

**Product
Information
Mar 2021**
**Nypel® RC5053 BK
Polyamide 66**

Product Description

Nypel RC5053 BK is a 25% glass fiber and 15% mineral reinforced, injection molding compound produced with 45% post-consumer recycled polymer content. This product is a regional grade available in North America only.

Applications

Nypel RC5053 BK is generally recommended for applications such as automotive components (cylinder head covers), industrial housings, and parts requiring elevated temperature and dimensional stability requirements.

PHYSICAL	ISO Test Method	Property Value	
Density, g/cm ³	1183	1.47	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23°C		11,300	-
Tensile stress at break, MPa	527		
23°C		143	-
Tensile strain at break, %	527		
23°C		2.1	-
Flexural Modulus, MPa	178		
23°C		10,400	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
-40°C		5.3	-
23°C		6.2	-
Charpy Notched, kJ/m ²	179		
23°C		6.9	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, °C	3146	254	-
HDT A, °C	75	218	-

Processing Guidelines
Material Handling

Max. Water content: 0.15%

Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80°C (176°F) is recommended. Drying time is dependent on moisture level. However 2-4 hours is generally sufficient. 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. Alternatively, please contact your BASF representative.

Typical Profile

Rear: 265-277°C (509-530°F)

Middle: 277-288°C (530-550°F)

Front: 288-300°C (550-572°F)

Nozzle: 290-304°C (554-579°F)

Melt: 280-305°C (536-581°F)

Mold Temperature: 80-90°C (176-194°F)

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

Mold Temperatures

A mold temperature of 80-90°C (176-194°F) is recommended, however temperatures of as low as 45°C (113°F) and as high as 105°C (221°F) can be used where applicable.

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

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are

indicated or that other measures may not be required.

BASF Corporation
Engineering Plastics
1609 Biddle Avenue
Wyandotte, MI 48192

General Information: 800-BC-RESIN
Technical Assistance: 800-527-TECH (734-324-5150)
Web address: <http://www.plasticsportal.com/usa>

