TECANYL MT brown - Stock Shapes

Chemical Designation
PPE (Polyphenylene ether)

Colour
red brown opaque

Density
1.08 g/cm^3

Main features
- good chemical resistance
- hydrolysis and superheated steam resistant
- biocompatible
- resistance against high energy radiation
- high strength
- high dimensional stability
- low density

Target Industries
- medical technology
- pharmaceutical industry
- food engineering

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	2400	MPa	DIN EN ISO 527-2	1)	(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
Tensile strength	50mm/min	65	MPa	DIN EN ISO 527-2		
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2		
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2		
Elongation at break	50mm/min	8	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	95	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2400	MPa	DIN EN ISO 178		
Compression strength	1% / 2% 5mm/min, 10 N	17 / 30	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2100	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	70	kJ/m^2	DIN EN ISO 179-1eU	5)	
Ball indentation hardness		140	MPa	ISO 2039-1	6)	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		171	°C	DIN 53765	1)	(1) Found in public sources. (2) n.a. = not applicable (3) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		n.a.	°C	DIN 53765	2)	
Service temperature	short term	110	°C		3)	
Service temperature	long term	95	°C			
Thermal expansion (CLTE)	23-60°C, long.	8	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	8	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.21	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance		> 10^{14}	Ω	DIN IEC 60093	
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093	

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.02 / 0.04	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) (+) limited resistance (3) - poor resistance (4) 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		-		-	3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)	

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