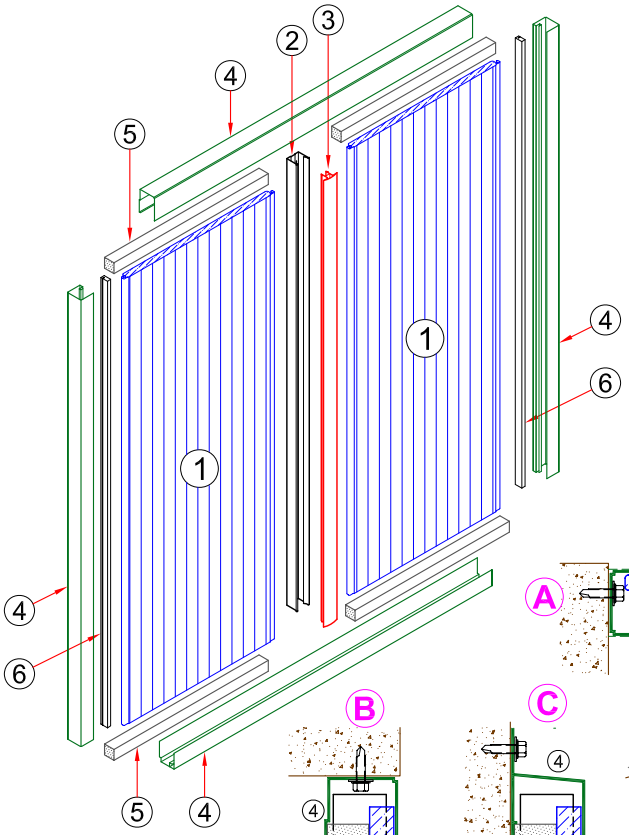
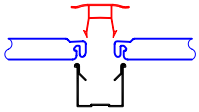
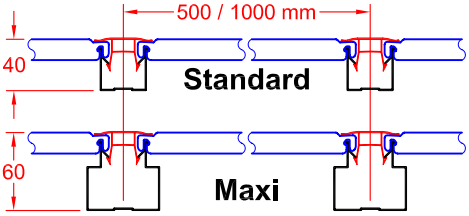
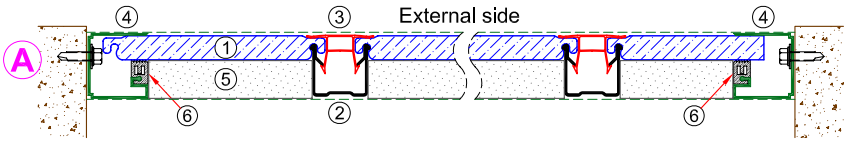
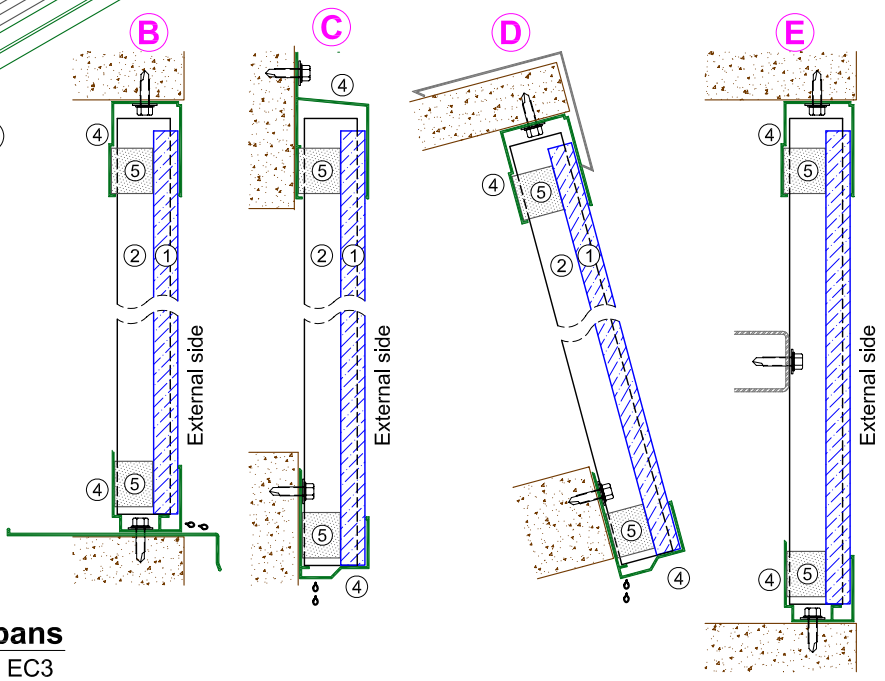


1. **SUN MODUL** panel in UV protected polycarbonate
2. **Steel channel**
3. **Clip profile** in UV protected polycarbonate
4. Framing profile in aluminium
5. PE-Inlay
6. Gasket
7. Aluminium window









7

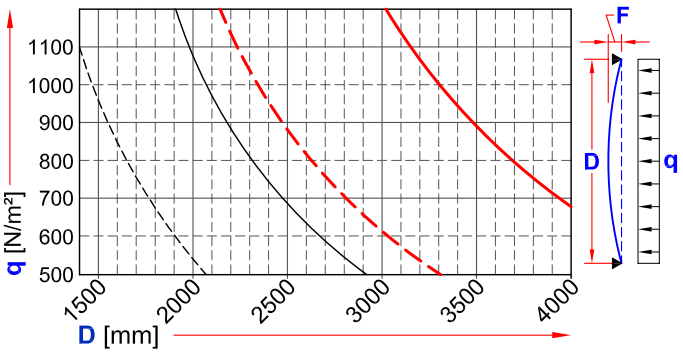
Acceptable Spans

values according to EC3

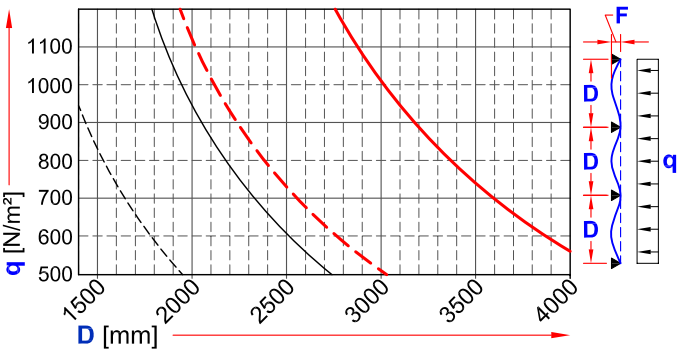
- **Standard** module **500**
- **Standard** module **1000**
- **Maxi** module **500**
- **Maxi** module **1000**

Note: The span values indicated are referred to the conditions specified in each graph; for evaluations under different conditions please ask for a special verification.

2 supports, F max = 1/50 of D



Multiple supports, F max = 1/50 of D



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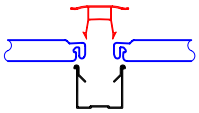
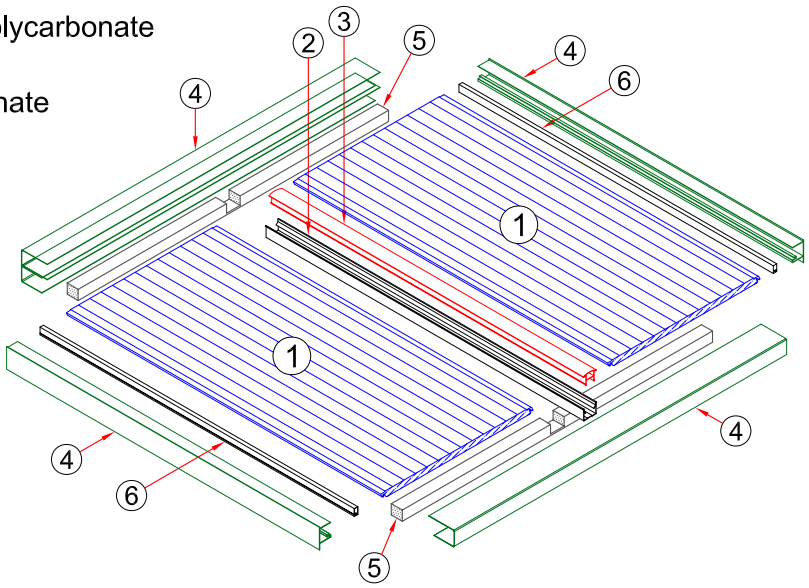
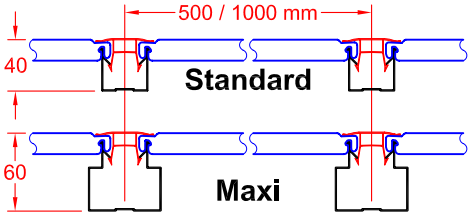
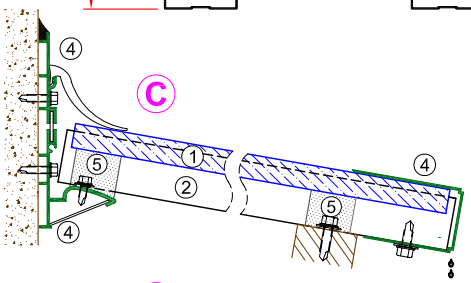
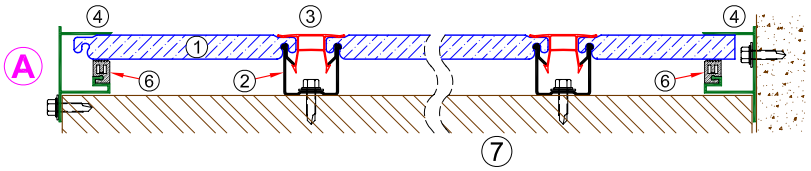
① **SUN MODUL** panel in UV protected polycarbonate
② **Steel channel**
③ **Clip profile** in UV protected polycarbonate
④ Framing profile in aluminium
⑤ PE-Inlay
⑥ Gasket
⑦ Aluminium window

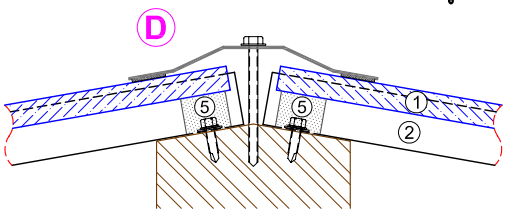


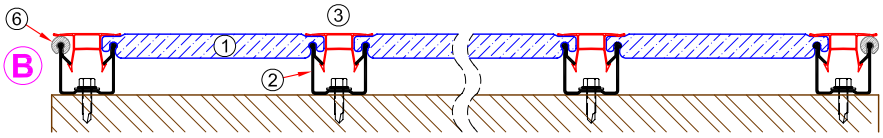












Minimum recommended inclination: 4° (7%)

⑦

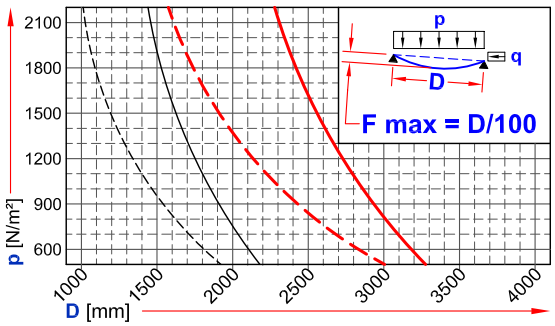
Acceptable Spans

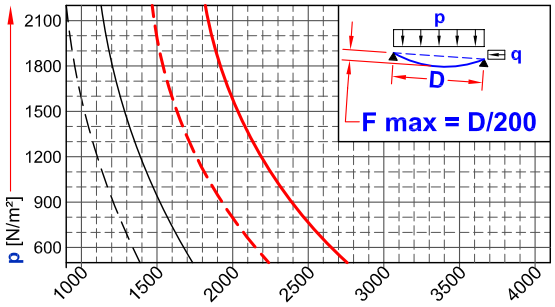
values according to EC3

——— **Standard** module **500**
- - - - - - - - **Standard** module **1000**
——— **Maxi** module **500**
– – – – **Maxi** module **1000**

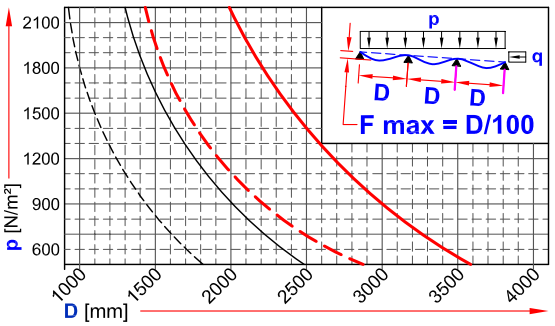
Note: The span values indicated are referred to the conditions specified in each graph; for evaluations under different conditions please ask for a special verification.

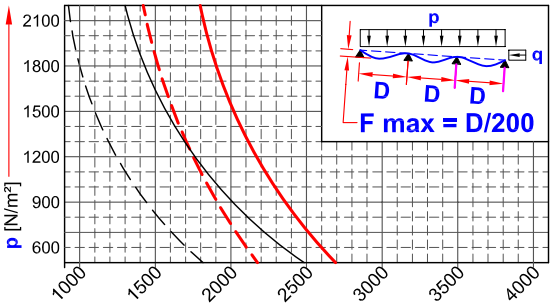
2 supports, slope **5° (9%)**



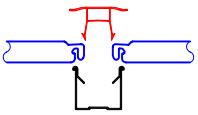


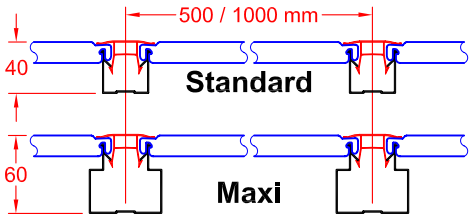
Multiple supports, slope **5° (9%)**

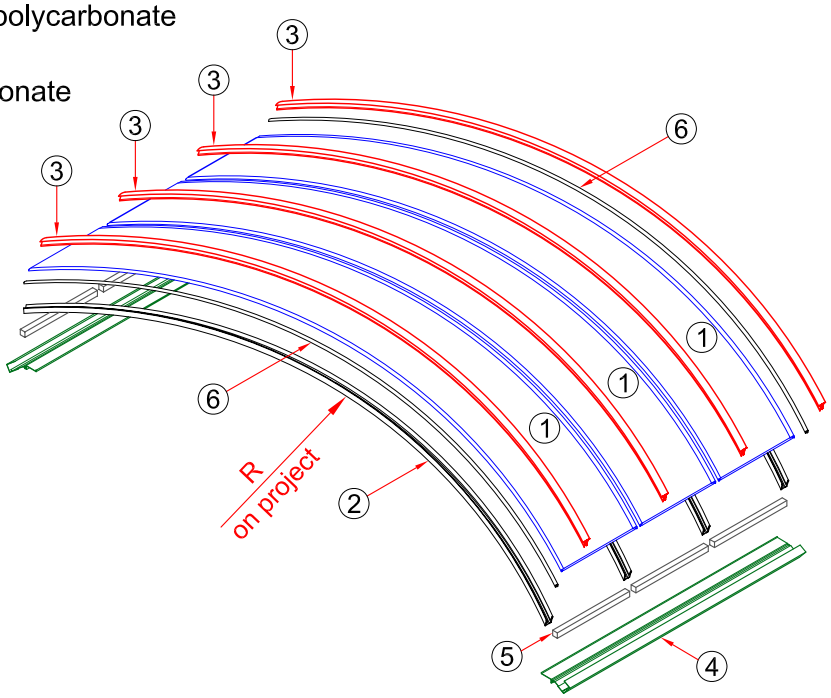


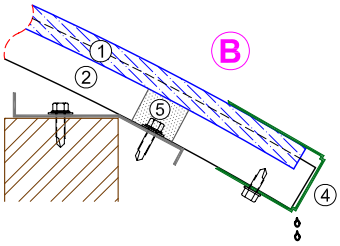


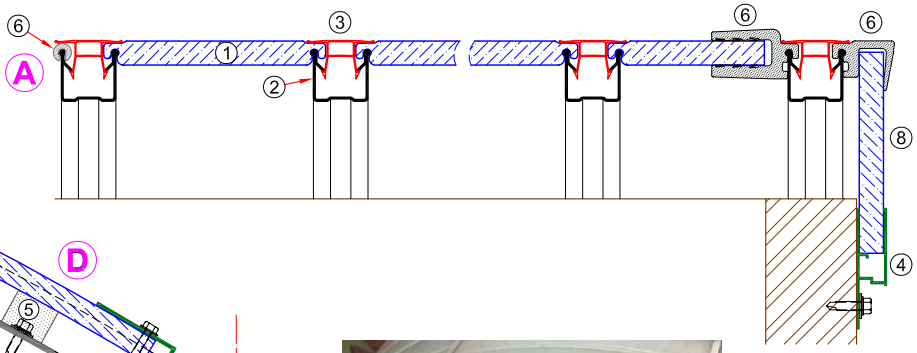
① **SUN MODUL** panel in UV protected polycarbonate
② **Steel channel - curved**
③ **Clip profile** in UV protected polycarbonate
④ Framing profile in aluminium
⑤ PE-Inlay
⑥ Gasket
⑦ Aluminium window
⑧ Front section panel

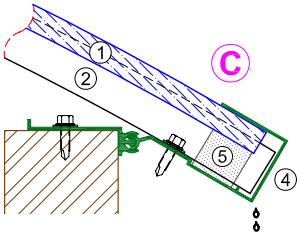


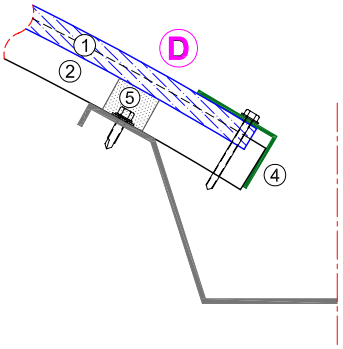












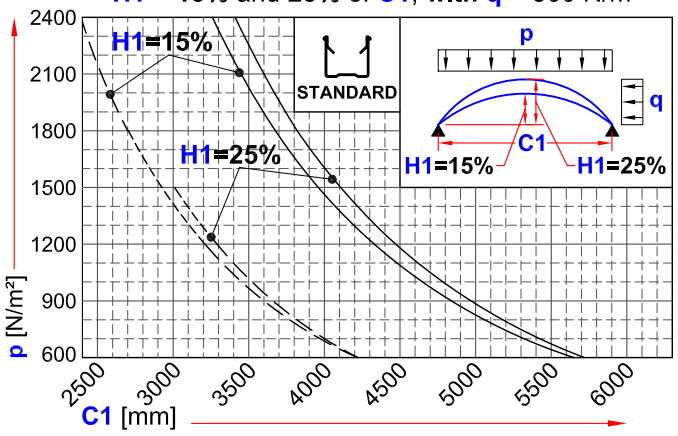
Acceptable Spans

values according to EC3

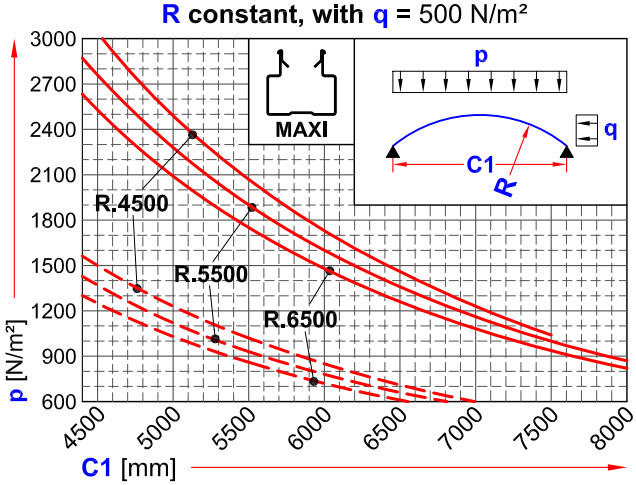
- **Standard** module **500**
- **Standard** module **1000**
- **Maxi** module **500**
- **Maxi** module **1000**

Note: The span values indicated are referred to the conditions specified in each graph; for evaluations under different conditions please ask for a special verification.

H1 = 15% and **25%** of **C1**, **with q** = 500 N/m²



R constant, with q = 500 N/m²



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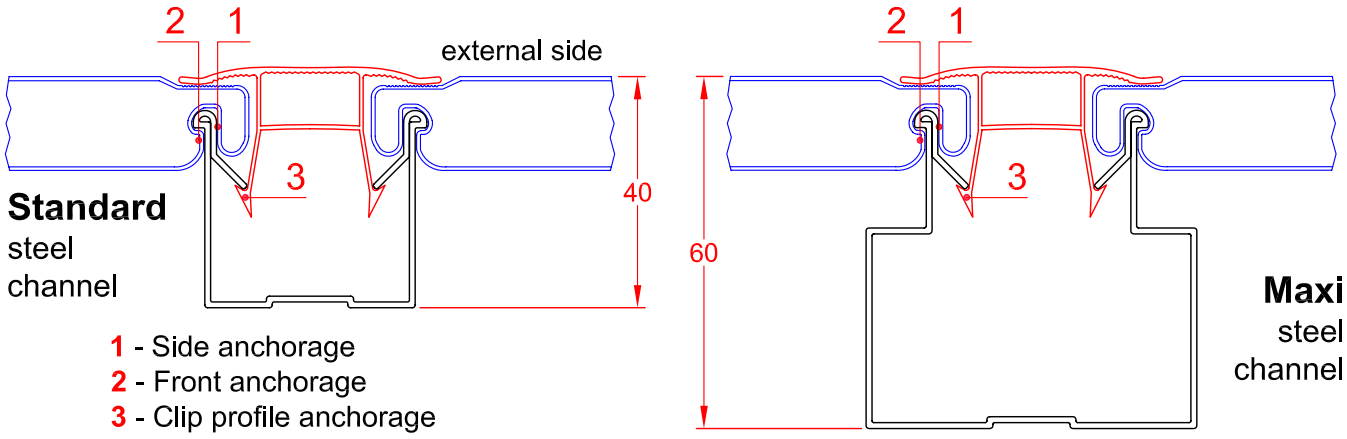
ANCHORAGE

SUN MODUL guarantees stable and safe anchorage of the panels

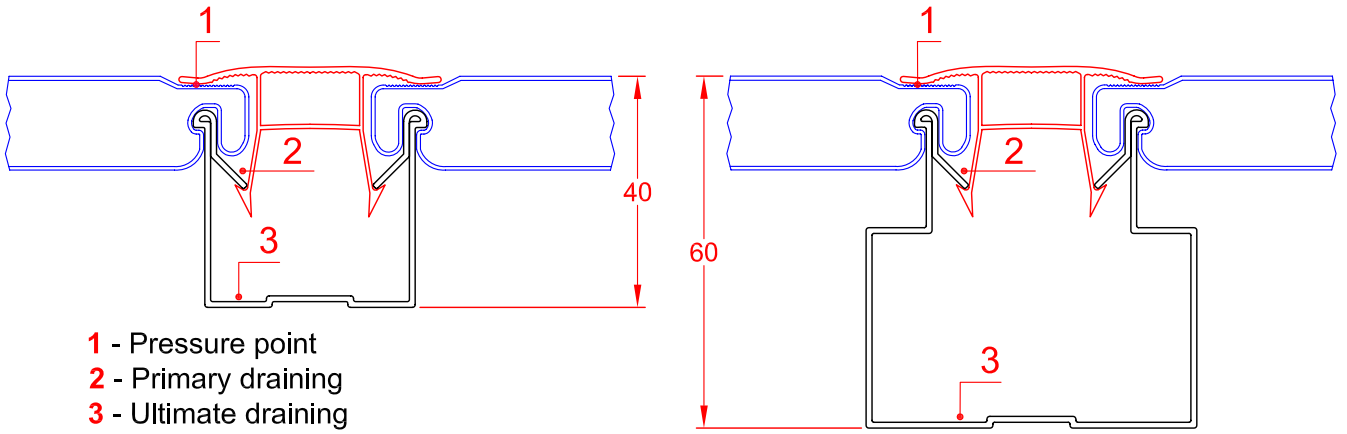


The anchorage of the polycarbonate **panels** is accomplished mainly by locking the polycarbonate **clip profile** into the **steel channel**.

The particular shape of the panels and the special profile of the steel channels keep the panels in their position in case of compressive or depressive forces. They remain perfectly in site with distribuited load (wind and snow) and with concentrated load.

WATER TIGHTNESS

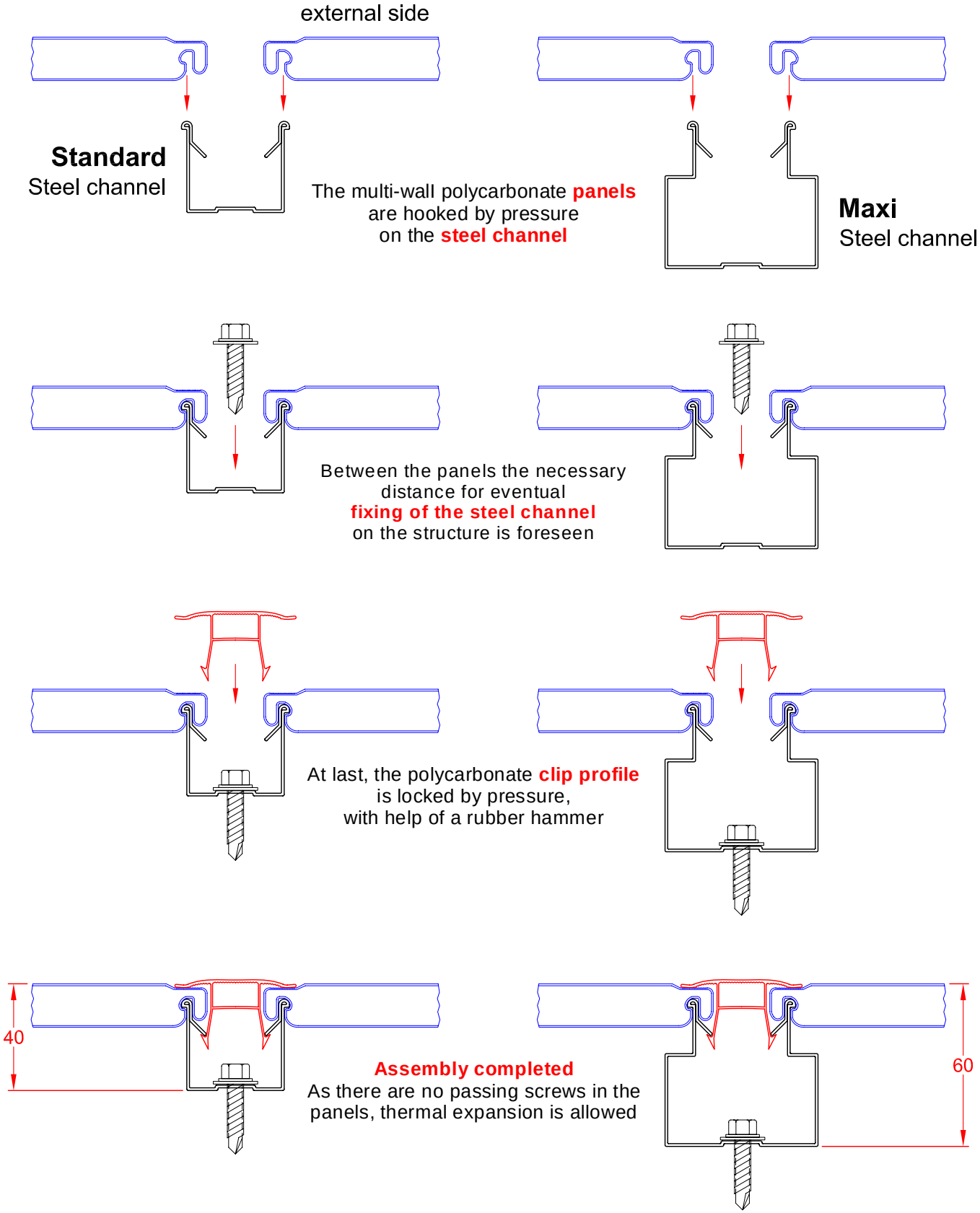
SUN MODUL guarantees excellent water tightness

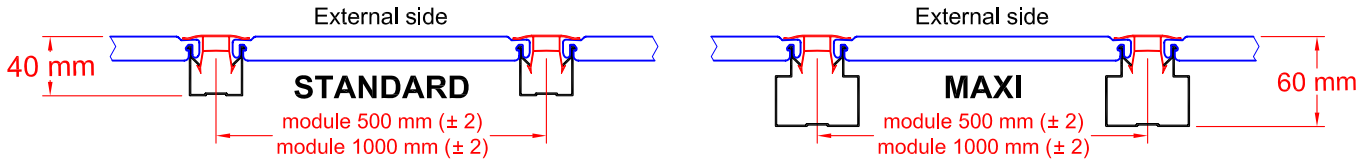


The anchorage of the polycarbonate **panels**, wich is obtained by locking the polycarbonate **clip profile** into the **steel channel** without boreholes or screws on the panel, prevents infiltrations.
Eventually penetrated microelements can flow outside by the primary draining.

The particular shape of the **steel channel** guarantees the ultimate draining of infiltrations and condensates, without interference with eventual fixing screws.

SUN MODUL allows simply and quick assembly



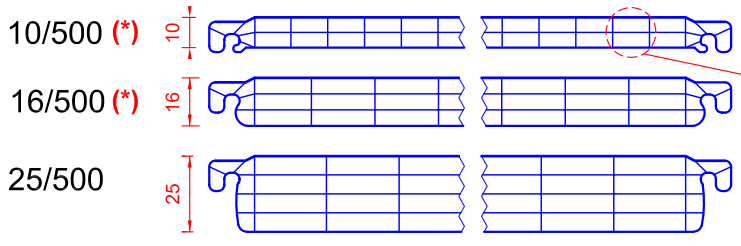


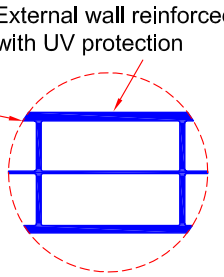
MAIN ELEMENTS

supplied with lenght on size - up to transportation limits (max 13500 mm)

Panels module 500 mm

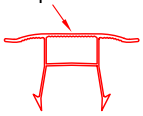
in UV protected polycarbonate - supplied with closed hollow chambers (*)





Clip profile

in UV protected polycarbonate
UV protection

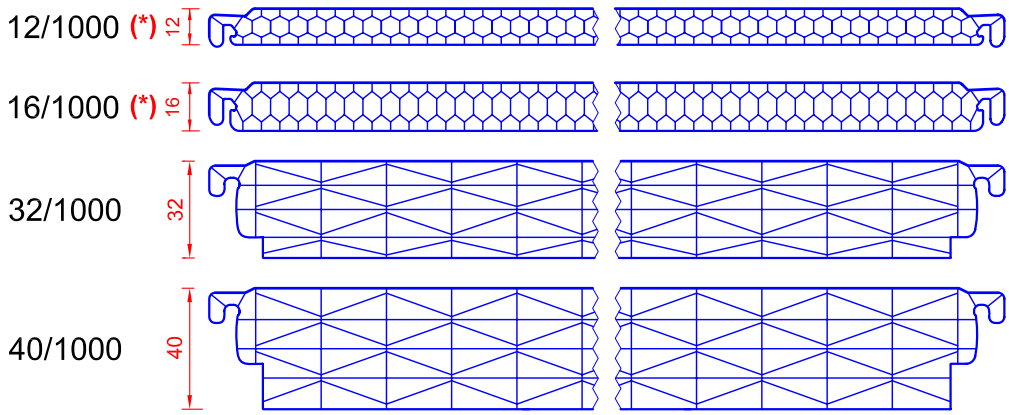


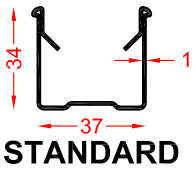
Steel channels

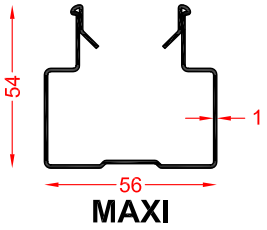
in galvanised steel
external plasticized

Panels module 1000 mm

in UV protected polycarbonate - supplied with closed hollow chambers (*)







(*) Thermosealed hollow chambers at request for panels thickness 10-12-16 mm

TECHNICAL DATA		module 500 mm (± 2)			module 1000 mm (± 2)				Unità
Panel thickness (nominal)		10	16	25	12	16	32	40	mm
Number of walls		3	4	5	[4]	[4]	9	9	
Thermal transmission [U]		2,68	2,04	1,55	2,20	1,99	1,21	1,09	W/m²K
Light transmission	Trasparent	~ 73	~ 66	~ 61	~ 64	~ 60	~ 48	~ 47	%
	Opaline	~ 63	~ 57	~ 51	~ 48	~ 43	~ 38	~ 35	%
Total weight of the system	with **Standard** channel	~ 4,3	~ 4,7	~ 5,1	~ 3,2	~ 3,8	~ 4,5	~ 5,4	kg/m²
	with **Maxi** channel	-	~ 5,9	~ 6,3	-	~ 4,4	~ 5,1	~ 6,0	kg/m²
Minimum bending radius	with **Standard** channel	2000	3500	5500	2000	3000	6400	8000	mm
	with **Maxi** channel	-	4500	5500	-	4500	6400	8000	mm
Thermal expansion		0,065							mm/mK
Temperature range		-40 / +120							°C
COMBINATIONS Panel / Steel channel		● admitted (depending on foreseen snow and wind loads) - not admitted							
for **Wall / Northlight**	with **Standard** channel	●	●	●	●	●	●	●	
	with **Maxi** channel	-	●	●	-	●	●	●	
for **Flat Roof**	with **Standard** channel	●	●	●	-	●	●	●	
	with **Maxi** channel	-	●	●	-	●	●	●	
for **Domed Skylight**	with **Standard** channel	●	●	●	●	●	●	●	
	with **Maxi** channel	-	●	●	-	●	●	●	

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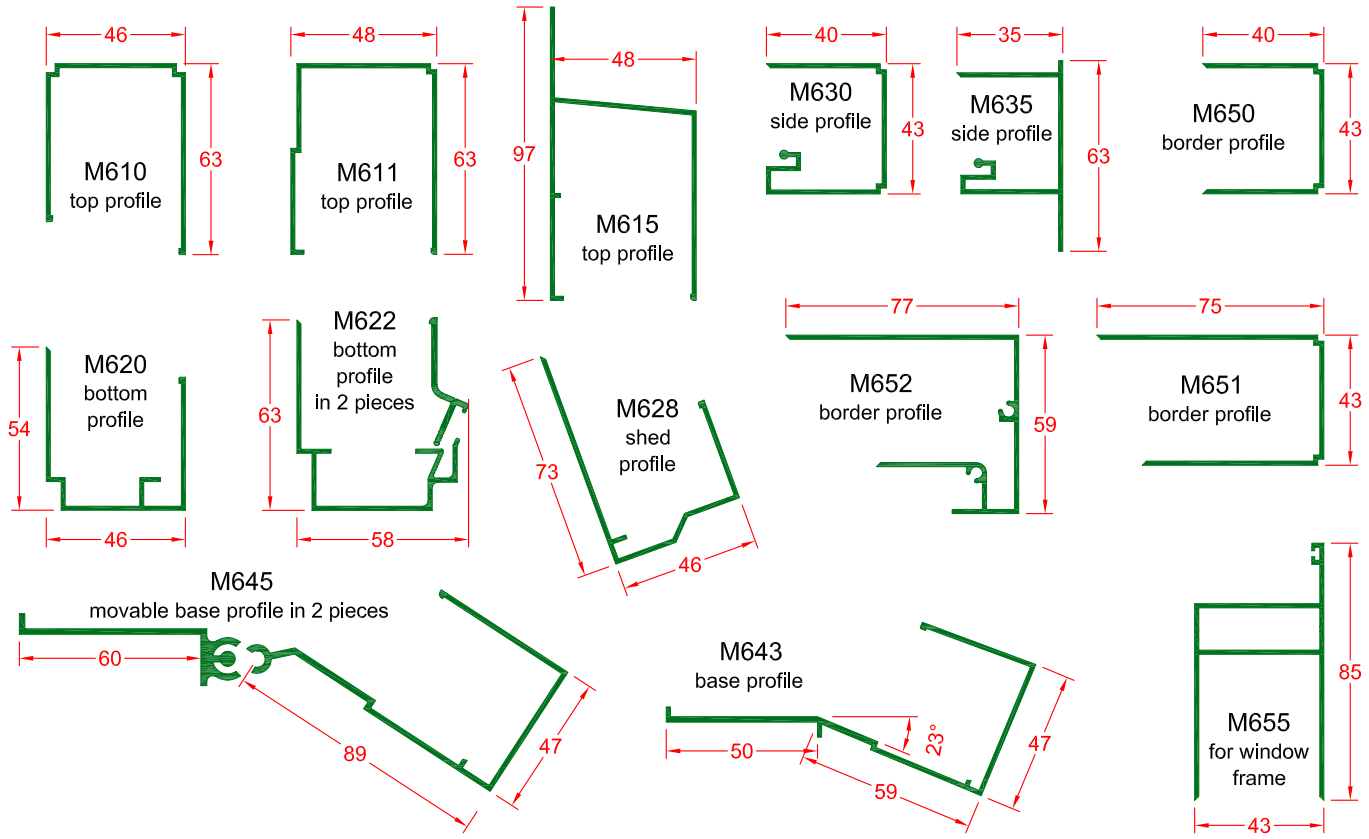
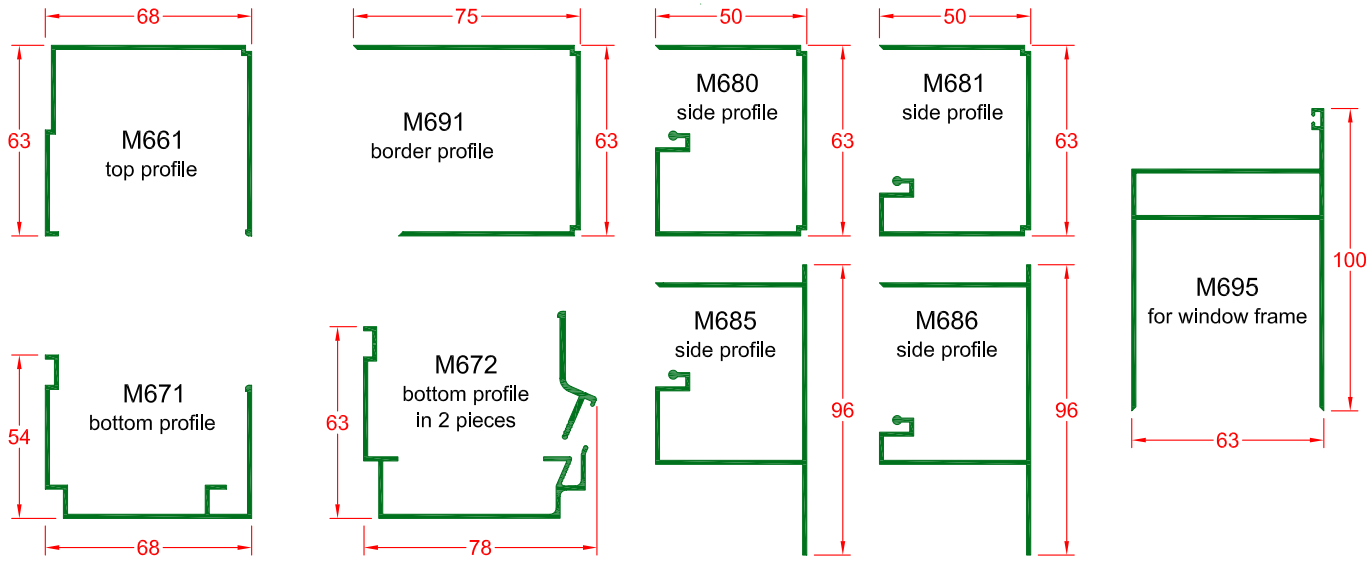
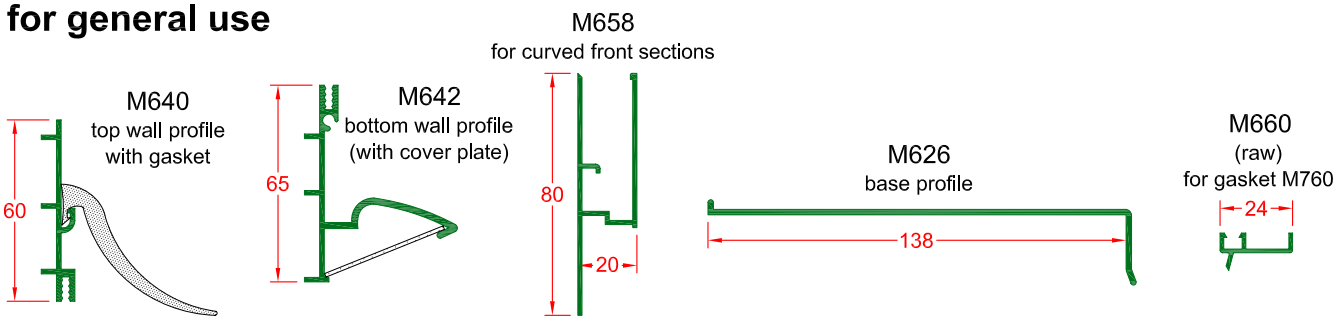
for STANDARD Steel Channel



for MAXI Steel Channel



for general use



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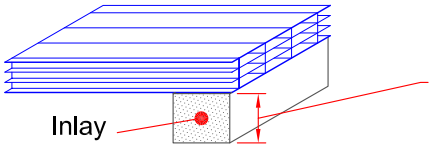
INLAYS
in PE foam

drawings
not to scale

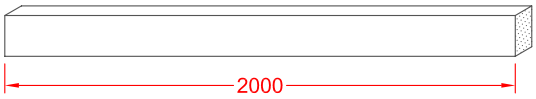


Thickness of the inlay
variable, depending on panel thickness
and type of steel channel Standard or Maxi

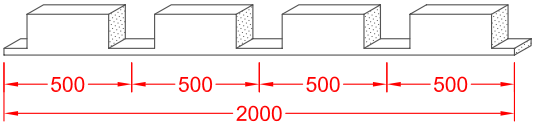
single for module 500 mm

single for module 1000 mm

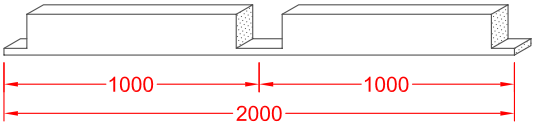
universal



shaped for module 500 mm



shaped for module 1000 mm



GASKETS
in EPDM

scale 1:2,5

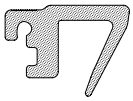
M732

M734
for side profiles

M736

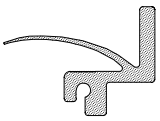
M750
for end steel channels

M768 M769
for bottom profiles

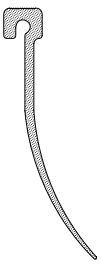


M752
for front sections
with panels 10-12-16 mm

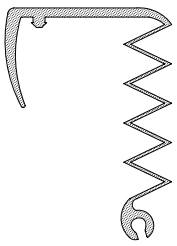
M764
adhesive 20x5



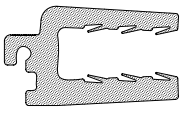
M762
for curved windows



M756
for end steel channels



M760
for combination with
sandwich panels
with profile M660



M754
for non modular domed skylights
(with panels 10-12-16 mm)

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SPECIFICATION TEXT

*Choose between alternatives marked by • and verify admissible **combinations** panel / steel channel and minimum bending radius in the table **TECHNICAL DATA**.*

• Wall; • Northlight; • Flat roof; • Curved roof
realised with selfcarrying modular system type **SUN MODUL**® by Akraplast Sistemi, including:

1) UV protected multi-wall polycarbonate panels
   - • thickness 10 mm, modular width 500 mm, 3 walls, thermal transmission U=2,68 W/m^{2}K
   - • thickness 16 mm, modular width 500 mm, 4 walls, thermal transmission U=2,04 W/m^{2}K
   - • thickness 25 mm, modular width 500 mm, 5 walls, thermal transmission U=1,55 W/m^{2}K
   - • thickness 12 mm, modular width 1000 mm, honeycomb, thermal transmission U=2,20 W/m^{2}K
   - • thickness 16 mm, modular width 1000 mm, honeycomb, thermal transmission U=1,99 W/m^{2}K
   - • thickness 32 mm, modular width 1000 mm, 9 walls, thermal transmission U=1,21 W/m^{2}K
   - • thickness 40 mm, modular width 1000 mm, 9 walls, thermal transmission U=1,09 W/m^{2}K

   colour • transparent; • opal-white; • others ……
2) U shaped channels in galvanized steel with plasticized external surface
   - • type Standard for total thickness of the system 40 mm
   - • type Maxi for total thickness of the system 60 mm

   colour • grey; • white
3) Clip profiles in UV protected polycarbonate for stable anchorage of the panels on the steel channels

   colour • as panels; • others ……
4) Profiles for framing of the perimeter in natural anodized aluminium; PE inlays, gaskets and what else is necessary for perfect tightness of the system.

WARRANTIES

SUN MODUL® panels and clip profiles are protected against UV rays on the external side.
In Europe they are covered by **10 YEARS WARRANTY** from the date of purchase against yellowing and weather damages (hail etc.).
For Extra-European Countries the warranty may have a different duration. For further details, please ask for the Warranty Certificate.

CERTIFICATIONS

A series of tests have been carried out on the **SUN MODUL**® system, in order to confirm it's most significant properties. The below listed test and certificates are available. For further details, please ask for a copy of the Certificate.

Type of test / Certificate	
Durability:	Evolution during time of light transmission and impact strength
Tightness:	Air tightness Water tightness
Mechanical properties:	Resistance to compressive and depressive loads Resistance of fixing to tearing and deformation
Thermal properties:	Coefficient of thermal conductivity
Solar properties:	Energy transmission Light transmission and reflection
Acoustic properties:	Coefficient of acoustic insulation
Fire classification:	Certificates for European Standard EN13501-1, and National Standards for several Countries
Licences of the system:	In several Countries according to respective standards

TECHNICAL HANDBOOK

A **Technical Handbook** is available with detailed information and examples about the following topics:
PROPERTIES and ELEMENTS of the SYSTEM - APPLICATIONS - ASSEMBLY INSTRUCTIONS
The use of the handbook is recommended for architects for elaboration of projects foreseeing application of the system, and for the companies doing the installation.