

Bayloy® R10

Solid polycarbonate sheet



S Line
Standard

Your benefits:

- high impact strength
- applicable in a wide range of temperatures
- good fire behaviour

Bayloy® R10 are black sheets made from premium-grade recycled polycarbonate. Like conventional polycarbonate sheets, **Bayloy® R10** sheets offer high impact strength over a wide temperature range with good fire behaviour.

Applications:

Bayloy® R10 sheets are suitable for vacuum formed parts for material containers and pallets, all types of vehicle trim, industrial paneling and street furniture.

Bayloy® R10 sheets can be thermoformed and show good weather resistance.

	Test Conditions	Typical Values ⁽¹⁾	Unit	Test Method
PHYSICAL				
Density		1200	kg/m ³	ISO 1183-1
Water absorption saturation	water at 23°C	0.3	%	ISO 62
Water absorption equilibrium	23°C, 50 % relative humidity	0.12	%	ISO 62
MECHANICAL				
Tensile modulus	1 mm/min	> 2200	MPa	ISO 527-1,-2
Yield stress	50 mm/min	> 55	MPa	ISO 527-1,-2
Yield strain	50 mm/min	5	%	ISO 527-1,-2
Nominal strain at break	50 mm/min	> 10	%	ISO 527-1,-2
Charpy impact strength	23°C, notched	no break	kJ/m ²	ISO 179-1eU
THERMAL				
Vicat softening temperature	50 N, 50°C/h	148	°C	ISO 306
Thermal conductivity	23°C	0.2	W/(m.K)	ISO 8302
Coefficient of linear thermal expansion	23 bis 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

⁽¹⁾ These values 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:

Bayloy® R10 is available in thicknesses of 2-6 mm. Sheets can be supplied with 2 smooth sides or with 1 patterned side. All grades can be produced with UV protection for outside use. Minimum order quantity is 1,000 kg.

Sizes:

On request. Available extrusion widths: 1,250 and 1,650 mm.

Permanent Service Temperature:

Maximum service temperature without load in air: 120 °C

Minimum service temperature without load: -100 °C

Glow wire flammability test (*):

	Test method	2 mm	4 mm
GWFI (flammability index)	IEC 60695-2-12	960 °C	960 °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 an **Bayloy® R10** 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 **Bayloy® R10** 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. An **Bayloy® R10** 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 **Bayloy® R10** can be assembled with other plastics, metals and other materials by means of glueing, welding and several mechanical fastening techniques.

Painting and printing:

Bayloy® R10 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 **Bayloy® R10** 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:

Bayloy® R10 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. **Bayloy® R10** sheets have good resistance against most detergent based household cleaners.

Exolon Group also produces multiwall sheets in polycarbonate (Makrolon® multi UV), and solid sheets in polycarbonate (Makrolon® GP) and in polyester (Vivak® and Axpert®). For more information, take a look at www.exolongroup.com.



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