

Exolon® Med

Solid polycarbonate sheet for medical applications



Your benefits:

- suitable for medical packaging applications
- extreme impact strength
- resistance to a wide range of temperatures
- high-clarity

Solid **Exolon® Med** sheets are clear, polished polycarbonate sheets made out of resin which meets ISO 10993/ USP Class VI biocompatibility requirements. They offer extreme impact strength that exceeds the physical properties of other products of their class. **Exolon® Med** sheets resist temperatures of -100 to +120 °C, exhibit high optical clarity.

Exolon® Med clear 099 is a clear transparent sheet with high light transmission.

Applications:

Typical applications for **Exolon® Med** sheets include rigid medical packaging, like containers and trays for medical devices, skin contact applications like prostheses, and transparent guards on medical machines.

Exolon® Med sheets can be thermoformed, cold-curved and machined with ease.

	Test Conditions	Typical values ⁽¹⁾	Unit	Standard
PHYSICAL				
Density		1200	kg/m ³	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
Refractive index	Procedure A	1.587	–	ISO 489
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/m ²	ISO 179-1eU
Charpy impact strength	23 °C, 3 mm, notched	80P	kJ/m ²	ISO 179-1eA
Izod impact strength	23 °C, 3.2 mm, notched	70P	kJ/m ²	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 permittivity	100 Hz	3.1	–	IEC 60250
Relative permittivity	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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Ideas, innovative, intelligent, interesting... Exolon Group i-line represents the next generation of quality products. This seal guarantees innovative and intelligent first-class solutions at all times for a multitude of requirements.

Light Transmission: Test Method according to DIN 5036.

The stated thicknesses are not all available as standard. Please ask us for more information. The stated values are typical values only.

Light transmission %	0.75	1	1.5	2	3	4	5	6	8
Exolon® Med clear 099	90	90	89	89	88	87	87	86	85

Available sizes: Exolon® Med sheets are available on request in thicknesses of 0.75 – 8 mm.

Permanent Service Temperature: The permanent service temperature without load is approx. 120 °C.

Medical compatibility:

Exolon® Med is produced based on 100% virgin resin which meets ISO 10993 and USP Class VI requirements. The sheets are produced under GMP conditions and under a quality management system which meets ISO 9001:2015.

The biocompatibility of the final product made out of **Exolon® Med** sheets for use in a medical application compliant with the medical regulations cannot be based solely on test performed on the resin or the sheet. It is the sole responsibility of the manufacturer of the final end-use product to conduct all necessary tests (including biocompatibility tests) and inspections and to evaluate the final product under actual end-use requirements.

Please check our Medical Reference Guide for further information.



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