

PMMA homopolymeric and copolymeric in sheet and block form

Product data sheet

CHEMICAL COMPOSITION			
PMMA (polymethyl acrylate)	96-100% depending on compound		
Functional monomers and other additives	0-4% depending on compound		
Estimated molecular weight	between 3.8×10^6 and 9.5×10^6		
Residual constituents of free monomers	<1% (typical 0.45%) depending on compound		
CHARACTERISTICS	Value	Unit of measure	Standard
MECHANICAL			
Density	1.19	g/cm ³	ISO 1183
Impact value	1.8	K/m ²	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	$> 10^{14}$		DIN VDE 0303
Surface resistance	$> 10^{14}$		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 ³ Max. increase in weight after water absorption	42	mg	ISO 62
	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 ² 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	

