Product data sheet, October 2025

Exolon® GP B

Opaque Polycarbonate Sheet

S Line
Standard

Benefits:

- good fire behaviour
- extreme impact strength
- good thermoforming properties

Exolon® GP B is an opaque coloured, polycarbonate sheet, offering an alternative for other high-performance plastics or metals. Due to its properties, the material is suitable for a large range of industrial applications. **Exolon® GP B** combines good fire behaviour and extreme impact strength in a wide temperature range (-100°C up to +120°C). The sheets can be thermoformed and are easy to machine. **Exolon® GP B** is available in several colours and with several textures.

Applications

Exolon® GP B is particularly suited for vacuum formed parts in a broad range of applications, such as:

- material handling (pallets, trays, containers ...)
- tractor parts (roofs, bumpers, bonnets, interiors ...)
- truck parts (skirts, spoilers, interiors ...)
- machine housings and shields

	Test Conditions	Typical values[1]	Unit	Standard
PHYSICAL				
Density		1200	kg/m³	ISO 1183-1
Water absorption saturation	water at 23 °C	0.30	%	ISO 62
Water absorption equilibrium	23 °C, 50% relative humidity	0.12	%	ISO 62
MECHANICAL				
Tensile modulus	1 mm/min	2350	MPa	ISO 527-1,-2
Yield stress	50 mm/min	› 60	MPa	ISO 527-1,-2
Yield strain	50 mm/min	6	%	ISO 527-1,-2
Nominal strain at break	50 mm/min	› 50	%	ISO 527-1,-2
Flexural modulus	2 mm/min	2350	MPa	ISO 178
Flexural strength	2 mm/min	90	MPa	ISO 178
Charpy impact strength	23 °C, unnotched	non-break	kJ/m²	ISO 179-1eU
Charpy impact strength	23 °C, 3 mm, notched	80P	kJ/m²	ISO 179-1eA
Izod impact strength	23 °C, 3.2 mm, notched	70P	kJ/m²	ISO 180-A
THERMAL				
Vicat softening temperature	50 N, 50°C/h	148	°C	ISO 306
Thermal conductivity	23°C	0.20	W/mK	ISO 8302
Coefficient of linear thermal expansion	23 to 55°C	0.65	10^{-4}/K	ISO 11359-1, -2
Temperature of deflection under load	1.80 Mpa	128	°C	ISO 75-1, -2
Temperature of deflection under load	0.45 Mpa	140	°C	ISO 75-1, -2
ELECTRICAL				
Electrical strength	1 mm	34	kV/mm	IEC 60243-1
Volume resistivity		1E14	Ohm.m	IEC 60093
Surface resistivity		1E16	Ohm	IEC 60093
Relative permitivity	100 Hz	3.1	–	IEC 60250
Relative permitivity	1 MHz	3.0	–	IEC 60250
Dissipation factor	100 Hz	$5\ 10^{-4}$	–	IEC 60250
Dissipation factor	1 MHz	$95\ 10^{-4}$	–	IEC 60250

[1] These values are measured on injection molded samples, and are not intended for specification purposes.

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Exolon Group S-Line, the standard product line, represents a range of certified quality products which offer the reliable solution for most applications.

Availability:
Exolon® GP B is available with 5 different surface finishings and in following sizes:

	surfacing finishing	extrusion width	thickness
Exolon® GP B	glossy/glossy	1,250, 2,050 mm	1 – 10 mm
Exolon® GP B G	patterned/glossy	1,650 mm	2 – 6 mm
Exolon® GP B C	patterned/glossy	1,250 mm	2 – 8 mm
Exolon® NR B	non reflective/ glossy	1,250/ 2,050 mm	1 - 4 mm
Exolon® UV B	glossy/ glossy,UV protected	1,250/ 2,050 mm	2 - 10 mm

Flame retardant grade: Exolon® FR B

Permanent service temperature:
Maximum service temperature in air: 120 °C
Minimum service temperature: -100 °C

Colours:
On request.

Fire Rating (*):

Country		Standard	Rating	Thickness
Europa	Exolon® GP B	EN13501-1	B-s2-d0	1 - 6 mm
USA	Exolon® FR B	UL 94	V0	≥ 2 mm

Glow wire flammability test (*):

	Test method	1 mm	3 mm
GWFI (flammability index)	IEC 60695-2-12	800 °C	900 °C
GWIT (ignition temperature)	IEC 60695-2-13	850 °C	875 °C

(*) Fire certificates are limited in time and scope, always check if the mentioned certificate is valid for the purchased Polycarbonate sheet type at the date of delivery. Polycarbonate sheets may change their fire behavior due to ageing and weathering. The indicated fire rating was tested on new / unweathered Product in accordance with the indicated fire classification standards.

Machining
Due to its excellent properties **Exolon® GP B** sheet is easy to machine with usual tools. Sawing, drilling, routing, shearing and punching can be applied. Always use sharp tools that are suited for machining plastics.

Thermoforming
Thorough predrying of **Exolon® GP B** sheets is essential for all thermoforming techniques in which the sheet temperature will rise above 160°C. The recommended procedure is to use an air circulating oven set at 120°C for 4 to 24 hours, depending on sheet thickness. **Exolon® GP B** sheet can be vacuum formed at temperatures of 175 - 205°C. Use temperature controlled (120°C) aluminium or steel moulds. A good release from the mould can be obtained by providing a draft angle of 4 to 6°.

Assembling
Parts made of **Exolon® GP B** can be assembled with other plastics, metals and other materials by means of glueing, welding and several mechanical fastening techniques.

Painting and printing
Exolon® GP B sheets can be painted or printed with several standard techniques. Except for cleaning, no preliminary surface treatment is necessary. To avoid influence on the impact strength of **Exolon® GP B** sheets, paints must be suitable for use on polycarbonate. Suitable products are available from several manufactures of inks and paints, whose instructions must be carefully followed.

Chemical resistance
Exolon® GP B sheets have good resistance against mineral acids up to high concentrations, many organic acids, oxidising and reducing agents, mineral and animal greases and oil, neutral and acid salt solutions, saturated aliphatic and cycloaliphatic hydrocarbons and alcohols (except methyl alcohol). They are partially soluble in aromatic hydrocarbons and soluble in many halogenated hydrocarbons (methylene chloride and ethylene di-chloride are good solvents). Strong alkaline substances such as ammonia and amines decompose it. **Exolon® GP B** sheets have good resistance against most detergent based householdcleaners.

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