CORRUGAL POLYCARBONATE SHEETS

EUROPE

DESCRIPTION

PLASKOLITE EXTRUDED CORRUGATED POLYCARBONATE SHEETS are produced according to internal ISO standards and are cost-effective in a wide range of outdoor applications, such as canopies, industrial areas covers and others.

CORRUGAL extruded polycarbonate sheets provide long-life products with high transparency, outstanding impact strength, weathering and ageing resistance with UV protective layer, safe and easy fabrication and handling. Corrugated sheets can be anti-fog coated upon request, orders may be subject to minimum quantities.

CORRUGAL extruded sheets are available in a wide range of shapes, thicknesses and colors.

TYPICAL PROPERTY

Properties	Method	Units	Value
GENERAL			
Density	ISO 1183	g/cm^3	1.2
Water Absorption	ISO 62 (1)	%	0.15
Mechanical			
Tensile Strength at Yield	ISO 527-2	MPa	60
Elongation at Yield	ISO 527-2	%	6
Elongation at Break	ISO 527-2	%	> 100
Tensile Modulus	ISO 527-2	MPa	2300
Flexural Strength	ISO 178	MPa	90
Flexural Modulus	ISO 178	MPa	2300
Impact Resistance (Charpy unnotched)	ISO 179/1fu	kJ/m^2	No Break
Impact Resistance (Izod notched)	ISO 180/1A	kJ/m^2	> 65
OPTICAL			
Refractive Index	ISO 489		1.585
Light Transmission	ASTM D1003	%	90
Haze (3 mm transparent sheet)	ASTM D1003	%	< 1
THERMAL			
Vicat Softening Temp.(50N)	ISO 306	°C	144
Heat Deflection Temp. (1.82 MPa)	ISO 75-1	°C	130
Coeff. of Linear Thermal Expansion (0-50OC)		m/m/m °C	6.5
Thermal Conductivity	ASTM C177	W/mK	0.2
Maximum Continuous Service Temp.		°C	85
Maximum Short Time Service Temp.		°C	120
Minimum Continuous Service Temp.		°C	-25
Minimum Short Time Service Temp.		°C	-40
ELECTRICAL			
Dielectric Constant (50Hz)	DIN 53483		3.0
Dissipation Factor tanδ (100Hz)	DIN 53483		0.0006
Dissipation Factor tanδ (1 MHz)	DIN 53483		0.009
Volume Resistivity	IEC 60093	Ohm.cm	$>10^{14}$

CORRUGAL POLYCARBONATE SHEETS

Properties	Method	Units	Value
Surface Resistivity	IEC 60093	Ohm	$>10^{15}$

DIMENSIONS

Type	Shape	Profile	Thickness, mm	Width, mm	Length, mm
Sinus		76/18	0.5-1.2	516, 875, 880, 900, 810, 1100, 1260	1.5-11.80
Greca		76/18	0.6-1.2	900, 956, 990, 1032, 1108, 1260	
P-7 (Big Wave)		177/51	0.8-1.2	580, 920, 1100	
TR-40 (Trapezoid-Shaped)		196/40	0.8-1.2	1118	
R-101		145/20	0.8-1.2	1070	
DV-4		333/50	0.8-1.2	1095	

Sheets are also available cut-to-size according to customer requirements.

THEORETICAL WEIGHT

Thickness, mm / Type	Weight, kg/m^2					
	Sinus 76/18	Greca 76/18	P-7 177/51	TR-40 196/40	R-101 145/20	DV-4 333/50
0.5	0.673					
0.6	0.808	0.892		0.862		
0.65	0.875					
0.7	0.942	1.041			0.954	
0.75	1.010	1.115				
0.8	1.077	1.190		1.149	1.090	
0.9	1.211	1.338	1.269		1.227	
1.0	1.346	1.487	1.410	1.436	1.363	1.455
1.1	1.481	1.636	1.551			
1.2	1.615	1.785	1.692	1.723		

OPTICAL PROPERTIES

Typical Colors are: clear, bronze and opal.

Optical property / Spectrum values for standard / special colors are available upon request.

Colors	Light Transmission, %
Clear	90
Opal	50
Bronze	50
Gray	35
Blue	50
Green	50
Pearl	60

Colors	Light Transmission, %
Turquoise	76
Metallic green < 0.8	35*
Metallic blue < 0.8	35*
Metallic gray < 0.8	35*
Metallic green < 0.8	18**
Metallic blue < 0.8	18**
Metallic gray < 0.8	18**

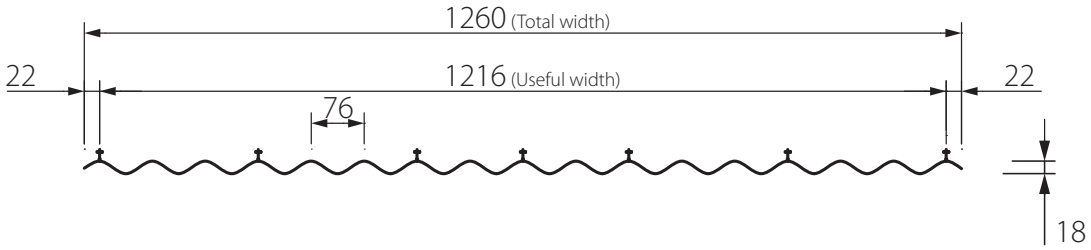
* Without diffuser

** With diffuser

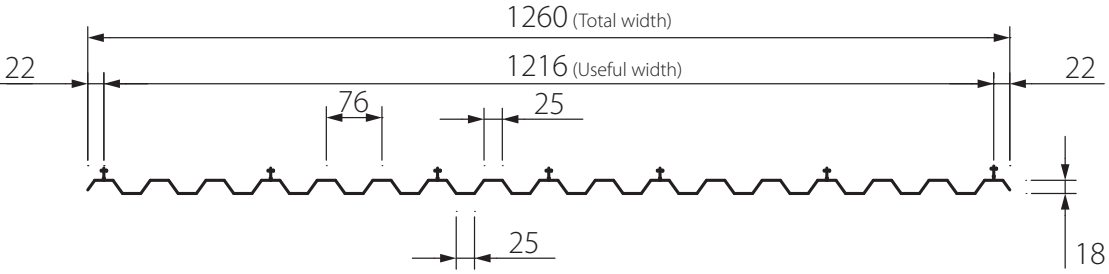
CORRUGAL POLYCARBONATE SHEETS

STRUCTURE

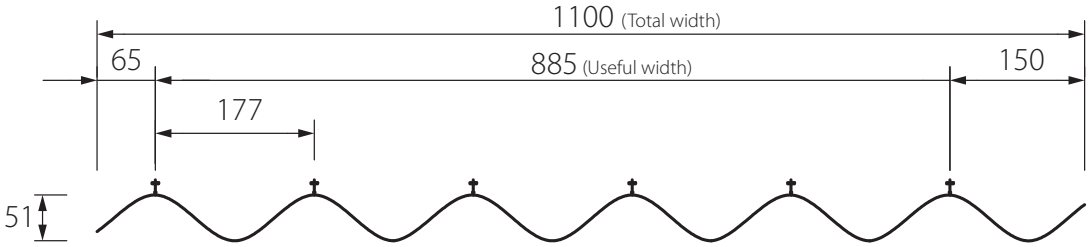
SINUS (76/18)



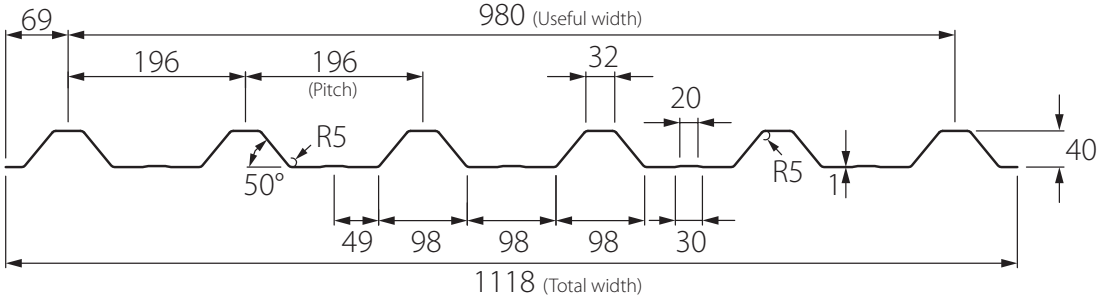
GRECA (76/18)



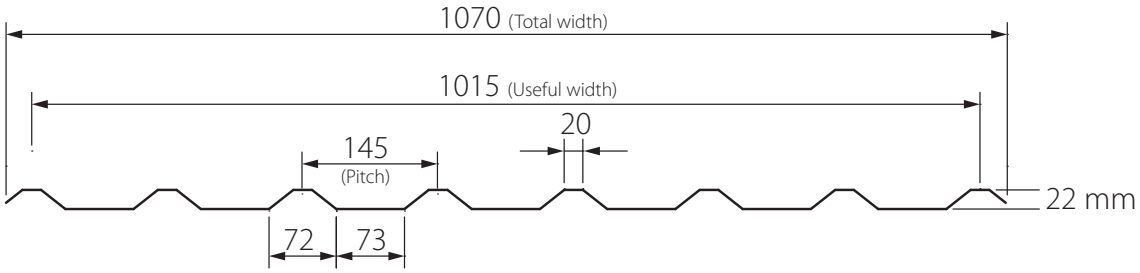
Big Wave P-7 (177/51)



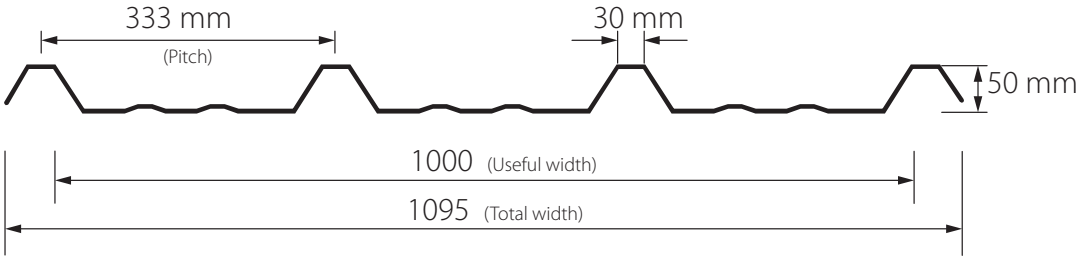
Trapezoid-Shaped TR-40 (196/40)



R-101



DV-4



CORRUGAL POLYCARBONATE SHEETS

TOLERANCES FOR DIMENSIONS

Sheet Thickness, mm	Thickness Tolerances, %	Width Tolerances, mm	Length Tolerances, %	Diagonals Tolerances, mm
0.5-1.2	-10, +5	Sheets cut in production: -0.0 /+3.0	Sheets cut in production: -0.0 /+3.0	Sheets cut in production: Length ≤ 3000 mm - ≤ 4 Length ≥ 3000 mm - ≤ 6

COLORS

CORRUGAL sheets are naturally colorless and clear, however, pigments can be added to obtain a wide range of tints and colors. The light transmission of CORRUGAL sheets varies depending on color.

For a list of updated colors, please contact PLASKOLITE Technical Support.

UV PROTECTION

CORRUGAL sheets have excellent filtering of UV radiation. They completely block the harmful UV radiation while transmitting visible light and parts of the IR radiation. However, the PC itself is not resistant to UV radiation and must be stabilized or protected using UV absorbing additives.

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 Maintaining Mechanical properties.

PLASKOLITE CORRUGAL polycarbonate sheets are guaranteed against loss of physical, mechanical and optical properties during the guarantee period.

Details are available at the PLASKOLITE website (www.plaskolite.com).

CHEMICAL RESISTANCE

PLASKOLITE polycarbonate sheets can be safely used with most chemical materials and components, however, some common materials are not compatible with polycarbonate. The chemical stability depends on many factors such as concentration of the chemical agents, internal stresses and exposure temperature.

Because of the complexity of chemical compatibility all materials which are 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).

ENVIRONMENTAL STRESS CRACKING

Environmental Stress Cracking (ESC) is a result of the combination of stress and exposure to chemicals. The level of stress needed for ESC is lower than the normal failure mechanical stress of PC in a chemical-free environment. Stresses can be created during forming and fabrication and can be controlled by an annealing process. Stresses can be created also by improper installation. Cold bended sheets under permanent induced stress or sheets under periodic stress (fatigue) are also susceptible to ESC.

GENERAL GUIDELINES

STORAGE

CORRUGAL sheets must be stored with their original protective masking in a dry, shady 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 horizontally on their delivery pallets 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. Pay attention to avoiding pressure on the unsupported areas.

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.

ENVIRONMENTAL ADVANTAGES

CORRUGAL sheets are environmental friendly. The sheets are fully recyclable. They do not contain any toxic materials or heavy metals which may cause environmental damage or health risks. They do not produce toxic or corrosive gases upon burning, fires can be extinguished with water.

CORRUGAL sheets can be used for energy recovery and chemical or mechanical recycling. PC scrap is not classified as hazardous waste, small amounts can be disposed as household refuse. Large quantities should be disposed by recycling.

FABRICATION

HANDLING:

CORRUGAL sheets can be cut, sawn, drilled, milled and bent easily using standard workshop equipment for wood or metal. However, it is always recommended to use specific tools specially designed for plastics.

Machining, Assembling, Glazing and Installation recommendations can be refer to the CORRUGAL Brochure.

Cold bending:

CORRUGAL sheets are ductile and can be cold-bent in a straight line. Minimum radius for cold bending will depend on the sheet type.

When cold bending CORRUGAL sheets, a plastic permanent deformation is induced in the bending line, this deformation causes a reduction of the mechanical properties in the bent area.

Also, plastic deformation causes frozen-in internal stresses that reduce the chemical resistance of the sheet in the bent area and increase the susceptibility to ESC attack.

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.

PLASKOLITE

400 W Nationwide Blvd Suite 400
Columbus, OH 43215
800.848.9124 • Fax: 877.538.0754
plaskolite@plaskolite.com
www.plaskolite.com

© 2024 PLASKOLITE, LLC 042024
CORRUGAL iis a registered trademark of Plaskolite LLC