

**POLYCARBONATE  
SHEETS**

Işık Plastik offers flat solid polycarbonate sheet in different configurations such as transparent & translucent & thermal resistant properties. Policam solid pc sheet meets customer expectation in any specifications of color, light transmission and heat insulation requirements with best quality. Işık Plastik supplies sheets with co-extruded UV protective layer on both sides which to be applied in outdoor applications. This layer protects sheet against UV exposure.

## Properties of Policam Solid Polycarbonate Sheets

- Very high impact resistance.
- Up to %88 light transmission.  
(Depends on sheet thickness)
- B s1 d0 (4;5 and 6 mm thicknesses)
- Excellent thermoforming capabilities
- Outstanding weatherability
- Easy fabrication
- Cutting with a shear (up to 4mm)
- Excellent resistance to dilute acids and mineral oils.



Acoustic Values (EN 14388)		
Thickness		Sound Reduction Values (dB)
mm	inch	
8	0.31	28
12	0.47	31

\* Certified by Accredited Laboratory

PC SOLID Sheets Fire Performance				
Method	Classification	Thickness		
		mm	inch	
EN 13501	B, s1, d0	4	0.16	
		5	0.20	
		6	0.24	
NF 92 501/505	M2	8**	0.31	
UL-94	V0	10***	0.40***	

\* For Additional Information Please Contact to ISIK PLASTIK.  
\*\* With IR Protective  
\*\*\* With FR-Retardant

GENERAL PROPERTIES	ASTM STANDARD			ISO STANDARD		
	Test Method	Unit	Value	Test Method	Unit	Value
Specific Gravity	ASTM D 792		1.2	ISO 1183-1	gr/cm <sup>3</sup>	1,2
Water Absorption Saturation Water At 73 °F (24h, 1/8-in thk)	ASTM D 510	%	0.12	ISO 62	%	0,12
Forming Temperature		°F	356-410		°C	180-210
MECHANICAL PROPERTIES						
Tensile Modulus	ASTM D 638	psi	340838	ISO 527-1,-2	MPa	2350
Yield Stress	ASTM D 638	psi	9427	ISO 527-1,-2	MPa	65
Yield Strain	ASTM D 638	%	6.3	ISO 527-1,-2	%	6,3
Nominal Strain At Break	ASTM D 638	%	>50	ISO 527-1,-2	%	>50
Stress At Break	ASTM D 638	psi	10152	ISO 527-1,-2	MPa	70
Strain At Break	ASTM D 638	%	120	ISO 527-1,-2	%	120
Flexural Modulus	ASTM D 790	psi	340838	ISO 178	MPa	2350
Flexural Strength	ASTM D 790	psi	13923	ISO 178	MPa	96
Impact Strength, Izod Notched	ASTM D 256	ftlb/in	14	b.o.ISO 180A	kJ/m2	90P
Hardness, Rockwell M	ASTM 785		62-70	ISO 2039		62-70
THERMAL PROPERTIES						
Vicat Softening Temperature	ASTM D 1525	°F	298	ISO 306	°C	148
Thermal Conductivity 73 °F	ASTM C 177	Btu-in/hr-ft <sup>2</sup> -F	1.35	ISO 8302	W/(m-K)	0,2
Coefficient Of Linear Thermal Expansion Parallel 73 °F to 131 °F	ASTM D 696	E-5/ in/in-C	6.5	ISO 11359-1	mm/m°C	0,065
ELECTRICAL PROPERTIES						
Volume Resistivity (At 73F, 50% RH)	ASTM D 257	Ohm.cm	1E+14	IEC 60093	Ohm.cm	1,00E+14
Dielectric Strength (Short Time, 1/8-in thk)	ASTM D 149	V/mil	380-400	IEC 60243-1	kV/mm	34
Surface resistivity	ASTM D 257	Ohm	1E+16	IEC 60093	Ohm	1,00E+16
Dissipation Factor - at 1 kHz	ASTM D 150		0.0021	IEC 60250		5
OPTICAL PROPERTIES						
Light Transmission (2mm/0.08 inch)	ASTM D 1003	%	88	ASTM D 1003	%	88
Colour			Transparent			Transparent



## Construction

Architects and engineers ask for heavy duty, reliable, light weight, custom color and yet reasonably priced transparent materials. All these requirements are combined in one product: POLICAM Solid Polycarbonate. It is 200 times stronger than glass and virtually unbreakable, produced with 10 years limited warranty, less than half of the density of glass, easily custom colored and reasonably priced comparing glass carrying the same specifications.

## Lighting & Electric Components

Lighting fixtures today are getting minimalistic and thinner with the introduction of LEDs. Thanks to its high temperature resistance (maximum continuous working temperature 130°C) polycarbonate is increasingly used in today's lighting fixtures. POLICAM specifically develops polycarbonate sheets with different light transmission values for lighting fixtures and solutions. They provide maximum light transmission (88%) and optimum light diffusion.



## Safety

No other material could replace polycarbonate in safety applications. POLICAM polycarbonate sheets are virtually unbreakable. Half the weight of glass, they provide ease of use and carrying. Polycarbonate is very easily drilled, cut and edge polished. Deep draws and sharp corners can be obtained by thermoforming.

## Instrument Panel Display Screens

Policam printable polycarbonate sheets are excellent choice for backlit signage and displays, graphic overlay panels, illuminated menu boards and vending machine graphics, point-of-purchase posters, retractable banner stands, tradeshow booth panels, transit advertising and bus shelter advertising.

Size of Policam Solid Polycarbonate Sheets				
Max. width		*Standard Length		Width & Length Tolerance
mm	inch	mm	inch	
2050	80.70	3050	120.08	- 0,1 % ; +0,3 %

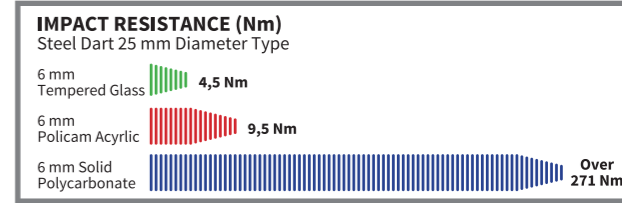
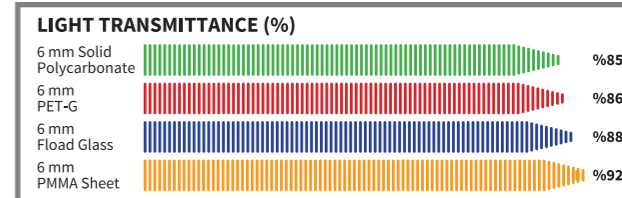
\* Depends on Customer Request



## Noise Barriers

POLICAM SoundBlock® is a specifically developed and CE certified polycarbonate sheet to be used in noise barriers.

- UV protection on both sides.
- Good weathering resistance,
- 31 dB noise reduction as per EN 14388 (for 12 mm thickness)



## Possible Applications of Policam Solid Polycarbonate Sheets:

- Building windows
- Light-transmitting roof cover and glazed curtain walls
- Natural sunlight construction equipment in roofs and walls (Skylights, sidelights)
- Transparent indoor applications as partitions and rooms
- Noise barriers on side of roads & highways and noisy public places such as stadium & sport centers , arenas, fitness centers, schoolyards etc.
- Instrumental panel display screens, backlit signage and displays, graphic overlay panels, illuminated menu boards and vending machine graphics, point-of-purchase posters, retractable banner stands, tradeshow booth panels, transit advertising and bus shelter advertising.
- Lighting & electric components, lighting fixtures.
- Windows for transportation vehicles (trains, buses, aircrafts ,ships & boats etc.)
- Safety applications such as security force shields, safety glasses, helmet visors.

## Light Transmittance (ASTM D 1003) of Policam Solid Polycarbonate Sheets

Thickness	Standard Colours								
	mm	inch	Clear	White	Diffuser	Green	Blue	Fume	Bronze
1.4	0.05		88						
1.5	0.06		88						
2	0.08		88	30					20/50
3	0.12		87	30/60	50	17.5			20/50
4	0.16		87	30			42		20/50
5	0.20		86	25			42	7	16/50
6	0.24		85	25			42	8	16
7	0.27		20						
8	0.31		84	20					14.5/50
9	0.35		13.5						
10	0.40		82	15			32		14.5
12	0.47		81				32		50
15	0.59		79						

\* Custom colours are available upon request subject to a minimum order.

## Thickness of Policam Solid Polycarbonate Sheets

Thickness	Overall thickness tolerance			
	mm	inch	mm	inch
1.4	0.05		± 0.15	± 0.0059
1.5	0.06		± 0.15	± 0.0059
2	0.08		±0.2	±0.0078
3	0.12		±0.3	±0.0118
4	0.16		±0.4	±0.0157
5	0.20		±0.5	±0.1968
6	0.24		±0.3	±0.0118
7	0.27		±0.35	±0.0137
8	0.31		±0.4	±0.0157
9	0.35		±0.45	±0.0177
10	0.40		±0.5	±0.0196
12	0.47		±0.6	±0.0236
15	0.59		±0.75	±0.0295

According to EN 16240