

Makrolon® Titan

Solid polycarbonate sheet



I Line
Innovative

Your benefits:

- extreme impact strength
- C3 Classification according to DIN EN ISO 23125⁽¹⁾
- thermoformable

Solid **Makrolon® Titan** sheets are clear, polished polycarbonate sheets. They offer extreme impact strength that exceeds the physical properties of other products of their class. **Makrolon®** sheets resist temperatures of -100 to +120 °C, exhibit high optical clarity and have a good fire rating.

Applications:

Typical applications for **Makrolon® Titan** sheets include machine guards.

The sheets offer protection against involuntary breakage and wilfull destruction. **Makrolon® Titan** sheets can be thermoformed, cold-curved and machined with ease.

	Test Conditions	Typical values ⁽²⁾	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	90P	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/(m.K)	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⁾ International harmonization of DIN EN 12415

⁽²⁾ 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 EN ISO 13468.
The stated values are typical values only.

Light transmission %	18	20
Makrolon® Titan clear 099	79	76

Available sizes: Makrolon® sheets are available in thicknesses of 18/ 20 mm and in the following sizes; other sizes and colors on request.

Colors: Makrolon® Titan clear 099
Sizes (standard): 3,050 x 2,050 mm

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