

Petra® 140

Polyethylene Terephthalate

BASF Corporation

Message:

Petra 140 is a 45% glass reinforced polyethylene terephthalate (PET) injection molding compound offering an increased level of strength, stiffness, high temperature performance, dimensional stability. Excellent resistance to creep under load, and maintains the inherent chemical and electrical properties associated with polyesters.

Applications

Petra 140 is generally recommended for applications such as load bearing structural housings and mechanical components.

General Information			
Filler / Reinforcement	Glass Fiber,45% Filler by Weight		
Features	Good Chemical Resistance		
	Good Creep Resistance		
	Good Dimensional Stability		
	Good Electrical Properties		
	Good Stiffness		
	Good Strength		
Uses	Housings		
	Structural Parts		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.70	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	0.20	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	116		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	16200	MPa	ISO 527-2
Tensile Strength (Break, 23°C)	180	MPa	ASTM D638, ISO 527-2
Tensile Elongation (Break, 23°C)	3.0	%	ASTM D638, ISO 527-2
Flexural Modulus			ASTM D790
-40°C	14500	MPa	
23°C	13100	MPa	
121°C	4690	MPa	
Flexural Strength			
-40°C	370	MPa	ASTM D790
23°C	285	MPa	ASTM D790

121°C	110	MPa	ASTM D790
23°C	255	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	12	kJ/m ²	ISO 179
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	242	°C	ISO 75-2/B
1.8 MPa, Unannealed	225	°C	ASTM D648
1.8 MPa, Unannealed	220	°C	ISO 75-2/A
Peak Melting Temperature	245	°C	ASTM D3418, ISO 3146
CLTE - Flow	2.2E-5	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			
1.50 mm	> 1.0E+13	ohms · cm	ASTM D257
--	> 1.0E+13	ohms · cm	IEC 60093
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Processing (Melt) Temp	280 to 300	°C	
Mold Temperature	100 to 110	°C	
Injection Pressure	3.50 to 12.5	MPa	
Injection Rate	Fast		

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