

Product Information

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Petra® 330 FR BK112 **PET (Polyethylene Terephthalate)**


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Product Description

Petra 330 FR BK112 is a 30% glass reinforced, flame retardant PET, pigmented black injection molding compound rated UL94 V-0 in a 1/64 inch thickness. The product is designed for injection molding of thin and complex parts such as electrical bobbins. Due to its high crystallization rate the processability of the product in the injection molding process is very good. It exhibits excellent balance of properties including strength, stiffness, HDT, dimensional resistance and electrical properties.

Applications

Electrical/electronic application including connectors, bobbins, sockets, ciol, switches, relays, covers and housings.

PHYSICAL	ASTM Test Method	Property Value
Specific Gravity	D-792	1.67
Mold Shrinkage (1/8" bar, in/in)		0.003
MECHANICAL	ASTM Test Method	Property Value
Tensile Strength, Break, MPa (psi)	D-638	
-40°C (-40°F)		170 (24,600)
23°C (73°F)		135 (19,600)
80°C (176°F)		82 (11,900)
121°C (250°F)		60 (8,700)
Elongation, Break, %	D-638	
-40°C (-40°F)		2
23°C (73°F)		2
80°C (176°F)		4.1
121°C (250°F)		5.7
Flexural Modulus, MPa (psi)	D-790	
23°C (73°F)		9,930 (1,440,000)
Flexural Strength, MPa (psi)	D-790	
23°C (73°F)		215 (31,200)
Rockwell Hardness, R Scale	D-785	118
IMPACT	ASTM Test Method	Property Value
Notched Izod Impact, J/M (ft-lbs/in)	D-256	
23°C (73°F)		90 (1.7)
THERMAL	ASTM Test Method	Property Value
Melting Point, °C(°F)	D-3418	250 (482)
Heat Deflection @ 264 psi (1.8 MPa) °C(°F)	D-648	223 (433)
UL RATINGS	UL Test Method	Property Value
Flammability Rating, .30mm	UL94	V-0
Relative Temperature Index, .30mm	UL746B	
Mechanical w/o Impact, °C		75
Mechanical w/ Impact, °C		75
Electrical, °C		75
Flammability Rating, .75mm	UL94	V-0
Relative Temperature Index, .75mm	UL746B	
Mechanical w/o Impact, °C		155
Mechanical w/ Impact, °C		155
Electrical, °C		155
Flammability Rating, 1.5mm	UL94	V-0
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, °C		155
Mechanical w/ Impact, °C		155
Electrical, °C		155
Flammability Rating, 3.0mm	UL94	V-0
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, °C		155
Mechanical w/ Impact, °C		155
Electrical, °C		155
ELECTRICAL	ASTM Test Method	Property Value
Volume Resistivity, 1.5 mm	D-257	>1E13
Dielectric Strength, Short Time, 1.5 mm	D-149	29

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 (176-248°F); 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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