TECAFORM AH ELS black - Stock Shapes (rods, plates, tubes)

Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
black opaque

Density
1.41 g/cm^3

Fillers
conductive carbon black

Main features
- electrically conductive
- high strength
- difficult to bond
- good machinability
- good chemical resistance
- high toughness
- good wear properties
- good UV and weather resistance

Target Industries
- chemical technology
- electronics
- mechanical engineering
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- automotive industry

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	42	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.
Modulus of elasticity (tensile test)	1mm/min	1800	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	42	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	11	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	11	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	56	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	1500	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	16/25/45	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	1500	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	74	kJ/m^2	DIN EN ISO 179-1eU	5)	
Shore hardness	D	79		DIN EN ISO 868		

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. (3) based on raw material data, specimen in 3mm thickness
Melting temperature		169	°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		1.3	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.46	W/(K*m)	ISO 22007-4:2008		
Relative temperature index (RTI)	Impact	90	°C	UL 746B	3)	

Electrical properties	parameter	value	unit	norm		comment
surface resistivity	Conductive rubber, 23°C, 12% r.h.	10^2 - 10^4	Ω	DIN EN 61340-2-3	1)	(1) Specimen in 20 mm thickness
volume resistivity	Conductive rubber, 23°C, 12% r.h.	10^3 - 10^5	Ω*cm	DIN EN 61340-2-3		

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.05 / 0.2	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (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 application conditions is mandatory.
Resistance to hot water/ bases		(+)		-	2)	
Resistance to weathering		(+)				
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)	

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