

# Nypel® RC6030F BK

Polyamide 6

BASF Corporation

## Message:

Nypel RC6030F BK is a heat stabilized, 30% glass fiber reinforced, black injection molding grade produced with at least 20% recycled PA6 feedstock. 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.

| General Information                |                                  |                   |                     |
|------------------------------------|----------------------------------|-------------------|---------------------|
| Filler / Reinforcement             | Glass Fiber,30% Filler by Weight |                   |                     |
| Additive                           | Heat Stabilizer                  |                   |                     |
| Recycled Content                   | Yes,20%                          |                   |                     |
| Features                           | Heat Stabilized                  |                   |                     |
| Uses                               | Automotive Under the Hood        |                   |                     |
|                                    | Bolts                            |                   |                     |
|                                    | Caps                             |                   |                     |
|                                    | Housings                         |                   |                     |
|                                    | Racks                            |                   |                     |
| RoHS Compliance                    | RoHS Compliant                   |                   |                     |
| Appearance                         | Black                            |                   |                     |
| Forms                              | Pellets                          |                   |                     |
| Processing Method                  | Injection Molding                |                   |                     |
| Physical                           | Nominal Value                    | Unit              | Test Method         |
| Specific Gravity                   | 1.35                             | g/cm <sup>3</sup> | ASTM D792, ISO 1183 |
| Molding Shrinkage - Flow (3.18 mm) | 0.30                             | %                 |                     |
| Water Absorption                   |                                  |                   |                     |
| 24 hr                              | 1.1                              | %                 | ASTM D570           |
| 23°C, 24 hr                        | 1.1                              | %                 | ISO 62              |
| Saturation                         | 6.7                              | %                 | ASTM D570           |
| Saturation, 23°C                   | 6.7                              | %                 | ISO 62              |
| Equilibrium, 50%RH                 | 1.9                              | %                 | ASTM D570           |
| Equilibrium, 23°C, 50% RH          | 1.9                              | %                 | ISO 62              |
| Hardness                           | Nominal Value                    | Unit              | Test Method         |
| Rockwell Hardness (R-Scale)        | 121                              |                   | ASTM D785           |
| Mechanical                         | Nominal Value                    | Unit              | Test Method         |
| Tensile Modulus (23°C)             | 9500                             | MPa               | ISO 527-2           |
| Tensile Strength                   |                                  |                   |                     |
| Break, 23°C                        | 165                              | MPa               | ASTM D638           |

|                                         |               |                   |                      |
|-----------------------------------------|---------------|-------------------|----------------------|
| Break, 23°C                             | 155           | MPa               | ISO 527-2            |
| Tensile Elongation (Break, 23°C)        | 3.0           | %                 | ASTM D638, ISO 527-2 |
| Flexural Modulus                        |               |                   |                      |
| 23°C                                    | 8480          | MPa               | ASTM D790            |
| 23°C                                    | 8700          | MPa               | ISO 178              |
| Flexural Strength                       |               |                   |                      |
| 23°C                                    | 235           | MPa               | ASTM D790            |
| 23°C                                    | 230           | MPa               | ISO 178              |
| Impact                                  | Nominal Value | Unit              | Test Method          |
| Charpy Notched Impact Strength          |               |                   | ISO 179              |
| -30°C                                   | 8.0           | kJ/m <sup>2</sup> |                      |
| 23°C                                    | 9.0           | kJ/m <sup>2</sup> |                      |
| Charpy Unnotched Impact Strength (23°C) | 70            | kJ/m <sup>2</sup> | ISO 179              |
| Notched Izod Impact (23°C)              | 110           | J/m               | ASTM D256            |
| Thermal                                 | Nominal Value | Unit              | Test Method          |
| Heat Deflection Temperature             |               |                   |                      |
| 0.45 MPa, Unannealed                    | 218           | °C                | ISO 75-2/B           |
| 1.8 MPa, Unannealed                     | 205           | °C                | ASTM D648            |
| 1.8 MPa, Unannealed                     | 203           | °C                | ISO 75-2/A           |
| Peak Melting Temperature                | 220           | °C                | ASTM D3418, ISO 3146 |
| CLTE                                    |               |                   |                      |
| Flow                                    | 3.8E-5        | cm/cm/°C          | ASTM E831            |
| Flow                                    | 2.5E-5        | cm/cm/°C          |                      |
| Transverse                              | 6.7E-5        | cm/cm/°C          |                      |
| Electrical                              | Nominal Value | Unit              | Test Method          |
| Volume Resistivity                      |               |                   |                      |
| 1.50 mm                                 | > 1.0E+13     | ohms · cm         | ASTM D257            |
| --                                      | > 1.0E+13     | ohms · cm         | IEC 60093            |
| Injection                               | Nominal Value | Unit              |                      |
| Drying Temperature                      | 83.0          | °C                |                      |
| Drying Time                             | 2.0 to 4.0    | hr                |                      |
| Suggested Max Moisture                  | 0.15          | %                 |                      |
| Processing (Melt) Temp                  | 270 to 295    | °C                |                      |
| Mold Temperature                        | 80.0 to 95.0  | °C                |                      |
| Injection Pressure                      | 3.50 to 12.5  | MPa               |                      |
| Injection Rate                          | Fast          |                   |                      |

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