# Beetle® PET100

## Polyethylene Terephthalate

Teknor Apex Company (Chem Polymer)

### Message:

PET100 is an unfilled PET injection moulding grade. It is best suited to thin section amorphous mouldings.

General Information			
Features	amorphous		
Uses	Thin wall parts		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.34	g/cm³	ISO 1183
Molding Shrinkage <sup>1</sup>	0.50 - 0.70	%	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2500	MPa	ISO 527-2
Tensile Stress (Break)	50.0	MPa	ISO 527-2
Tensile Strain (Break)	> 25	%	ISO 527-2
Flexural Modulus	2500	MPa	ISO 178
Flexural Stress	80.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	8.0	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	No Break		ISO 179
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	68.0	°C	ISO 75-2/A
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+17	ohms·cm	IEC 60093
Dielectric Strength (3.00 mm)	12	kV/mm	IEC 60243-1
Comparative Tracking Index	225	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	НВ		Internal method
Glow Wire Flammability Index (1.50 mm)	650	°C	IEC 60695-2-12
Injection	Nominal Value	Unit	
Drying Temperature	140	°C	
Drying Time	4.0	hr	
Rear Temperature	260 - 290	°C	
Middle Temperature	260 - 290	°C	
Front Temperature	260 - 290	°C	
Processing (Melt) Temp	< 280	°C	

Mold Temperature	10.0 - 30.0	°C
Injection Rate	Fast	
Screw Speed	50 - 200	rpm
Injection instructions		

Back pressure: LowInjection pressure: HighPET materials are hygroscopic and very sensitive to moisture content during processing. Unlike many other materials, excessive moisture may not give rise to the appearance of splash marks on the surface of mouldings, but hydrolytic degradation of the melt can lead to significant impairment of properties, characterised most noticeably by embrittlement of the mouldings and reduced melt viscosity. Adequate pre-drying is therefore essential. Drying should ideally be carried out in a vacuum oven or a dehumidified air drier. The recommended drying time for dehumidified air dryers is 4 hours at 140°C. Drying times may need to be extended if the material has become very wet.

#### NOTE

	Mould shrinkage is significantly influenced by many factors
	including wall thickness, gating.
	component shape and moulding
	conditions. The range values stated
	were determined from specimen
	bar mouldings of 1.5mm to 4mm
	wall thickness. They are provided
	as a guide for comparison
	purposes only and no guarantee
	should be inferred from their
	inclusion. (Specimens measured in
	the dry state, 24 hours after
1.	moulding).

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