PLASKOLITE DOUBLE AND TRIPLE LAYERED POLYCARBONATE SHEETS

DESCRIPTION

PLASKOLITE DOUBLE AND TRIPLE LAYERED POLYCARBONATE EXTRUDED SHEETS are produced according to the European standard for multiwall polycarbonate sheets EN 16153-2013 and are designed for use in a wide range of conventional roofing and glazing applications.

Double and triple layered sheets are manufactured a range of thicknesses from 4 to 16 mm 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). Double and triple layered sheets can be anti-fog coated upon request.

The complete range offers remarkable impact strength, high light transmission, light weight, long term weather resistance and outstanding thermal insulation properties, due to the multiwall cellular structure.

TYPICAL PROPERTY VALUES

Thickness, mm / Standard Weight, g/m^2	K-Value, W/m^2 ·°C	Min. Radius for Cold Bending*, m	Impact Strength, joule	Sound Reduction Value, Db	Coefficient of linear expansion	Service Temperature Range
4/800	3.9	0.70	1.5	15	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–+120°C for short time service. -25°C to +85°C for prolonged service
6/1300	3.6	1.05	2.1	18		
8/1500	3.3	1.4	2.5	18		
10/1700	3.0	1.75	2.8	19		
16/2700	2.3	2.4	3.1	21		

Remarks:

* Cold bending can be done only in the direction of the ribs, never parallel to the ribs.

- K-Value is based on ASTM C177. Overall Heat Transfer Coefficient is measured according to winter night conditions with no solar radiation.
- Impact Strength is been tested in a falling dart impact test according to ASTM D 5628.
- Sound Reduction Value is calculated according to DIN 52210.

OPTICAL PROPERTIES

The tables below have values for common colors: clear (CLR), bronze (BRZ) and opal (ICE), values for other standard colors are available upon request.

Clear sheets:

Thickness (mm)	Color	SC*	SHGC**	Light Transmission (%) by ASTM D 1003
4	clear	0.89	0.77	82
6	clear	0.88	0.75	80
8	clear	0.86	0.74	79
10	clear	0.85	0.73	78
16	clear	0.79	0.68	74

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Bronze colored sheets:

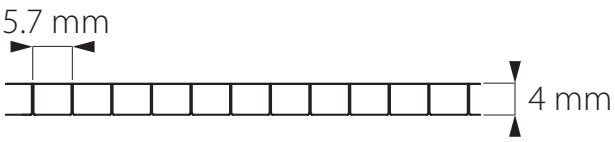
Thickness (mm)	Color	SC*	SHGC**	Light Transmission (%) by ASTM D 1003
6	bronze	0.67	0.58	42
8	bronze	0.68	0.58	42
10	bronze	0.68	0.59	42
16	bronze	0.65	0.56	42

ICE colored sheets:

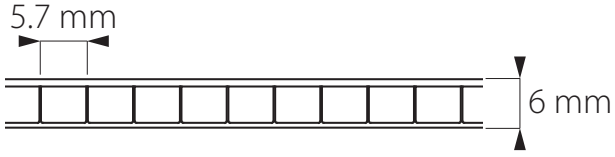
Thickness (mm)	Color	SC*	SHGC**	Light Transmission (%) by ASTM D 1003
6	ice	0.54	0.47	32
8	ice	0.57	0.49	32
10	ice	0.55	0.48	32
16	ice	0.56	0.48	32

STRUCTURES

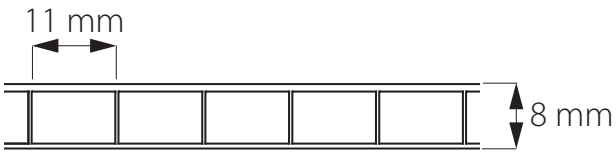
4 mm



6 mm



8 mm



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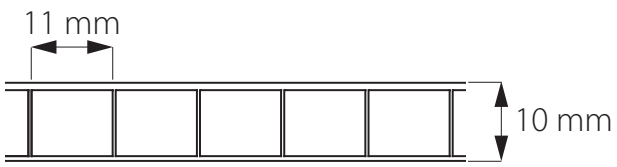
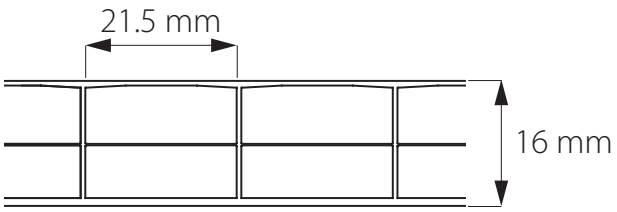
10 mm



16 mm



TOLERANCES FOR DIMENSIONS

Standard sheet length: 6000 mm, 12000 mm.

Maximum length: subject to shipping constraints.

Standard widths: 980 mm, 1220 mm, 2100 mm. Other widths are available upon request, but may be subject to minimum order quantities.

Structure	Thickness, mm	Width, mm	Length, mm
4 mm	± 0.3	- 0 / + 8	≤ 3 m - - 0 / + 6 ≥ 3 m - - 0 / + 0.2% from nominal length
6 mm	± 0.3	- 0 / + 8	
8 mm	± 0.5	- 0 / + 8	
10 mm	± 0.5	- 0 / + 8	
16 mm	± 0.5	± 4	

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

UV PROTECTION

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 PLASKOLITE Standard multiwall polycarbonate sheets are covered against loss of physical, mechanical and optical properties during the guarantee period. Details are available at the PLASKOLITE website (www.plaskolite.com).FIRE PERFORMANCE

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

CHEMICAL RESISTANCE

PLASKOLITE 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 PLASKOLITE website (www.plaskolite.com).

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).

PLASKOLITE

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