

Product Description

Nypel RC6030F BK is a 30% glass fiber reinforced, injection molding compound produced with 25% post-consumer recycled polymer content. This product is a regional grade available in North America only.

Applications

Nypel RC6030F BK is generally recommended for applications such as bolts, racks, automotive underhood components, pressure regulator housings and caps.

| PHYSICAL | ISO Test Method | Property Value |
|----------------------------|-----------------|----------------|
| Density, g/cm ³ | 1183 | 1.35 |
| Moisture, % | 62 | |
| (24 Hour) | | 1.1 |
| (50% RH) | | 1.9 |
| (Saturation) | | 6.7 |

| MECHANICAL | ISO Test Method | Dry | Conditioned |
|------------------------------|-----------------|-------|-------------|
| Tensile Modulus, MPa | 527 | | |
| 23°C | | 9,660 | - |
| Tensile stress at break, MPa | 527 | | |
| 23°C | | 154 | - |
| Tensile strain at break, % | 527 | | |
| 23°C | | 2.5 | - |
| Flexural Strength, MPa | 178 | | |
| 23°C | | 230 | - |
| Flexural Modulus, MPa | 178 | | |
| 23°C | | 8,380 | - |

| IMPACT | ISO Test Method | Dry | Conditioned |
|-------------------------------------|-----------------|-----|-------------|
| Charpy Notched, kJ/m ² | 179 | | |
| -30°C | | 8 | - |
| 23°C | | 8.5 | - |
| Charpy Unnotched, kJ/m ² | 179 | | |
| 23°C | | 56 | - |

| THERMAL | ISO Test Method | Dry | Conditioned |
|---|-----------------|------------|-------------|
| Melting Point, °C | 3146 | 218 | - |
| HDT A, ° C | 75 | 203 | - |
| HDT B, ° C | 75 | 218 | - |
| Coef. of Linear Thermal Expansion, Parallel, mm/mm °C | | 0.25 X10-4 | - |
| Coef. of Linear Thermal Expansion, Normal, mm/mm °C | | 0.67 X10-4 | - |

| ELECTRICAL | ISO Test Method | Dry | Conditioned |
|----------------------------|-----------------|-------|-------------|
| Volume Resistivity (Ohm-m) | IEC 60093 | >1E13 | - |

Processing Guidelines

Material Handling

Max. Water content: 0.15%

Material is supplied in sealed containers and drying prior to molding in a dehumidifying or desiccant dryer is recommended. Drying parameters are dependent upon the actual percentage of moisture in the pellets and typical pre-drying conditions are 2-4 hours at 180F (83C). Recommended moisture levels for achieving optimum surface qualities and mechanical properties is 0.05% - 0.12%. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet (MSDS), or by contacting your BASF representative.

Typical Profile

Melt Temperature 270-295°C (518-563°F)

Mold Temperature 80-95°C (176-203°F)

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

Mold Temperatures

This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 80-95°C (176-203°F) is recommended.

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.

Note

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