

## Product data sheet

### PMMA homopolymeric and copolymeric in sheet and block form

CHEMICAL COMPOSITION				
PMMA (polymethyl acrylate)	96-100% depending on compound			
Functional monomers and other additives	0-4% depending on compound			
Estimated molecular weight	between 3.8x10 <sup>6</sup> and 9.5x10 <sup>6</sup>			
Residual constituents of free monomers	<1% (typical 0.45%) depending on compound			
MECHANICAL		Value	Unit of measure	Standard
Density		1.19	g/cm <sup>3</sup>	ISO 1183
Impact value		1.8	K/m <sup>2</sup>	ISO 180/1A
Tensile strength at 20°C		68	Mpa	ISO 527
Elongation at rupture		4	%	ISO 527
Bending properties		103	Mpa	ISO 178
Compressive strength		103	Mpa	ISO 604
Ball impact strength		166	Mpa	ISO 2039-1
Scratch resistance after grinding wheel test		37	% Haze	ISO 9532
ACOUSTIC				
Acoustic velocity at 20°C		2800	m/s	
Estimated sound insulation value Rw for 10mm		32	dB	
OPTICAL				
Transmittance		92.2	%	DIN 5036/3
UV-translucence		no	%	
Reflection loss		< 4	%	
Total energy transmission factor g		84	%	DIN EN 410
Absorption in visible range		< 0.05	%	
Optical refraction index		1.49		ISO 489
ELECTRICAL				
Earth resistance		> 10 <sup>14</sup>		DIN VDE 0303
Surface resistance		> 10 <sup>14</sup>		DIN VDE 0303
Dielectric coefficient at 60Hz		3.5		DIN VDE 0303
Dielectric loss factor at 60Hz		0.065		DIN VDE 0303
BEHAVIOUR IN WATER				
Water absorption 24h 20°C sample 65x65x2mm <sup>3</sup>		42	mg	ISO 62
Max. increase in weight after water absorption		2.2	%	ISO 62
THERMAL				
Linear coeff. of expansion between 0 and 55°C		0.07	mm/m°C	DIN 53572-A
Possible expansion through heat and moisture		7	mm/m	
Thermal conductivity		0.19	W/mK	DIN 52612
Coeff. of thermal conductivity sample 10mm		4.45	W/m <sup>2</sup> K	DIN 4701
Specific heat		1.47	J/gK	
Recommended forming temperature		140	C	
Maximum surface temperature		190	C	
Maximal recommended continued use temp.		81	C	
Relaxation temperature		> 85	C	
Auto-inflammation temperature		420	C	
Waste gas volume		low		
Toxicity of waste gases		no		
Corrosivity of waste gases		no		
Material class		B2		
Fire protection class		E		
Vicat-softening temperature		112	C	

