



POM - Acetal natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

POM-C (Polyacetal (Copolymer))

Colour

white opaque

Density

1.41 g/cm³

Main features

- high strength
- resistant to cleaning agents
- stiff
- high toughness
- very good electrical insulation
- good machinability
- good slide and wear properties
- difficult to bond

Target Industries

- mechanical engineering
- automotive industry
- aircraft and aerospace technology
- electronics
- food technology
- oil and gas industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	67	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken (6) Specimen in 4mm thickness
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	9	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	32	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/35/68	MPa	EN ISO 604	
Compression modulus	5mm/min, 10 N	2300	MPa	EN ISO 604	
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	
Notched impact strength (Charpy)	max. 7,5J	8	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		165	MPa	ISO 2039-1	(6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357	(1)
Melting temperature		166	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C		(2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	14	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.4	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.39	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093	(1)
volume resistivity	Silver electrode, 23°C, 12% r.h.	10 ¹³	Ω*cm	DIN IEC 60093	(2)
Dielectric strength	23°C, 50% r.h.	49	kV/mm	ISO 60243-1	(2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	600	V	DIN EN 60112	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	(1)
Resistance to hot water/ bases		(+)		-	(2)
Resistance to weathering		-		-	(3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	(4)

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, Technical changes reserved.