

Acrylic Couture Product Data - Technical 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 $3,8 \times 10^6$ and $9,5 \times 10^6$
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	Kj/m ²	ISO 180/1A
Tensile Strength at 20°C	68	Mpa	ISO 527
Elongation at Rapture	4	%	ISO 527
Bending Properties	103	Mpa	ISO 178
Compressive Strength	103	Mpa	ISO 604
Ball Impact Strength	166	Mpa	ISO 2039-1
Schratch Resistance after grinding wheel test	37	%Haze	ISO 9352

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

BEHAVIOR IN WATER			
Water Absorbation 24H 20°C sample 65X65X2mm	42	mg	ISO 62
Max Increase in Weight after Water Absorbation	2,2	%	ISO 62

THERMAL			
Linear Coeff. off 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	
Max. recommended continued use temp.	81	C	
Relaxation Temperature	>85	C	
Auto-Inflammation Temperatu	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	