

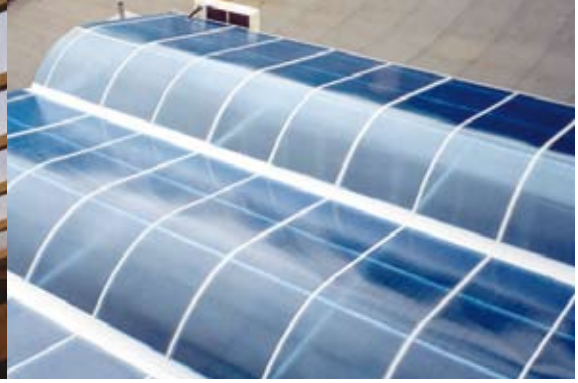
Policarb® sheets have **Class 1** type approval and meet the **EuroClass Bs1d0** fire rating.

APPLICATIONS

- Vertical windows
- Roofing
- Curved roofing
- Ceiling

CONTINUOUS ROOFING
Detail of roof with H-shaped connector and air cell end profiles.





DESCRIPTION

The characteristic structure of the multiwall sheets with air space inside guarantees good thermal insulation and excellent resistance to crash stress.
The external side of Policarb® is coated with U.V. protection (on request both sides) warranting resistance to aging due to atmospheric agents and UV rays.
Policarb® is used for roofing, windows, skylights, greenhouses, porches, gazebos, ceilings.

LIGHT TRANSMISSION

High-resistance pigments (opal, bronze and green) are added to the polycarbonate to achieve different light transmission values. For values see the table on page 10.

SOLAR FACTOR

The solar factor is closely linked to the sheet structure.
It is the ratio, expressed as a percentage, between the total energy transmitted to the inside and total solar radiation.

THERMAL INSULATION

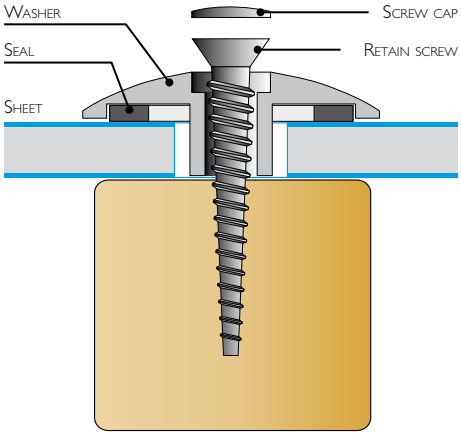
Heat loss is normally defined as thermal transmittance and referred to in physics as the "U-value".
It is the rate of heat loss through a unitary surface per degree centigrade difference in temperature between the two sides and depends on the properties of the material of which the structure is made and the linear thermal transmittance conditions.

LINEAR THERMAL EXPANSION

Policarb® sheets have an expansion of 0.065 mm/m°C.

LOCK WASHERS

The sheets must be fastened to the structure using specific washers with a seal to guarantee a watertight finish and allow the material to expand due to changes in temperature.



THERMOWELDING

Policarb® sheets can be supplied welded at their ends, (up to 10mm th.) ensuring throughout time the cleanliness of the inside of the alveolus and greater transparency.

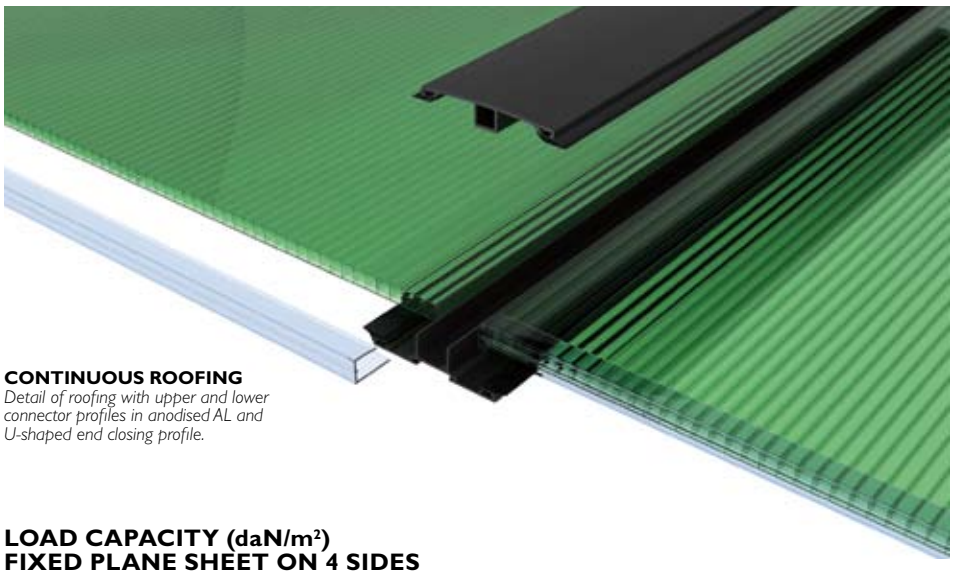
CLOSING TAPES

Adhesive steel tapes of varying heights for the closing of the alveoli are available:

- H. 19mm for sheets th. 4,5-6mm.
- H. 25mm for sheets th. 8-10mm.
- H. 38mm for sheets th. 16mm.
- H. 60mm for sheets th. 25-32-40mm.

PLANES SHEETS APPLICATION

The choice of sheet thickness is based on the requested values of snow/wind loads and on sheet dimensions.
The indicated values in the following charts (in pressure and in depression) are established considering fixed sheets on the 4 sides.



CONTINUOUS ROOFING
Detail of roofing with upper and lower connector profiles in anodised AL and U-shaped end closing profile.

LOAD CAPACITY (daN/m²) FIXED PLANE SHEET ON 4 SIDES

Policarb 2P-6mm

LENGTH (m)	WIDTH (m)			
	0.70	0.60	0.50	0.40
1.00	50	80	105	120
1.50	45	75	105	110
2.00	40	70	100	110
2.50	35	65	90	100
3.00	35	65	90	100

Policarb 2P-10mm

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.80	0.70	0.50
1.00	70	80	100	110	170
1.50	50	75	90	100	165
2.00	40	70	85	90	165
2.50	30	70	75	85	160
3.00	30	65	70	80	140

Policarb 3P-16mm

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	105	135	150	175	230
1.50	70	125	140	150	220
2.00	70	120	135	140	150
2.50	70	110	110	135	145
3.00	60	90	100	130	140

Policarb 5P-16mm RDC

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	160	185	200	220	250
1.50	120	170	185	200	240
2.00	100	130	140	150	180
2.50	70	110	120	130	145
3.00	70	90	90	120	140

Policarb 3P-20mm

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	170	175	180	190	240
1.50	140	140	170	180	230
2.00	130	140	150	160	190
2.50	75	130	140	140	155
3.00	75	90	100	130	150

Policarb 5P-20mm RDC

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	180	200	220	250	280
1.50	140	190	210	220	265
2.00	110	145	160	170	205
2.50	80	135	145	150	165
3.00	80	105	105	140	160

Policarb 7P-25mm

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	180	205	225	255	285
1.50	145	200	220	220	270
2.00	110	155	165	170	210
2.50	80	145	150	155	165
3.00	80	115	125	140	160

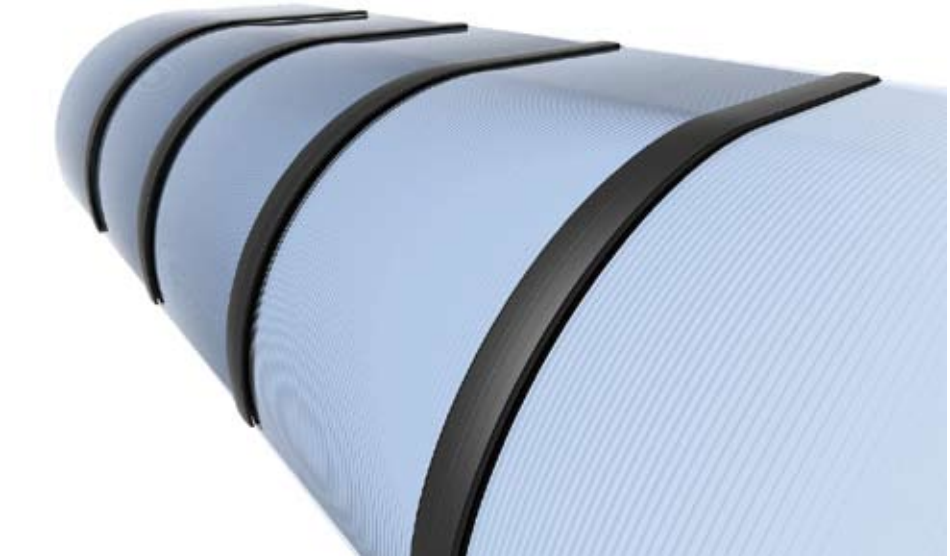
Policarb 7P-32mm

LENGTH (m)	WIDTH (m)				
	1.20	1.00	0.90	0.80	0.60
1.00	250	260	280	300	450
1.50	175	190	200	250	420
2.00	150	175	190	200	300
2.50	100	170	175	180	180
3.00	90	140	150	160	170



COLD BENDED SHEET APPLICATION

In particular Policarb® is used to build integral arc structures (green house tunnel type) since its alveolar structure increases the rigidity of the sheet longitudinally bent at its ribs.



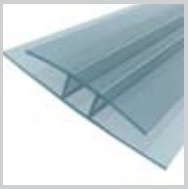
MINIMUM RADIUS OF CURVATURE

SHEET THICKNESS (mm)	4,5	6	8	8-4P	10	10-3P	10-4P	16	16RDC	20	20RDC	25	32
RADIUS (mm)	750	1.000	1.400	1.600	1.750	2.000	2.000	2.800	3.500	3.500	4.000	DO NOT BEND	

LOAD CAPACITY (daN/m²) FIXED SHEETS COLD BENDED ON 4 SIDES

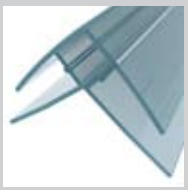
	SHEET THICKNESS (mm)																			
	6	8	10	16	16RDC	6	8	10	16	16RDC	6	8	10	16	16RDC	6	8	10	16	16RDC
RADIUS (m)	**WIDTH SHEET** (m)																			
1.00	1.80					1.50					1.25					1.07				
1.20	1.50					1.25					1.00					0.90				
1.40	1.20	1.90				0.96	1.70				0.83	1.30				0.72	1.10			
1.60	1.00	1.65				0.82	1.27				0.68	1.06				0.60	0.92			
1.80	0.80	1.23	1.68			0.64	1.00	1.38			0.58	0.84	1.18				0.73	1.02		
2.00	0.75	1.15	1.60			0.60	0.92	1.28			0.55	0.78	1.08				0.68	0.93		
2.20	0.67	0.98	1.35				0.82	1.12				0.70	0.95				0.82			
2.40	0.60	0.88	1.23				0.70	1.00				0.84					0.74			
2.60		0.75	1.07					0.90												
2.80			0.93	1.92					1.58					1.33					1.15	
3.00			0.88	1.78					1.45					1.21					1.06	
3.20			0.83	1.62					1.32					1.11					0.97	
3.40			0.75	1.48					1.24					1.07					0.95	
3.60				1.40	1.60				1.20	1.25				1.04	1.15				0.92	1.00
3.80				1.30	1.50				1.15	1.20				1.00	1.12				0.90	1.00
4.00				1.20	1.38				1.10	1.15					1.05					0.97
4.20				1.20	1.35					1.10					1.00					0.95
4.40				1.12	1.28					1.07					0.98					0.95
4.60					1.20					1.05					0.98					0.93
4.80					1.15					1.00					0.95					0.90
LOAD	**80** daN/m²					**100** daN/m²					**120** daN/m²					**140** daN/m²				

ACCESSORIES



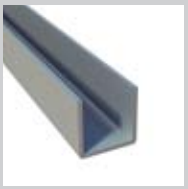
th. 4-6mm cod. 1162
th.8-10mm cod. 1164
th. 16mm cod. 1165
Profiles "H" U.V. protected

th. 4-6mm cod. 1158
th.8-10mm cod. 1160
th. 16mm cod. 1161
Profiles "U" U.V. protected

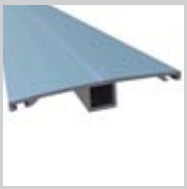


th.8-10mm code 2191
th. 16mm code 2192
Profiles "R" U.V. protected

th.8-10mm code 2193
th. 16mm code 2194
Profiles "F" U.V. protected



th.10mm code 4285
th.16mm code 4286
"U" aluminium profile



th. 2-10mm code 4272
th.16-20mm code 4279
Upper aluminium profile

th. 2-10mm code 4273
th.16-20mm code 4280
Side aluminium profile

th. 4-6mm code 4077
th.8-10mm code 4076
th. 16mm code 4087
Washer with gasket

th.4-6mm code 4077
th.8-10mm code 4076
Gasket for aluminium profile

SOLID SHEETS

4

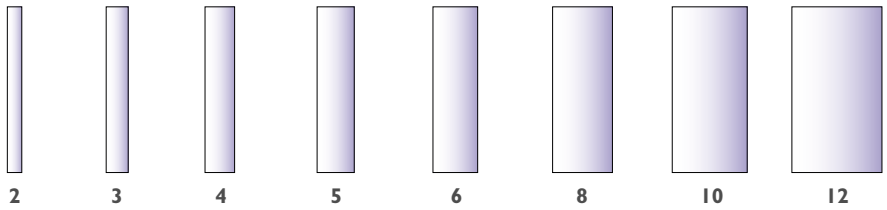
PoliComp®

Policomp® solid polycarbonate sheets offer excellent mechanical, thermal and electric properties.
They are far more flexible and offer a much higher impact strength than glass, making them safer to use. They are therefore extremely versatile and can be hot or cold-formed, which makes them suitable for all construction and industrial applications.

ADVANTAGES OF SOLID SHEETS:

- **extreme impact strength**
- **good resistance to differences in temperature**
- **good fire rating**

PoliComp®



4.1
Polycarbonate solid sheets with U.V. protection on both sides

PRODUCTION STANDARD

thickness (mm)	2	3	4	5	6	8	10	12
weight (Kg/m²)	2,4	3,6	4,8	6,0	7,2	9,6	12,0	14,4
width (mm)	2.050 - 2.500							
lenght (mm)	6.000							

DESCRIPTION

Our new Policomp® solid sheets are the result of many years of experience and know-how gained in the manufacture of building materials.
Policomp® solid polycarbonate sheets are suitable for a wide range of applications due to their mechanical and thermal properties and light weight.
Policomp® sheets are particularly advantageous in industry thanks to their good impact strength and breaking resistance. Policomp® is ideal for transparent roofing and safety guards in industrial applications. Policomp® sheets are UV-protected on both sides.

ADVANTAGES

- Light transmission
- Resistance to U.V. rays and to hail
- Impact strength
- Easy to process

PHYSICAL PROPERTIES

	VALUE	UNIT	TEST METOD
density	1,2	gr/cm³	ISO 1183
moisture absorption 23°C	0,15	%	ISO 62-4
refractive index 20°C	1.586	-	ISO 489

MECHANICAL PROPERTIES

	VALUE	UNIT	TEST METOD
resistance to tensile stress	>60	MPa	ISO 527-2
elongation at yield	6	%	ISO 527-2
elongation at break	>70	%	ISO 527-2
elastic modulus	2.400	MPa	ISO 527-2
limiting flexural stress	ca.90	MPa	ISO 178
impact strength (Charpy, unnotched)	no break	KJ/m²	ISO 179
impact strength (Charpy, notched)	ca.11	KJ/m²	ISO 179

THERMAL PROPERTIES

	VALUE	UNIT	TEST METOD
Vicat softening temperature	148	°C	ISO 306
thermal conductivity	0,2	W/m°C	DIN 52612
linear thermal expansion	0,065	mm/m°C	DIN 53752

ELECTRICAL PROPERTIES

	VALUE	UNIT	TEST METOD
dielectric strength	1,2	gr/cm³	ISO 1183
volume resistivity	0,15	%	ISO 62-4
surface resistivity	1.586	-	ISO 489

APPLICATIONS

- Vertical windows
- Roofing
- Curved roofing
- False ceiling

LIGHT TRANSMISSION (%)

thickness (mm)	2	3	4	5	6	8	10	12
color								
transparent	91	90	90	90	88	86	80	80
bronze	-	44	48	51	50	-	-	-
green	-	-	28	-	42	-	-	-
blue	-	-	-	-	11	-	-	-
opal	-	53	50	40	38	-	-	-

THERMAL INSULATION U (W/m^2K)

thickness (mm)	2	3	4	5	6	8	10	12
Policomp	5,66	5,49	5,33	5,21	5,09	4,84	4,61	4,35
Glass	-	5,87	5,82	5,80	5,77	5,71	-	-

ACOUSTIC INSULATION (dB)

thickness (mm)	2	3	4	5	6	8	10	12
Value	25	26	27	28	29	31	33	34

WEIGHT (Kg/m^2)

thickness (mm)	2	3	4	5	6	8	10	12
Policomp	2,4	3,6	4,8	6,0	7,2	9,6	12,0	14,4
Glass	5	7,5	10	12	15	20	25	30

The solid polycarbonate sheets in the extensive Policomp® range offer extreme transparency.
They are ideal for applications that require superior thermal and sound insulation combined with a lightweight structure with good impact strength.
Policomp® sheets are as clear as glass, weigh half as much and are 250 times more impact resistant.

APPLICATION OF FLAT SHEETS

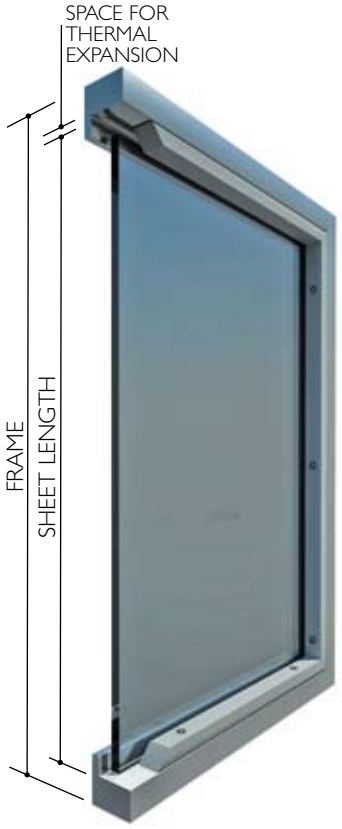
Policomp® sheets can be installed in most PVC, wood, steel and aluminium structures and frames.

The frame must hold the sheet in place while allowing it to expand. The choice of sheet thickness depends on the snow/wind load values required.

Depending on the size of the sheet, the effective area and thus the thickness can be calculated using the table at the side.

SHEET SIZE

SHEET LENGTH (m) \ SHEET WIDTH (m)	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
0.25	A1	A1	A1	A1	A1	A1	A1	A1
0.50	A1	A2	A3	A4	A4	A4	A4	A4
0.75	A1	A3	A5	A6	A7	A7	A7	A7
1.00	A1	A4	A6	A8	A9	A9	A10	A10
1.25	A1	A4	A7	A9	A10	A11	A12	A13
1.50	A1	A4	A7	A9	A11	A13	A14	A15
1.75	A1	A4	A7	A10	A12	A14	A16	A17
2.00	A1	A4	A7	A10	A13	A15	A17	A18
2.25	A1	A4	A7	A10	A13	A16	A18	A19
2.50	A1	A4	A7	A10	A14	A16	A19	
2.75	A1	A4	A7	A11	A14	A16	A19	
3.00	A1	A4	A7	A11	A14	A17	A19	
3.25	A1	A4	A7	A11	A14	A17		
3.50	A1	A4	A7	A11	A14	A17		
3.75	A1	A4	A7	A11	A14	A17		
4.00	A1	A4	A7	A11	A14	A17		
4.25	A1	A4	A7	A11	A14	A17		
4.50	A1	A4	A7	A11	A14	A17		
4.75	A1	A4	A7	A11	A14	A17		
5.00	A1	A4	A7	A11	A14	A17		



CHOICE OF THICKNESS

AREA \ LOAD (daN/m²)	60	80	100	120	140
A1	3	3	3	3	3
A2	3	3	4	4	4
A3	4	4	4	4	5
A4	4	4	5	5	6
A5	5	5	5	5	6
A6	5	6	6	6	8
A7	6	6	8	8	8
A8	6	6	8	8	8
A9	8	8	8	8	10
A10	8	8	10	10	10
A11	10	10	10	10	12
A12	10	10	10	12	12
A13	10	10	10	12	
A14	10	12	12		
A15	10	12	12		
A16	10	12	12		
A17	12	12			
A18	12	12			
A19	12				

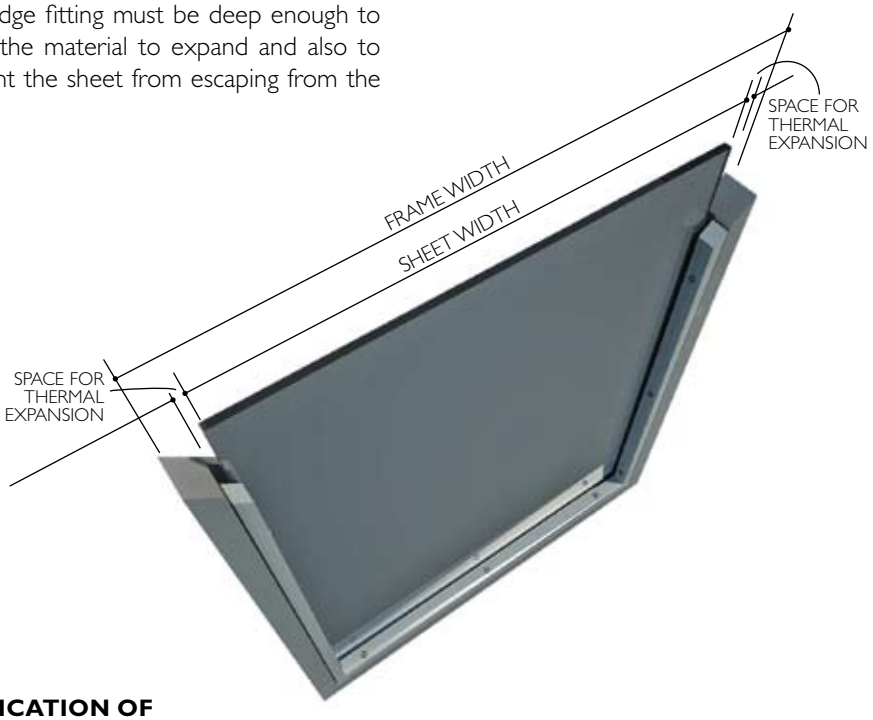
The table at the side can be used to calculate the thickness of the sheet to be used according to the size of the sheet (AREA) and the required load value.

The values shown in the table (positive and negative loads) have been calculated for sheets fixed on four sides, with a maximum bend value (rise) of 50mm.

INSTALLATION GUIDELINES

When cutting sheets to allow for thermal expansion special care must be taken to avoid applying stress to the material.
Tolerance must be provided both widthwise and lengthwise.
The table at the side shows the sheet cutting values, depending on the size of the frame, in order to allow for thermal expansion. The edge fitting must be deep enough to allow the material to expand and also to prevent the sheet from escaping from the frame.

FRAME (mm)	SHHET CUT (mm)
300 - 1.000	3
1.000 - 1.300	4
1.300 - 1.700	5
1.700 - 2.000	6
2.000 - 2.300	7
2.300 - 2.700	8
2.700 - 3.000	9

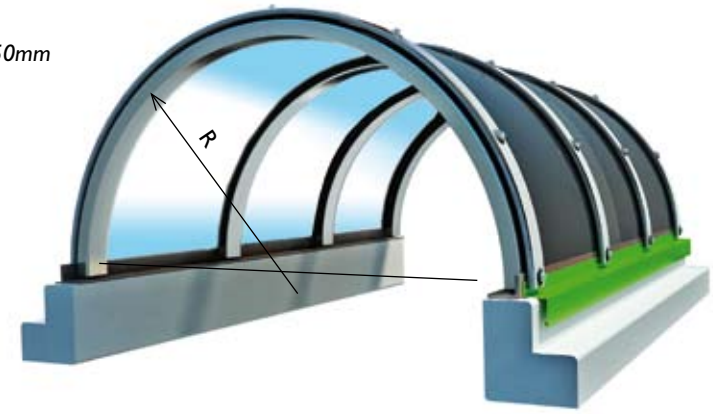


APPLICATION OF COLD-CURVED SHEETS

Policomp® is ideal for building integral arch or tunnel structures.
The minimum bend radius is 150 times the thickness of the sheet.

The choice of sheet thickness depends on the bend radius **R** but also on the width of the sheet **W**. The length **L** must always be greater than the width **W**.

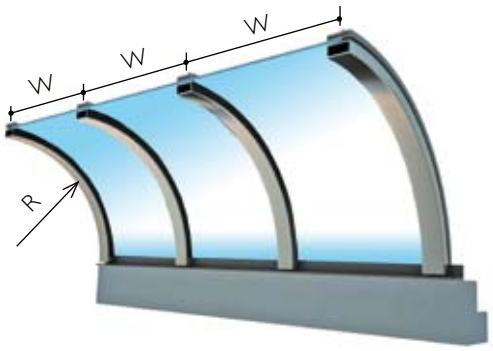
Example:
Sheet thickness: 3mm
Min. radius = 3 x150= 450mm



MINIMUM BEND RADIUS

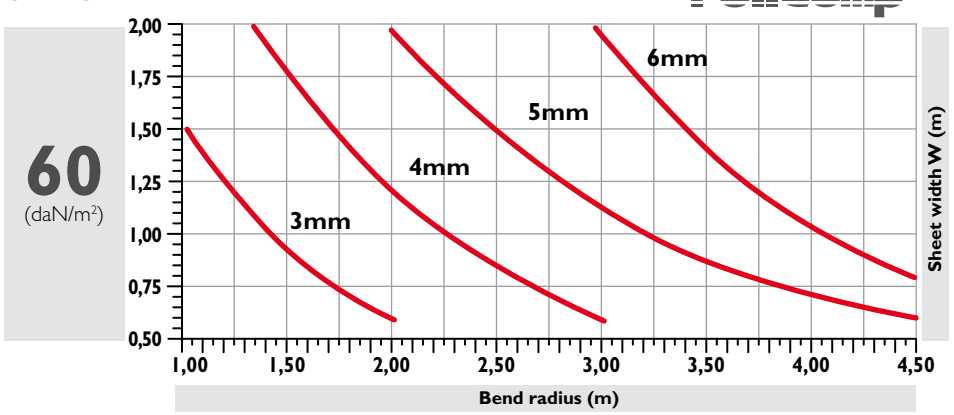
THICKNESS (mm)	2	3	4	5	6	8	10	12
RADIUS (mm)	300	450	600	750	900	1.200	1.500	1.700

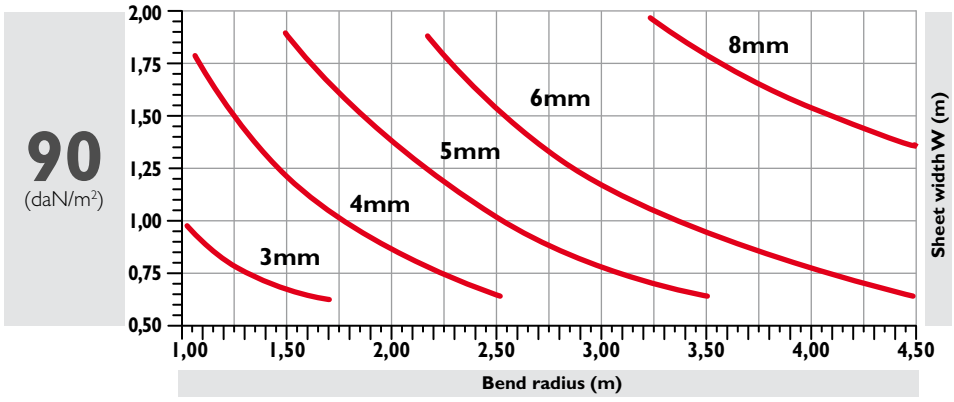
The graphs indicate the appropriate sheet thickness, for different bend radii, under different load conditions.
These values have been calculated with sheets fixed on three sides.

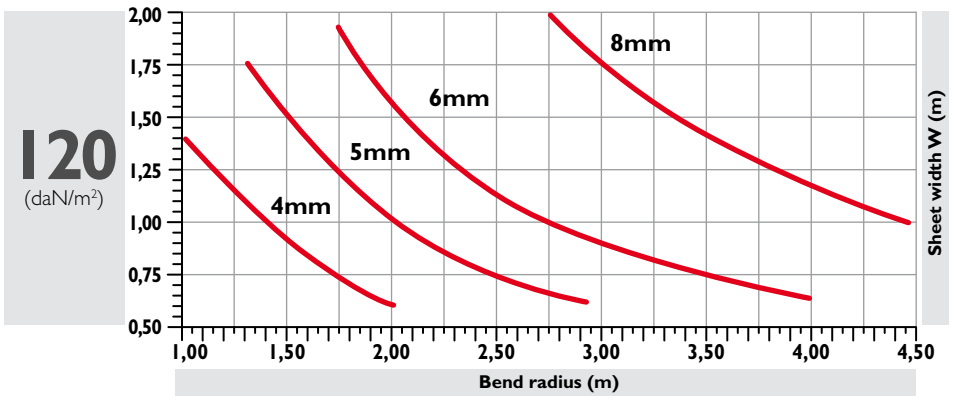


LOAD CAPACITY

PoliComp®









MATERIAL PROCESSING

CUTTING

Policomp® sheets can be cold-formed mechanically using standard high-speed tools to perform cutting, bending and drilling. Notches, which undermine the mechanical properties of the polycarbonate, are not recommended.

	CIRCULAR SAW	BELT SAW	MILLING MACHINE
rake angle	20°- 30°	20°- 30°	20°- 30°
angle of inclination	15°	0,5°	0°- 5°
cutting speed (m/min)	1.800 - 2.400	600 - 1.000	100 - 500
feed speed (m/min)	19 - 25	20 - 25	0,1 - 0,5
distance between teeth (mm)	2 - 5	1,5 - 2,5	-

DRILLING

Policomp® sheets can be drilled using standard drilling machines that meet the following specifications:

PARAMETRO	VALORE
rake angle α	5°-8°
angle of tip φ	90°-130°
angle of blade β	approx. 30°
angle of inclination γ	3°-5°
cutting speed	0,1-0,5 mm/rpm
tip speed	10-60 m/min

Drill sheets as follows to avoid any damage during machining:
Drill the hole at a distance from the edge of the sheet equal to at least 1.5 times the diameter of the hole.
Do not use cutting oil.
Use threading if there is no other alternative.
Sheets could break after drilling.

THERMOFORMING AND HOT-CURVING

Remove the protective film before thermoforming and pre-heat the material to 120°C to eliminate any moisture that has been absorbed.
The use of an air circulating oven with temperature control is recommended.
The air must circulate between the sheets.
Pre-heating times can be reduced by one third by storing the sheets in a dry place.
Since the dry sheets start to re-absorb moisture as soon as they cool down to below 100°C, thermoforming must be performed immediately after drying.
Hot curving must be performed at a temperature of between 155°C and 165°C.

GLUING SHEETS

The following adhesives can be used to glue the material: epoxy resin, heatfix tape or silicone.

CLEANING OF SURFACES

We recommend the use of warm water and a soft cloth to clean Policomp® sheets.

TECHNICAL SPECIFICATIONS

SAFETY

Policomp® sheets are used in safety glazing applications, for machine tool guards, false ceilings and flat or curved roofing.

LIGHTNESS

Compared to normal glass structures, Policomp® sheets considerably reduce the weight of the structures.
A solid polycarbonate sheet weighs 50% less than a sheet of glass of the same thickness.

LIGHT TRANSMISSION

Policomp® sheets have good light transmission properties and are also available in bronze and opal.

ENERGY SAVING

Policomp® sheets provide excellent thermal insulation, an important factor in reducing fuel consumption for heating buildings.

DURABILITY

Policomp® sheets are guaranteed for durability. (see terms of warranty)

COEXTRUSION

A layer of high-performing UV absorber is coextruded onto both sides of Policomp® sheets. This filters the light and protects the polymer against the effects of ageing, ensuring excellent impact strength even after prolonged exposure to sunlight.

UV PROTECTION ON TWO SIDES

Policomp® sheets have UV protection on both sides.

GENERAL TERMS AND CONDITIONS OF SALE

dott.gallina

1) ORDERS:
Orders are only valid if they refer to the price-list currently in force and are signed by way of the buyer's full acceptance of these terms and conditions of sale. The order is binding on the buyer and may only be cancelled with the written consent of Dott. Gallina S.r.l., subject to repayment of all costs claimed by the latter. The order becomes effective upon receipt of the confirmation of order signed by the buyer. All measurements in the order are taken as having been checked and verified by the buyer and are the responsibility thereof. Likewise, the buyer is responsible for controlling and verifying the qualities and purchase prices agreed upon with the seller.

2) DELIVERY:
The delivery date specified in the order and in the confirmation of order is indicative and thus not binding on Dott. Gallina S.r.l. Delays in delivery shall not give rise to any refund, compensation for damages or cancellation of the order. The buyer may not refuse to accept the goods until 45 days after the scheduled delivery date. After that date the buyer may cancel the order or insist upon delivery; in either case, notwithstanding the provisions of the law, the parties expressly waive any claims for compensation. Dott. Gallina S.r.l. shall not be answerable for delays due to unforeseeable circumstances, including accidents, machine breakdowns, strikes, lack of deliveries of raw materials, etc.

3) PACKAGING:
Unless otherwise expressly requested all materials shall be supplied in white polyethylene packaging and closed at the top. Where possible, but not necessarily, materials shall be strapped to pallets.

4) TRANSPORTATION:
Goods are transported at the buyer's risk, even though they are delivered free to destination and unloaded from the vehicle. Any complaints in connection with differences in the goods supplied, shortage of packages or damage must be reported to the carrier immediately at the time of delivery and clearly indicated in the transport document. Any complaints, including those in connection with orders made through an intermediary, must be made in writing directly to Dott. Gallina S.r.l. and sent by means of registered post to reach the latter within 8 days from the date of delivery.

5) WARRANTY:
(See terms and conditions of warranty). The warranty period starts from the date of invoice and the warranty is valid in accordance with the terms set forth in the certificates issued by the company. Dott. Gallina S.r.l. reserves the right to make any changes it deems necessary and without prior notice and shall not be liable for any direct or indirect loss or damage to persons or property arising in connection with the use of the product.

6) TOLERANCE:
Unless otherwise specified, sizes may vary by ± 2 mm/m with a minimum of ± 5 mm. Under no circumstances are product weights binding. Weights are provided to assist customers in their choice of product.

7) PAYMENT:
Dott. Gallina S.r.l. shall only accept new orders if all previous materials supplied have been paid for. Payments shall be made according to the agreed terms of payment and shall not be suspended or postponed for any reason or in connection with any claim. In the event of delayed payment interest will be charged at the equivalent of the three-month Euribor rate plus seven percent applicable as from the scheduled payment date up until the actual date on which said payment is made. Only under exceptional circumstances may the buyer request to postpone the contractual and confirmed delivery date, in which case the buyer shall agree to the goods being invoiced and to the relative payment falling due as from the date on which the goods become ready, in addition to sustaining all costs of handling and storage and any other related charges

8) DISPUTES:
Any disputes arising in connection with these terms and conditions of sale shall be brought exclusively before the Court of Turin for settlement.