



Petra® 130

BASF Corporation - Polyethylene Terephthalate

Tuesday, November 5, 2019

General Information

Product Description

Petra 130 is a 30% glass fiber reinforced polyethylene terephthalate injection molding compound. It is available in natural and pigmented versions. It exhibits a superb combination of performance properties including high strength and stiffness at elevated temperatures with good chemical resistance and dimensional stability.

Applications

Petra 130 is generally recommended for applications such as automotive door lock components, housings, gears and electrical and mechanical components.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Features	• Chemical Resistant • High Stiffness • Good Dimensional Stability • High Strength
Uses	• Automotive Applications • Gears • Machine/Mechanical Parts • Electrical Parts • Housings
Automotive Specifications	• ASTM D5927 TPES021 G16 A43340 • DELPHI M-2270 Color: BK-112 • GM-Delco M-4051 • CHRYSLER MS-DB-400 • FORD ESE-M4D341-A1 • GM-FishBod FBMS 2-19 III, A • CPN3009 Color: Natural • FORD WSS-M4D726-A3 • DELPHI M-2270 Color: Natural
Appearance	• Colors Available • Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.55		ASTM D792
Density	1.55	g/cm ³	ISO 1183
Molding Shrinkage - Flow (0.125 in)	4.0E-3	in/in	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-2
-40°F	1.51E+6	psi	
73°F	1.48E+6	psi	
176°F	718000	psi	
248°F	426000	psi	
302°F	342000	psi	
Tensile Strength			ASTM D638
Break, -40°F	30500	psi	
Break, 73°F	22500	psi	
Break, 176°F	11600	psi	
Break, 248°F	9430	psi	
Break, 302°F	7250	psi	

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Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-2
Break, -40°F	30500	psi	
Break, 73°F	22500	psi	
Break, 176°F	11600	psi	
Break, 250°F	9430	psi	
Tensile Elongation (Break, 73°F)	3.0	%	ASTM D638
Tensile Strain (Break, 73°F)	3.5	%	ISO 527-2
Flexural Modulus			ASTM D790
-40°F	1.40E+6	psi	
73°F	1.30E+6	psi	
149°F	889000	psi	
194°F	499000	psi	
250°F	410000	psi	
Flexural Strength			ASTM D790
-40°F	39900	psi	
73°F	34800	psi	
149°F	24700	psi	
194°F	15200	psi	
250°F	12300	psi	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	4.3	ft-lb/in ²	ISO 179
Notched Izod Impact (73°F)	1.8	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	464	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	428	°F	
Heat Deflection Temperature (264 psi, Unannealed)	410	°F	ISO 75-2/A
Peak Melting Temperature	473	°F	ASTM D3418
Melting Temperature (DSC)	473	°F	ISO 3146
CLTE - Flow	1.3E-5	in/in/°F	ASTM E831
RTI Elec			UL 746
0.030 in	284	°F	
0.06 in	284	°F	
0.12 in	284	°F	
RTI Imp			UL 746
0.030 in	284	°F	
0.06 in	284	°F	
0.12 in	284	°F	
RTI Str			UL 746
0.030 in	284	°F	
0.06 in	284	°F	
0.12 in	284	°F	

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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
Dielectric Strength (0.0591 in, Method A (Short-Time))	560	V/mil	ASTM D149
Electric Strength	1000	V/mil	IEC 60243-1
Dielectric Constant			IEC 60250
100 Hz	3.70		
1 MHz	3.50		
Dissipation Factor			IEC 60250
100 Hz	0.020		
1 MHz	0.020		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.030 in	HB		
0.06 in	HB		
0.12 in	HB		

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.