Material data sheet
POM-C black

Chemical Designation: Polyacetal (Copolymer)
DIN-abbreviation: POM-C
Colour / Fillers: black opaque
Density: 1,41 g/cm³

Main features
- high stiffness
- difficult to bond
- good chemical resistance
- good slide and wear properties
- high toughness
- high strength
- good machinability

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

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2800	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm modulus range between 0,5 and 1 % compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	9	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	32	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	91	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	20/35/68	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2300	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	150	kJ/m²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	6	kJ/m²	DIN EN ISO 179-1eA	
Shore hardness	D	82		DIN EN ISO 868	

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thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources.Individual testing regarding application conditions is mandatory.
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)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake oft he material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12 % r.h.	10^{14}	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50 % r.h.	38	kV/mm	ISO 60243-1 3)	
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	24 h / 96 h (23 °C)	0.05 / 0.1	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL(yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding applicaton conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)		-	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

Date: 2023/07/19

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