

Petra® 230 BK-112

PET (Polyethylene Terephthalate)



Product Description

Petra 230 BK-112 is a 35% mineral and glass fiber reinforced, black pigmented, polyethylene terephthalate injection molding compound. It exhibits a very good combination of performance properties including high strength and stiffness with ductility at elevated temperatures, good chemical resistance, dimensional stability and warp resistance.

Applications

Petra 230 BK-112 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	1.61
Mold Shrinkage (1/8" bar, in/in)		0.003
MECHANICAL	ASTM Test Method	Property Value
Tensile Strength, Break, MPa (psi)	D-638	
-40C (-40F)		145 (21,000)
23C (73F)		115 (16,700)
80C (176F)		60 (8,700)
121C (250F)		45 (6,520)
Elongation, Break, %	D-638	
-40C (-40F)		1.6
23C (73F)		2
80C (176F)		6.3
121C (250F)		8.1
Flexural Modulus, MPa (psi)	D-790	
23C (73F)		9,050 (1,310,000)
Flexural Strength, MPa (psi)	D-790	
23C (73F)		180 (26,100)
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)		55 (1.0)
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	206 (402)
Coef. of Linear Thermal Expansion, mm/mm C (in/in F)	E-831	0.22 X10-4

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 280-310 degC (536-590 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 (176-248 degF); 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.

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.

