Product Information

Petra® 230 BK-112
PET (Polyethylene Terephthalate)

BASF
The Chemical Company

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	ISO Test Method	Property Value
Density, g/cm	1183	1.61
MECHANICAL	**ISO Test Method**	**Property Value**
Tensile Modulus, MPa	527	
-40C		12,270
23C		11,700
80C		4,120
121C		2,590
Tensile stress at break, MPa	527	
-40C		145
23C		115
80C		60
121C		45
Tensile strain at break, %	527	
23C		2
Flexural Modulus, MPa	178	
23C		8,760
IMPACT	**ISO Test Method**	**Property Value**
Izod Notched Impact, kJ/m^2	180	
23C		6
Charpy Notched, kJ/m^2	179	
23C		6
-30C		5.5
THERMAL	**ISO Test Method**	**Property Value**
Melting Point, C	3146	245
HDT A, C	75	210
HDT B, C	75	240

Processing Guidelines

Material Handling
Max. Water content: 0.02%

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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.

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