

# Exolon® Titan

## Solid polycarbonate sheet



### Your benefits:

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

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

### Applications:

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

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

	Test Conditions	Typical values <sup>(1)</sup>	Unit	Standard
<b>Physical</b>				
Density		1200	kg/m <sup>3</sup>	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
<b>Mechanical</b>				
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
Strain at break	50 mm/min	120	%	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 <sup>2</sup>	ISO 179-1eU
Charpy impact strength	23 °C, 3 mm, notched	80P	kJ/m <sup>2</sup>	ISO 179-1eA
Izod impact strength	23 °C, 3.2 mm, notched	70P	kJ/m <sup>2</sup>	ISO 180-A
<b>Thermal</b>				
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 <sup>-4</sup> /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
<b>Electrical</b>				
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 <sup>-4</sup>	-	IEC 60250
Dissipation factor	1 MHz	95 10 <sup>-4</sup>	-	IEC 60250

<sup>(1)</sup> 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 values are typical values only.

<b>Light transmission %</b>	<b>20</b>
Exolon® Titan clear 099	76

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

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

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

### Machine guards Classification:

Country	Standard	Rating	Thickness	Colour
Europe	DIN EN ISO 23125	C3	20 mm	clear 099
	DIN EN 12417 / EN ISO 16090-1	175 m/s	20 mm	clear 099



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