TECADUR PBT GF30 natural - Stock Shapes

Chemical Designation
PBT (Polybutylene terephthalate)

Colour
grey-white opaque

Density
1.46 g/cm^3

Fillers
glass fibres

Main features
- high dimensional stability
- very high strength
- good chemical resistance
- very high stiffness
- good weldable and bondable
- not hot water resistant over 60°C

Target Industries
- conveyor technology
- mechanical engineering
- automotive industry
- precision engineering
- electrical engineering

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	3400	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	46	MPa	DIN EN ISO 527-2		
Tensile strength at yield	50mm/min	46	MPa	DIN EN ISO 527-2		
Elongation at yield	50mm/min	5	%	DIN EN ISO 527-2		
Elongation at break	50mm/min	6	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	78	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	3400	MPa	DIN EN ISO 178		
Compression strength	1% / 2% 5mm/min, 10 N	20 / 38	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2800	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	37	kJ/m^2	DIN EN ISO 179-1eU	5)	
Ball indentation hardness		190	MPa	ISO 2039-1	6)	

Thermal properties	parameter	value	unit	norm		comment
Melting temperature		224	°C	DIN 53765		(1) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	200	°C		1)	
Service temperature	long term	110	°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.	10	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.33	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance		10^{14}	Ω	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) - poor 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)	

Ensinger Ltd
Wilfried Way
Tonyrefail, Mid Glamorgan CF39 8JQ
Great Britain

Phone (01443) 678400
Fax (01443) 675777
www.ensinger.co.uk

Date: 2011/11/29

Version: AA