



SOLID POLYCARBONATE

TECHNICAL DATA SHEET



1. PRODUCT DESCRIPTION

Klar Solid Polycarbonate sheets are made with state-of-the-art extrusion technology. They are manufactured in an extrusion process with 100% virgin polycarbonate resin and have a co-extruded ultraviolet (UV) layer that protects against solar radiation.

2. APPLICATION AND USE

Architecture: Transparent noise barriers, sports facilities, skylights, shopping malls and covered walkways.

Construction: Terraces, pergolas and covered patios.

Protective Guards: Bus stops and telephone booths, glazing in public transport, protective windshields for automobiles, visors for helmets and security shields.

Signs and graphic materials: Illuminated signs and lettering.

3. BENEFITS

- High impact resistance.
- Excellent transparency and brightness.
- Temperature resistance.
- Sound insulation.
- UV protection*.
- Thermoformable for many applications.
- The protective film covering the solid polycarbonate sheet Klar withstands a temperature of 80°C during the thermoforming process.

*Also available in 2-side UV protection.

4. DIMENSIONS

Finish	Widths* (m)	Lengths* (m)	Thickness (mm)	UV	Colors*
Smooth	1.22	2.44 / 3.05 / 6.00	2.00 - 6.00	Without UV, 1UV, 2UV	Clear, opal, bronze, reflective gray, green, blue, yellow, light blue.
Smooth	2.05	2.44 / 3.05 / 6.00	2.00 - 12.00	Without UV, 1UV, 2UV	
Prismatic	1.22	2.44	3	1UV, 2UV	

*Other dimensions and colors are available subject to minimum order.

5. ALLOWABLE DEFECTS (SPOTS) SIZE AND DISTRIBUTION

SIZE OF IMPERFECTION	NUMBER OF ALLOWABLE DEFECTS	MINIMUM SEPARATION (m ²)
D < 0.25 mm	Allowed	1
0.25 mm < D < 0.50 mm	3 units	
0.50 mm < D < 0.80 mm	2 units	
0.80 mm < D < 1 mm	Not allowed	
D ≥ 1 mm	Not allowed	None

* Any visual defect less than 0.25 mm in diameter will be accepted, provided that they are not clustered in a manner that makes them easily detectable.

* Black spots are not permitted.

* Defects such as scratches are not allowed.

* Defects like orange peel will not be accepted.

6. PROPERTIES

PROPERTIES	METHOD	UNITS	VALUE
OVERVIEW			
Density	ISO 1183	g/cm ³	1.19
Water Absorption in Plastics (24hr)	ISO 62	%	0.11
MECHANICAL			
Tensile strength in performance	ISO 527	MPa	63.7
Tensile strength	ISO 527	MPa	53.8
Performance elongation	ISO 527	%	6
Elongation at break	ISO 527	%	85
Tensile modulus	ISO 527	MPa	2286
Bending modulus	ISO 178	MPa	2510
Rockwell Hardness	ASTM D785	HRL	96.7
Impact Resistance Charpy without notch (Room Temperature)	ISO 179	KJ/m ²	Without breakage
Izod Impact Resistance (Room Temperature)	ASTM D256	KJ/m ²	823
OPTIC			
Refractive Index	ISO 489	-	1.57
Luminous Transmittance (thickness dependent)	ASTM D1003	%	89.2
Haze	ASTM D1003	%	0.3
THERMALS			
Softening temperature VICAT (50N)	ISO 306	°C	145
Linear thermal expansion	ASTM D696	°C ⁻¹	58.7 x 10 ⁻⁶

CLASSIFICATION OF FIRE (FLAMMABILITY)	
Standard	Classification
UL 94	HB

7. CLEANING AND CARE

- Remove dust with a dry cloth, then wipe with a damp cloth and dry immediately with a cloth or flannel.
- Do not clean the sheets during strong sunlight or at very high temperatures. Do not steam wash.
- Do not use abrasive or alkaline cleaning products, brushes, scouring pads or sponges.
- Do not expose the sheet to chemicals such as varsol, benzene, gasoline, thinner, turpentine, acetone, carbon tetrachloride, muriatic acid or silicones not recommended for polycarbonate.

8. RECOMMENDATIONS

Transportation:

- Avoid friction between sheets.
- Always use flat and stable pallets.
- Avoid sliding the sheets on top of each other when loading and unloading.
- Lift the sheets by hand without dragging them or by using suction cup lifters.

Storage:

- Storing the sheets in an incorrect position can permanently deform the product.
- Stack the sheets over their entire area without leaving overhangs.
- Protect the top sheet of the stack with cardboard or any other material that does not damage the surface of the sheet.
- Do not expose the sheets to sunlight, high humidity or high temperatures; otherwise, the adhesion of the protective film to the sheet may be lost.
- Remove the protective film (both sides) once the installation is completed.

*For more information on installation and handling, please refer to the Installation Manual.

9. LEGAL NOTES

The information and in particular the recommendations on the installation and end use of Klar products are provided in good faith, based on Klar's current knowledge and experience with its products, provided they are properly stored, handled and transported and installed under normal conditions. In practice, the differences in materials, substrates and site conditions where Klar products are to be applied are so particular that no warranty regarding the marketability or suitability of the product for a particular purpose can be derived from this information, nor can any contractual liability be inferred. The property rights of third parties must be respected. All orders accepted by Klar are subject to Klar's General Terms and Conditions of Business for the Sale of Products.

Users should always refer to the latest edition of the products' Technical Data Sheet; copies of which will be provided upon request or can be accessed on the Internet through our website www.klar.us.com