SPECIALTY STRUCTURED MULTIWALL POLYCARBONATE SHEETS

DESCRIPTION

SPECIALTY STRUCTURED MULTIWALL POLYCARBONATE EXTRUDED SHEETS are designed for use in a wide range of glazing applications, each has been developed to optimize on one or more of the inherent properties of multiwall sheets including load resistance, thermal insulation, light transmission and others. All Speciality strustured sheet are produced according to the European Standard EN 16153-2013.

Specialty structured sheets are manufactured in a range of thicknesses from 8 to 32 mm with cross-sections ranging from triple-wall to a 11-wall honeycomb structure. All sheets can be produced with either 1 or 2 sides UV protection and in a wide range of standard colors and light transmissions (special colors and light transmissions are available on request).
Speciality strustured sheet can be anti-fog coated upon request, orders may be subject to minimum quantities.

TYPICAL PROPERTY VALUES

Type / Thickness, mm / Standard Weight, g/m²	K-Value, W/m² ·°C	Min. Radius for Cold Bending*, m	Impact Strength, joule	Sound Reduction Value, Db	Coefficient of linear expansion	Service Temperature Range
TITAN SKY (TSK) 10/1750	2.4	1750	2.5	19	6.65•10-5 m/(m•°C): 2.5 mm/m for clear and white, 4.5 mm/m for dark sheets (ΔT=80°C)	-40ºC–+120ºC for short time service. -25°C to +85°C for prolonged service
TITAN SKY (TSK) 16/2500	2.1	2400	3.0	21		
THERMOGAL (TRM) 20/3000	1.9	3500	3.0	22		
THERMOGAL (TRM) 25/3500	1.7	4370	4.5	23		
THERMOGAL (TRM) 32/3800	1.4	5600	5.0	23		
THERMOGAL SUPER (TRMS) 16/2700	1.76	Not recommended	2.0	19		
THERMOGAL SUPER (TRMS) 20/3200	1.53	Not recommended	3.0	22		
THERMOGAL SUPER (TRMS) 32/3800	1.06	Not recommended	5.5	23		
THERMOCLEAR 8/1650	2.85	Not recommended	2.7	18		
THERMOCLEAR 10/1750	2.6	Not recommended	3.0	19		
SELECTOGAL 16/3000	2.33	2800	5.3	21		

Remarks:
* Cold bending can be done only in the direction of the ribs, never parallel to the ribs.
- K-Value based on ASTM C177. Overall Heat Transfer Coefficient is measured according to winter night conditions with no solar radiation.
- Impact Strength is tested with a Falling Dart Impact Test according to ASTM D-5628.
- Sound Reduction Value is calculated according to DIN 52210.

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OPTICAL PROPERTIES

Typical Colors are: clear (CLR), bronze (BRZ) and opal (ICE / NGL).
Property values for other standard / special colors are available upon request.

Clear sheets:

Type / Thickness, mm	Color	SC**	SHGC***	Light Transmission (%) by ASTM D 1003
TITAN SKY 10	clear	0.63	0.54	62 (79*)
TITAN SKY 16	clear	0.60	0.52	61 (75*)
THERMOGAL 20	clear	0.70	0.61	56
THERMOGAL 25	clear	0.69	0.59	55 (79*)
THERMOGAL 32	clear	0.59	0.51	50 (73*)
THERMOGAL SUPER 16	clear	0.41	0.36	42
THERMOGAL SUPER 20	clear	0.41	0.36	40
THERMOGAL SUPER 32	clear	0.50	0.47	38 (60*)
THERMOCLEAR 8	clear	0.81	0.69	77
THERMOCLEAR 10	clear	0.81	0.69	77
SELECTOGAL 16	clear	0.41	0.35	75

Bronze colored sheets:

Type / Thickness, mm	Color	SC**	SHGC***	Light Transmission (%) by ASTM D 1003
TITAN SKY 10	bronze	0.54	0.47	42
TITAN SKY 16	bronze	0.53	0.46	42
THERMOGAL 20	bronze	0.48	0.40	20
THERMOGAL 25	bronze	0.45	0.38	20
THERMOGAL 32	bronze	0.39	0.33	15
THERMOGAL SUPER 16	bronze	0.48	0.51	42
THERMOGAL SUPER 20	bronze	0.47	0.39	10
THERMOGAL SUPER 32	bronze	0.40	0.32	15
SELECTOGAL 16	bronze	0.37	0.32	47

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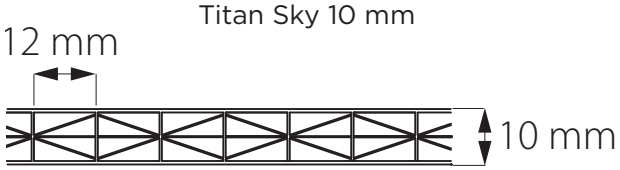
White colored sheets:

Type / Thickness, mm	Color	SC**	SHGC***	Light Transmission (%) by ASTM D 1003
TITAN SKY 10	ICE	0.52	0.44	32 (52*)
TITAN SKY 16	ICE	0.49	0.42	32 (51*)
TITAN SKY 16	NGL	0.48	0.41	25 (54*)
THERMOGAL 20	ICE	0.43	0.38	20
THERMOGAL 25	ICE	0.41	0.36	20 (54*)
THERMOGAL 25	NGL	0.44	0.38	20 (51*)
THERMOGAL 32	ICE	0.41	0.36	15
THERMOGAL 32	NGL	0.44	0.38	15 (47*)
THERMOGAL SUPER 16	ICE	0.34	0.3	10
THERMOGAL SUPER 20	ICE	0.33	0.29	10
THERMOGAL SUPER 32	ICE	0.30	0.26	10
THERMOGAL SUPER 32	NGL	0.32	0.28	10
SELECTOGAL 16	NGL	0.32	0.28	32

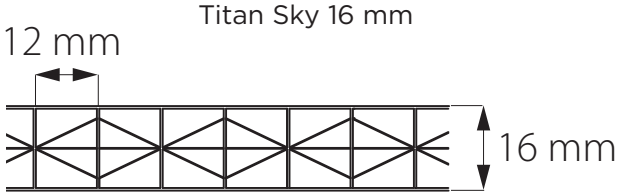
* according to ASTM D 1494
** SC – Shading Coefficient is the ratio between SHGC of the sheet and SHGC of 3 mm glass.
*** SHGC – Solar Heat Gain Coefficient is the ratio between the solar heat gain through the sheet and the incident solar radiation.

STRUCTURES

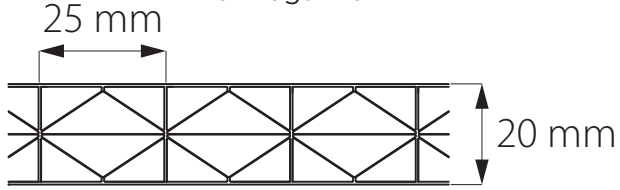
Titan Sky 10 mm



Titan Sky 16 mm

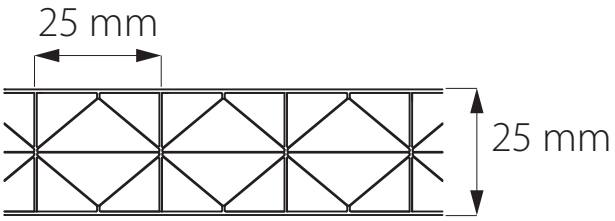


Thermogal 20 mm

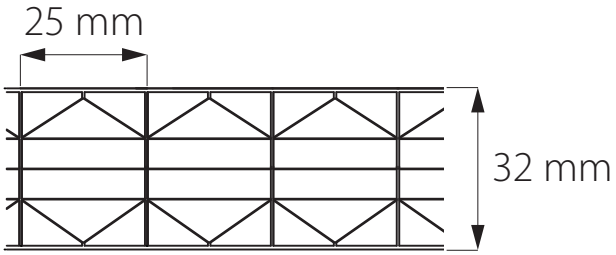


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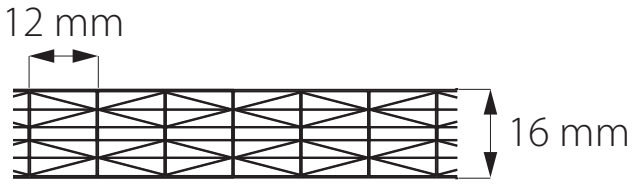
Thermogal 25 mm



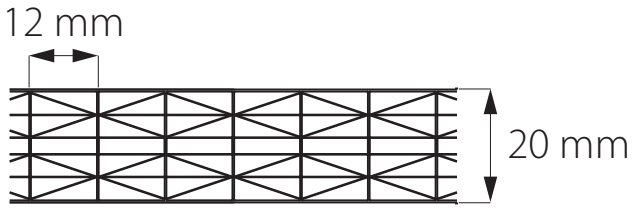
Thermogal 32 mm



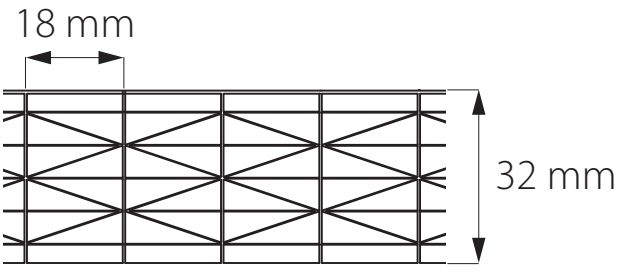
Thermogal Super 16 mm



Thermogal Super 20 mm

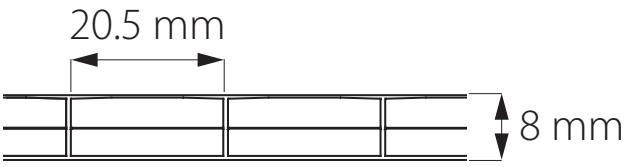


Thermogal Super 32 mm



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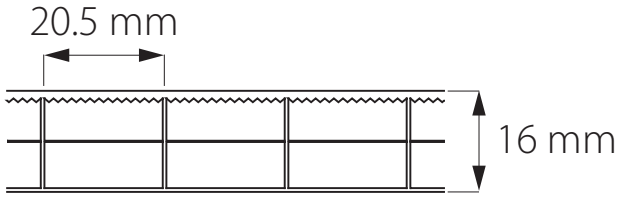
Thermoclear 8 mm



Thermoclear 10 mm



Selectogal 16 mm



TOLERANCES FOR DIMENSIONS

Standard sheet lengths: 6000 mm, 12000 mm.
Maximum length: subject to shipping constraints.
Standard widths: 980 mm, 1220 mm, 2100 according to sheet type.
Other widths are available upon request orders may be subject to minimum quantities.

Structure	Thickness, mm	Width, mm (closed edge)	Width, mm (open edge)	Length, mm
TITAN SKY 10 / 16 THERMOGAL SUPER 16 / 20	± 0.5	WIDTH ≤ 1600 MM ±5	WIDTH ≤ 1600 MM ±4	≤ 3 m - - 0 / + 6 ≥ 3 m - - 0 / + 0.2% from nominal length
TITAN SKY 10/ 16 THERMOGAL SUPER 16 / 20		WIDTH ≥ 1600 MM - 0 / + 10	WIDTH ≥ 1600 MM 4±	
THERMOGAL 20 / 25		WIDTH ≤ 1250 MM ± 7	WIDTH ≤ 1250 MM ± 7	
THERMOGAL 20 / 25		WIDTH ≥ 1250 MM - 0 / +14	WIDTH ≥ 1250 MM - 0 / +14	
THERMOGAL 32		± 8	± 8	
THERMOGAL SUPER 32		± 8	± 5	

Planar bowing (“Banana”) Tolerance
Max allowed planar bowing of the sheet - 0.3% of nominal length

Flatness (“Bowing” or “Waves”) Tolerances
Max allowed deviation from flatness - 0.5% of nominal width of the sheet

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DEFINITIONS

A coextruded UV layer which is an integral part of the sheet protects the sheets from degradation from solar ultraviolet radiation. The effectiveness of this protection has been confirmed by field and laboratory durability testing of Yellowness Index (YI), Light Transmission (LT) and Impact resistance.

All | Specialty structured multiwall polycarbonate sheets are covered against loss of physical, mechanical and optical properties during the guarantee period. Details are available at the | website

FIRE TEST PERFORMANCE

multiwall polycarbonate sheets are suitable for construction applications according to standards ASTM D635 and ASTM E84 and EN 13501. For detailed information, please contact Technical Support.

CHEMICAL RESISTANCE

polycarbonate sheets can be safely used with most building materials and glazing components, however, some common materials are not compatible with polycarbonate. The chemical stability depends on many factors such as concentration of the chemical agents and on expose temperature. Considering the complexity of chemical compatibility, all materials which intended for contact with the polycarbonate sheets, should always be tested. A list of compatible and non-compatible materials is available for download at the

GENERAL GUIDELINES

STORAGE

Sheets must be stored in a dry, dark and well ventilated area, with NO EXPOSURE to direct sunlight, wind, dirt or hard objects. Avoid storage in areas with excessive heat or aromatic cleaning solvents.

Sheets should be stored on a flat clean raised surface and placed on a soft material (such as cardboard) to prevent damage. DO NOT store sheets under flexible PVC coverings, as flexible PVC is not compatible with polycarbonate and can cause serious damage to the sheets.

CLEANING & MAINTENANCE

Polycarbonate sheets will give longer and more effective service life by cleaning by warm soapy water using a mild liquid dish soap. If any dirt remains, gently wipe off with a soft cloth.

- Commercial liquid cleaners may not be compatible with polycarbonate and are not recommended.
- Sponges, squeegees, brushes or sharp instruments should not be used for cleaning sheets as they can damage the protective UV coating and/or causes scratches in the sheet surface.

RE-WORKING

- Polycarbonate sheets can be cut easily and accurately using standard workshop equipment. This includes standard circular, jig, or table saw with a blade having 8-12 teeth per inch (circular saws should have fine-toothed panel blades).
- Holes can be easily and cleanly drilled with regular drills (holes should be made slightly larger than screws in order to allow for thermal expansion).
- Cold bending can be done but only in the direction of the ribs, never parallel to the ribs (see properties table above for minimum bending radius).

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.