

Technical Data Sheet Exolon® GP

Exolon® GP colourless

Exolon® GP – solid polycarbonate sheet (PC), colourless 099

Typical Properties

- Extremely high impact strength (virtually unbreakable)
- High heat deflection temperature (continuous ~120 °C)
- High transparency (~90 %)
- Wide temperature range (-100 ... +120 °C)
- Flame-retardant (UL 94 V-2, EN 13501-1 B-s1,d0)
- High stiffness and dimensional stability
- Good electrical insulator
- Good thermoformability and machinability

Typical Industries

- Mechanical and plant engineering (guards)
- Safety and glazing technology
- Building and architecture (roofing, glazing)
- Electronics and electrical engineering
- Lighting and illumination technology
- Advertising and display technology

	Test Method	Unit	Value
General Properties			
Density	ISO 1183-1	g / cm ³	1.20
Water absorption (23 °C, 50 % RH)	ISO 62	%	0.12
Water absorption (saturation)	ISO 62	%	0.30
Flammability (0.75 - 1.4 mm)	UL 94		V-2
Building material class (1 - 6 mm)	EN 13501-1		B-s1,d0
Optical Properties			
Light transmission (colourless 099)	ISO 13468	%	~ 90
Refractive index n _D ²⁰	ISO 489		1.587
Mechanical Properties			
Yield stress	ISO 527-1, -2	MPa	>60
Yield strain	ISO 527-1, -2	%	6
Nominal strain at break	ISO 527-1, -2	%	>50
Tensile modulus	ISO 527-1, -2	MPa	2350
Flexural strength	ISO 178	MPa	90
Impact strength (Charpy, unnotched)	ISO 179-1eU	kJ / m ²	no break
Notched impact strength (Charpy)	ISO 179-1eA	kJ / m ²	80

	Test Method	Unit	Value
Notched impact strength (Izod)	ISO 180-A	kJ / m ²	70
Thermal Properties			
Vicat softening temperature B/50	ISO 306	°C	148
Heat deflection temperature (1.8 MPa)	ISO 75-1, -2	°C	128
Heat deflection temperature (0.45 MPa)	ISO 75-1, -2	°C	140
Continuous service temperature (no load)	Average	°C	~ 120
Temperature range	Average	°C	-100 ... +120
Coefficient of linear thermal expansion	ISO 11359-1, -2	10 ⁻⁶ / K	65
Thermal conductivity	ISO 8302	W / (m * K)	0.20
Electrical Properties			
Dielectric strength (1 mm)	IEC 60243-1	kV / mm	34
Volume resistivity	IEC 60093	Ω * cm	10 ¹⁶
Surface resistivity	IEC 60093	Ω	10 ¹⁶
Relative permittivity (100 Hz)	IEC 60250		3.1
Dielectric dissipation factor (1 MHz)	IEC 60250		95 · 10 ⁻⁴

Exolon® is a registered trademark of Exolon Group. The values stated are typical characteristic values for Exolon® GP colourless (solid polycarbonate sheet, grade clear 099) according to the manufacturer's data; they serve as an aid to material selection and are not a legally binding warranty of specific properties. Light transmission is thickness-dependent (about 90 % for thin sheets, down to about 80 % at 15 mm). PC is sensitive to many solvents, alkalis and hydrocarbons and then tends to stress cracking; without UV protection, natural-coloured PC has only limited weathering resistance and may yellow outdoors. Media resistance must be verified case by case. As the properties also depend on grade, dimension and processing, the actual property values of a specific product may deviate somewhat from the data.