Product Information

# Petra® 330 FR BK-112
## PET (Polyethylene Terephthalate)

BASF
The Chemical Company

### Product Description

Petra 330 FR BK-112 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 | |
| -40C (-40F) | | 170 (24,600) |
| 23C (73F) | | 135 (19,600) |
| 80C (176F) | | 82 (11,900) |
| 121C (250F) | | 60 (8,700) |
| Elongation, Break, % | D-638 | |
| -40C (-40F) | | 2 |
| 23C (73F) | | 2 |
| 80C (176F) | | 4.1 |
| 121C (250F) | | 5.7 |
| Flexural Modulus, MPa (psi) | D-790 | |
| 23C (73F) | | 9,930 (1,440,000) |
| Flexural Strength, MPa (psi) | D-790 | |
| 23C (73F) | | 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 | |
| 23C (73F) | | 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, 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 |
| **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 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 (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. 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.