

Product data sheet, September 2020

I Line Innovative

Makrolon® Titan Solid polycarbonate sheet



- 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. **Makro-Ion®** 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 Water absorption saturation Water absorption equilibrium Refractive index	water at 23 °C 23 °C, 50% relative humidity Procedure A	1200 0.30 0.12 1.587	kg/m³ % ~	ISO 1183-1 ISO 62 ISO 62 ISO 489
Mechanical Tensile modulus Yield stress Vield strain Nominal strain at break Flexural modulus Flexural strength Charpy impact strength Izod impact strength	1 mm/min 50 mm/min 50 mm/min 2 mm/min 2 mm/min 23 °C, unnotched 23 °C, 3 mm, notched 23 °C, 3.2 mm, notched	2350 >60 6 >50 2350 90 non-break 80P 90P	MPa MPa % MPa kJ/m² kJ/m² kJ/m²	ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 178 ISO 178 ISO 179-1eU ISO 179-1eA ISO 179-1eA ISO 180-A
Thermal Vicat softening temperature Thermal conductivity Coefficient of linear thermal expansion Temperature of deflection under load Temperature of deflection under load	50 N, 50°C/h 23°C 23 to 55°C 1.80 Mpa 0.45 Mpa	148 0.20 0.65 128 140	℃ W/(m.K) 10 ⁻⁴ /K ℃ ℃	ISO 306 ISO 8302 ISO 11359-1, -2 ISO 75-1, -2 ISO 75-1, -2
Electrical Electrical strength Volume resistivity Surface resistivity Relative permitivity Relative permitivity Dissipation factor Dissipation factor	1 mm 100 Hz 1 MHz 100 Hz 1 MHz	34 1E14 1E16 3.1 3.0 5 10 ⁻⁴ 95 10 ⁻⁴	kV/mm Ohm.m Ohm - - -	IEC 60243-1 IEC 60093 IEC 60093 IEC 60250 IEC 60250 IEC 60250 IEC 60250 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 %	20	
Makrolon® Titan clear 099	76	

Available sizes: Makrolon[®] Titan is available in 20 mm thickness and in the following size; other sizes and colors on request.

Colors:Sizes (standard):Makrolon® Titan clear 0993,050 x 2,050 mm

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



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