TECAPRO MT black - Stock Shapes (rods, plates, tubes)

Chemical Designation
PP (Polypropylene)

Colour
black opaque

Density
0.92 g/cm^3

Fillers
heat stabilized

Main features
- heat stabilized
- biocompatible
- good chemical resistance
- hydrolysis and superheated steam resistant
- low moisture absorption
- good slide and wear properties

Target Industries
- medical technology
- food technology
- pharmaceutical industry

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	37	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. (6) Specimen in 4mm thickness
Modulus of elasticity (tensile test)	1mm/min	2000	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	37	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	34	%	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	2000	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	16/26/49	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	1600	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	160	kJ/m^2	DIN EN ISO 179-1eU	5)	
Notched impact strength (Charpy)	max. 7,5J	5	kJ/m^2	DIN EN ISO 179-1eA		
Ball indentation hardness		100	MPa	ISO 2039-1	6)	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		-10	°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		161	°C	DIN EN ISO 11357		
Heat distortion temperature	HDT, Method A	87	°C	ISO-R 75 Method A		
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		

Electrical properties	parameter	value	unit	norm		comment
surface resistivity		10^{12}	Ω	-		(1) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
volume resistivity		10^{14}	Ω*cm	-	1)	

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.01 / 0.02	%	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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