

Nypel® RC5053 BK

Polyamide 66



Product Description

Nypel RC5053 BK is a 40% glass/mineral reinforced injection molding grade containing at least 20% recycled PA66 feedstock. 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	1183	1.47	
MECHANICAL	ISO Test Method	Dry	Conditioned
Tensile Modulus, MPa	527		
23C		11,150	-
Tensile stress at break, MPa	527		
23C		130	-
Tensile strain at break, %	527		
23C		2.1	-
Flexural Modulus, MPa	178		
23C		10,400	-
IMPACT	ISO Test Method	Dry	Conditioned
Izod Notched Impact, kJ/m ²	180		
23C		6.2	-
-40C		5.3	-
Charpy Notched, kJ/m ²	179		
23C		6.4	-
THERMAL	ISO Test Method	Dry	Conditioned
Melting Point, C	3146	256	-
HDT A, C	75	217	-

Processing Guidelines

Material Handling

Max. Water content: 0.12%

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 degC (176 degF) is recommended. Drying time is dependent on moisture level, but 2-4 hours is generally sufficient. 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 280-305 degC (536-581 degF)

Mold Temperature 80-90 degC (176-194 degF)

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

Mold Temperatures



A mold temperature of 80-90 degC (176-194 degF) is recommended, but temperatures of as low as 45 degC (113 degF) and as high as 105 degC (221 degF) 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

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