



Petra® 140

BASF Corporation - Polyethylene Terephthalate

Tuesday, November 5, 2019

General Information

Product Description

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

Material Status	• Commercial: Active		
Availability	• North America		
Filler / Reinforcement	• Glass Fiber, 45% Filler by Weight		
Features	• Chemical Resistant • Creep Resistant • Good Dimensional Stability	• Good Electrical Properties • Good Stiffness • Good Strength	• High Heat Resistance
Uses	• Housings	• Structural Parts	
Automotive Specifications	• FORD WSH-M4D888-A1	• GM-FishBod FBMS 2-19 III, K	
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.70		ASTM D792
Density	1.70	g/cm ³	ISO 1183
Molding Shrinkage - Flow (0.125 in)	2.0E-3	in/in	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	2.35E+6	psi	ISO 527-2
Tensile Strength (Break, 73°F)	26100	psi	ASTM D638
Tensile Stress (Break, 73°F)	26100	psi	ISO 527-2
Tensile Elongation (Break, 73°F)	3.0	%	ASTM D638
Tensile Strain (Break, 73°F)	3.0	%	ISO 527-2
Flexural Modulus			ASTM D790
-40°F	2.10E+6	psi	
73°F	1.90E+6	psi	
250°F	680000	psi	
Flexural Strength			ASTM D790
-40°F	53700	psi	
73°F	41300	psi	
250°F	16000	psi	
Flexural Stress (73°F)	37000	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	5.5	ft-lb/in ²	ISO 179
Notched Izod Impact (73°F)	2.1	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	116		ASTM D785

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	468	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	437	°F	ASTM D648
Heat Deflection Temperature (264 psi, Unannealed)	428	°F	ISO 75-2/A
Peak Melting Temperature	473	°F	ASTM D3418
Melting Temperature (DSC)	473	°F	ISO 3146
CLTE - Flow	1.2E-5	in/in/°F	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (0.0591 in)	> 1.0E+13	ohms·cm	ASTM D257
Volume Resistivity	> 1.0E+13	ohms·cm	IEC 60093

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Processing (Melt) Temp	536 to 572	°F
Mold Temperature	212 to 230	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

¹ Typical properties: these are not to be construed as specifications.