

# Ranger PBT PBT-403-M-G20

Polybutylene Terephthalate  
Beijing Ranger Chemical Co., Ltd.

Message:

Unreinforced grades have abundant strength and flexibility, and have strong characteristics against brittleness. UL-certified slow-burning(94HB) and self-extinguishing grades(94V-0,V-2) exist, and electrical properties exhibited are the highest of any thermoplastic. Low water absorption is exhibited, and excellent electrical properties(CTI and GWIT) are retained over extended periods of usages, even with widely varied temperature and humidity conditions.

The surface of molded products is smooth, and a low coefficient of friction is exhibited.As the amount of froction is low, PBT is suitable for use in application requiring friction and wear properties.

The material is exceptionally reliable, with small in-use dimensional variation, and superior molding stability and dimensional precision.

Long-term chemical resistance is exceptional, and at room temperature, there is almost no degradation in properties after.

Both unreinforced and reinforced grades exhibit exceptional flowability, and excellent processability.

Application:VCD drive frames\ Connectors\ Trimmers\ Switch buttons for gas-fired instantaneous water heaters\ Relay blocks\ Driers\ Rectifiers\ Outer handles\ Height sensor cases\ Door mirror stays\ Drive component housings\ Energy saving lamp.

General Information			
UL YellowCard	E255317-500386		
Features	Good dimensional stability		
	Low friction coefficient		
	High strength		
	Environmental protection		
	Workability, good		
	Good electrical performance		
	Good liquidity		
	Good flexibility		
	Good chemical resistance		
	Heat resistance, high		
	Low or no water absorption		
	Excellent appearance		
	Flame retardancy		
Uses	Electrical/Electronic Applications		
	Application in Automobile Field		
	Shell		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.56	g/cm³	ASTM D792
Molding Shrinkage - Flow	0.40 - 0.70	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.050	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method

Tensile Strength (Yield)	115	MPa	ASTM D638
Flexural Modulus	8000	MPa	ASTM D790
Flexural Strength	180	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	10	kJ/m <sup>2</sup>	ASTM D256
Unnotched Izod Impact Strength	60	kJ/m <sup>2</sup>	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	220	°C	ASTM D648
1.8 MPa, not annealed	205	°C	ASTM D648
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (2.00 mm)	1.2E+16	ohms·cm	ASTM D257
Dielectric Strength (2.00 mm)	20	kV/mm	ASTM D149
Dielectric Constant (50 Hz)	3.20		ASTM D150
Dissipation Factor (50 Hz)	0.020		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.800 mm	V-0		UL 94
1.60 mm	V-0		UL 94
Injection	Nominal Value	Unit	
Rear Temperature	225 - 250	°C	
Middle Temperature	225 - 250	°C	
Front Temperature	225 - 250	°C	
Nozzle Temperature	240	°C	
Mold Temperature	60.0 - 80.0	°C	
Injection Pressure	60.0 - 120	MPa	
Back Pressure	6.00 - 18.0	MPa	
Screw Speed	< 100	rpm	
Injection instructions			
Injection Time: 3 to 15 secTime Pressure: 2 to 5 secTotal Cycle: 15 to 50 sec			

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