

# Nypel® RC6024 BK

## Polyamide 6



### Product Description

Nypel RC6024 BK is a semi crystalline, heat stabilized, low viscosity, 30% mineral and glass fiber reinforced black injection molding compound produced with at least 20% recycled PA6 feedstocks. It possesses a balance of engineering properties in combination with excellent dimensional stability, good flow and processability, low warp and good chemical, abrasion and sink-mark formation resistance. This product is a regional grade available in North America only.

### Applications

Nypel RC6024 BK is generally recommended for applications such as rotors, wheels, rims, timing belt covers, automotive cooling fans, engine covers and shrouds.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm <sup>3</sup>	1183	1.40	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		8,000	-
Tensile stress at break, MPa	527		
23C		90	-
Tensile strain at break, %	527		
23C		3.2	-
Flexural Modulus, MPa	178		
23C		8,000	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m <sup>2</sup>	180		
23C		4.2	-
-40C		3.8	-
Charpy Notched, kJ/m <sup>2</sup>	179		
23C		3.5	-
THERMAL	ISO Test Method	Dry	Conditioned
HDT A, °C	75	190	-

### Processing Guidelines

#### Material Handling

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 180°F (83°C). 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 Material Safety Data Sheet (MSDS), or by contacting your BASF representative.

#### Typical Profile

Melt Temperature 270-295 degC (518-563 degF)  
Mold Temperature 80-95 degC (176-203 degF)  
Injection and Packing Pressure 35-125 bar (500-1500 psi)



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## **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 degC (176-203 degF) 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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