

# Technical information

## Material comparison transparent plastics

Material	PMMA XT	PMMA GS	PC	PETG
Density [g/cm <sup>3</sup> ]	1.19	1.19	1.2	1.27
Properties	<ul style="list-style-type: none"> <li>› good weather and ageing resistance</li> <li>› good impact resistance and bondability</li> <li>› easily formable</li> <li>› scratch resistance</li> <li>› lower thickness tolerance than PMMA GS</li> </ul>	<ul style="list-style-type: none"> <li>› high visual quality</li> <li>› brilliant transparency</li> <li>› mechanical resistance</li> <li>› good weather resistance</li> <li>› scratch resistance</li> </ul>	<ul style="list-style-type: none"> <li>› high transparency (about 85%)</li> <li>› self-extinguishing</li> <li>› cold mouldable</li> <li>› high notch toughness</li> <li>› extreme impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>› brilliant surface</li> <li>› easily vacuum formed</li> <li>› does not require pre-drying</li> <li>› very good low temperature performance</li> <li>› very good chemical resistance</li> <li>› extreme impact resistance</li> <li>› UV-resistance</li> </ul>
Transparency	92% at 3 mm thickness	92% at 3 mm thickness	86% at 3 mm thickness	88% at 3 mm thickness
Processing type	<ul style="list-style-type: none"> <li>› laser cutting</li> <li>› deep drawing</li> <li>› cutting</li> <li>› thermo-forming</li> <li>› thermo-bevelling</li> <li>› adhesion</li> <li>› polishing</li> <li>› CNC-milling</li> <li>› water-jet cutting</li> <li>› drilling</li> </ul>	<ul style="list-style-type: none"> <li>› laser cutting</li> <li>› deep drawing</li> <li>› cutting</li> <li>› thermo-forming</li> <li>› thermo-bevelling</li> <li>› adhesion</li> <li>› polishing</li> <li>› CNC-milling</li> <li>› water-jet cutting</li> <li>› drilling/thread-cutting</li> </ul>	<ul style="list-style-type: none"> <li>› deep drawing</li> <li>› cutting</li> <li>› thermo-forming</li> <li>› warm and cold bevelling</li> <li>› adhesion</li> <li>› polishing</li> <li>› CNC-milling</li> <li>› water-jet cutting</li> <li>› drilling/thread-cutting</li> <li>› punching</li> </ul>	<ul style="list-style-type: none"> <li>› deep drawing</li> <li>› cutting</li> <li>› thermo-forming</li> <li>› thermo-bevelling</li> <li>› adhesion</li> <li>› CNC-milling</li> <li>› water-jet cutting</li> <li>› drilling/thread-cutting</li> </ul>
UV-resistance	sheet fully UV-resistant (also when edges are processed)	sheet fully UV-resistant (also when edges are processed)	as PC-UV: with co-extruded UV-coating on both sides	as PETG-UV: with co-extruded UV-coating on both sides
Operating temperature range	+ 70°C (short-term up to + 90°C)	+ 80°C (short-term up to + 90°C)	- 40°C up to +130°C	- 30°C up to + 70°C
Thickness-tolerance	1.5 – 3.0 mm +/- 10% 3.0 – 20 mm +/- 5%	Dependent on material thickness, more information upon request	1.5 – 3.0 mm +/- 10% 3.0 – 20 mm +/- 5%	1.5 – 3.0 mm +/- 10% 3.0 – 20 mm +/- 5%
Cleaning	<ul style="list-style-type: none"> <li>› soap solution (no chemicals containing alcohol)</li> <li>› no acids</li> </ul>	<ul style="list-style-type: none"> <li>› soap solution (no chemicals containing alcohol)</li> <li>› no acids</li> </ul>	<ul style="list-style-type: none"> <li>› warm water with some soap solution</li> <li>› no acids</li> </ul>	<ul style="list-style-type: none"> <li>› warm water with some soap solution</li> <li>› no acids</li> </ul>
Styles (more on request)	<ul style="list-style-type: none"> <li>› transparent</li> <li>› different opal shades</li> <li>› anti-reflective</li> <li>› brown</li> </ul>	<ul style="list-style-type: none"> <li>› transparent</li> <li>› different opal shades</li> <li>› anti-reflective</li> <li>› brown</li> </ul>	<ul style="list-style-type: none"> <li>› transparent</li> <li>› different opal shades</li> <li>› brown/grey/white</li> </ul>	<ul style="list-style-type: none"> <li>› transparent</li> <li>› different opal shades</li> </ul>
Standard thickness's (more on request)	1.5 – 25 mm	3.0– 60 mm	1.0 – 20 mm	1.0 – 20 mm
Examples for areas of application	<ul style="list-style-type: none"> <li>› coverings/covers</li> <li>› housings</li> <li>› signage</li> <li>› furniture parts</li> <li>› roofing</li> <li>› windbreaks</li> <li>› decorative applications</li> </ul>	<ul style="list-style-type: none"> <li>› roofing</li> <li>› windbreaks</li> <li>› coverings/covers</li> <li>› signage</li> <li>› housings</li> <li>› furniture parts</li> <li>› displays</li> <li>› decorative applications</li> <li>› vacuum lid</li> </ul>	<ul style="list-style-type: none"> <li>› machine guards with higher requirements than for PETG</li> <li>› safety covers</li> <li>› insulating parts in the electrical industry</li> <li>› partition walls</li> <li>› sound barriers</li> </ul>	<ul style="list-style-type: none"> <li>› machine guards</li> <li>› packaging for medical devices</li> <li>› displays and signs for outdoor applications</li> <li>› refrigerators and equipment for cold storage rooms</li> </ul>
To note	› fracture sensitivity	› thickness tolerances	› scratch sensitivity › not food safe	› scratch sensitivity › low temperature resilience

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