TECADUR PBT UD blue - Stock Shapes (rods, plates, tubes)

Chemical Designation
PBT (Polybutylene terephthalate)

Colour
blue opaque

Density
1.56 g/cm^3

Fillers
detectable filler

Main features
- resistent to cleaning agents
- good chemical resistance
- food grade blue
- good dimensional stability
- good impact strength
- metal detectable
- x-ray opaque

Target Industries
- food engineering
- food processing
- conveyor technology
- packaging and paper machinery

Mechanical properties	*parameter*	*value*	*unit*	*norm*		*comment*
Tensile strength	50mm/min	62	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	3500	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	9	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	98	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% / 5% 5mm/min, 10 N	22/41/77	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	1600	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	37	kJ/m^2	DIN EN ISO 179-1eU	5)	
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m^2	DIN EN ISO 179-1eA		
Shore hardness	D	83		DIN EN ISO 868		

Thermal properties	*parameter*	*value*	*unit*	*norm*		*comment*
Glass transition temperature		39	°C	DIN EN ISO 11357		(1) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		224	°C	DIN EN ISO 11357		
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		

Other properties	*parameter*	*value*	*unit*	*norm*		*comment*
Water absorption	24h / 96h (23°C)	0.03 / 0.05	%	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)	

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