

Petra® 130

PET (Polyethylene Terephthalate)



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.

PHYSICAL	ASTM Test Method	Property Value
Specific Gravity	D-792	1.55
Mold Shrinkage (1/8" bar, in/in)		0.004
MECHANICAL	ASTM Test Method	Property Value
Tensile Strength, Break, MPa (psi)	D-638	
-40C (-40F)		210 (30,400)
23C (73F)		155 (22,500)
80C (176F)		80 (11,600)
121C (250F)		65 (9,430)
Elongation, Break, %	D-638	
23C (73F)		3
Flexural Modulus, MPa (psi)	D-790	
-40C (-40F)		9,660 (1,400,000)
23C (73F)		8,970 (1,300,000)
65C (149F)		6,130 (889,000)
90C (194F)		3,440 (499,000)
121C (250F)		2,830 (410,000)
Flexural Strength, MPa (psi)	D-790	
-40C (-40F)		275 (39,900)
23C (73F)		240 (34,800)
65C (149F)		170 (24,600)
90C (194F)		105 (15,200)
121C (250F)		85 (12,300)
Rockwell Hardness, R Scale	D-785	118
IMPACT	ASTM Test Method	Property Value
Notched Izod Impact, J/M (ft-lbs/in)	D-256	
23C (73F)		95 (1.8)
THERMAL	ASTM Test Method	Property Value
Melting Point, C(F)	D-3418	245 (473)
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	220 (428)
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.23 X10-4
UL RATINGS	UL Test Method	Property Value



Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		140
Mechanical w/ Impact, C		140
Electrical, C		140
ELECTRICAL	ASTM Test Method	Property Value
Volume Resistivity, 1.5 mm	D-257	>1E13
Dielectric Strength, Short Time, 1.5 mm	D-149	22

Processing Guidelines

Material Handling

Max. Water content: 0.02%

To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.02%, with a preferred moisture target of less than 0.015%. A dehumidifying hopper dryer mounted on the molding machine and equipped with alternating desiccant beds and air temperature/dew point indicators is recommended. Drying time is 2 - 4 hours at 120 degC (248 degF). Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 280-300 degC (536-572 degF)

Mold Temperature 100-110 degC (212-230 degF)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures

This product can be processed over mold temperatures of 80-120 degC; however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures of 100-110 degC (212-230 degF) are preferred.

Pressures

Injection pressure controls the filling of the part and should be applied for 90% of ram travel.

Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure should be utilized to prevent glass breakage. recommended to minimize glass fiber breakage.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

Note

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