

Petra[®] 130

Polyethylene Terephthalate (PET)

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	ISO Test Method	Property Value
Density, g/cm ³	1183	1.56

MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
-40°C		10,400
23°C		10,700
80°C		4,950
120°C		2,940
150°C		2,360
Tensile stress at break, MPa	527	
-40°C		210
23°C		154
80°C		80
120°C		65
150°C		50
Tensile strain at break, %	527	
23°C		2.3

Flexural Modulus, MPa	178	
23 °C		10,000
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m²	180	
23 °C		9.9
Charpy Notched, kJ/m²	179	
23 °C		10
THERMAL	ISO Test Method	Property Value
Melting Point, °C	3146	245
HDT A, ° C	75	214
HDT B, ° C	75	240
ELECTRICAL	ISO Test Method	Property Value
Volume Resistivity (Ohm-m)	IEC 60093	>1E13
Dielectric Constant (100 Hz)	IEC 60250	3.7
Dielectric Constant (1 MHz)	IEC 60250	3.5
Dissipation Factor (100 Hz), E-4	IEC 60250	200
Dissipation Factor (1 MHz), E-4	IEC 60250	200
Dielectric Strength, KV/mm	IEC 60243-1	40
UL RATINGS	UL Test Method	Property Value
Flammability Rating, .75mm	UL94	HB
Relative Temperature Index, .75mm	UL746B	
Mechanical w/o Impact, °C		140
Mechanical w/ Impact, °C		140
Electrical, °C		140
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
Flammability Rating, 3.0mm	UL94	HB
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, °C		140
Mechanical w/ Impact, °C		140
Electrical, °C		140

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°C (248°F). Further information concerning safe handling procedures can be obtained from the Safety Data Sheet.

Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 280-300°C (536-572°F)

Mold Temperature 100-110°C (212-230°F)

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

Mold Temperatures

This product can be processed over mold temperatures of 80-120°C; however, for optimizing surface appearance, dimensional stability and part performance, mold surface temperatures of 100-110°C (212-230°F) 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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BASF Corporation

Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192



General Information

800-BC-RESIN

Technical Assistance

800-527-TECH (734-324-5150)

Web address

<http://www.plasticsportal.com/usa>