

## DuPont Performance Polymers Zytel® 73G45 BK263 Nylon 6 (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 50% Glass Fiber Filled

### Material Notes:

Zytel® 73G45 BK263 is a 45% glass fiber reinforced, black polyamide 6 resin for injection molding. Information provided by DuPont Performance Polymers

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Zytel-73G45-BK263-Nylon-6-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-73G45-BK263-Nylon-6-nbspUnverified-Data.php)

| Physical Properties               | Metric             | English              | Comments       |
|-----------------------------------|--------------------|----------------------|----------------|
| Density                           | 1.51 g/cc          | 0.0546 lb/in³        | DAM; ISO 1183  |
| Filler Content                    | 45 %               | 45 %                 | DAM            |
| Linear Mold Shrinkage, Flow       | 0.0015 cm/cm       | 0.0015 in/in         | DAM; ISO 294-4 |
|                                   | @Thickness 2.00 mm | @Thickness 0.0787 in |                |
| Linear Mold Shrinkage, Transverse | 0.0090 cm/cm       | 0.0090 in/in         | DAM; ISO 294-4 |
|                                   | @Thickness 2.00 mm | @Thickness 0.0787 in |                |

| Mechanical Properties      | Metric               | English              | Comments        |
|----------------------------|----------------------|----------------------|-----------------|
| Tensile Strength at Break  | 145 MPa              | 21000 psi            | 50%RH; ISO 527  |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
|                            | 215 MPa              | 31200 psi            | DAM; ISO 527    |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
| Elongation at Break        | 3.0 %                | 3.0 %                | DAM; ISO 527    |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
|                            | 5.0 %                | 5.0 %                | 50%RH; ISO 527  |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
| Tensile Modulus            | 9.00 GPa             | 1310 ksi             | 50%RH; ISO 527  |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
|                            | 14.2 GPa             | 2060 ksi             | DAM; ISO 527    |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
| Izod Impact, Notched (ISO) | 17.0 kJ/m²           | 8.09 ft-lb/in²       | DAM; ISO 180/1A |
|                            | @Temperature 23.0 °C | @Temperature 73.4 °F |                 |
|                            | 22.0 kJ/m²           | 10.5 ft-lb/in²       |                 |

| Mechanical Properties             | Metric<br>@ Temperature 23.0 °C | English<br>@ Temperature 73.4 °F | 50%RH; ISO 180/1A<br>Comments |
|-----------------------------------|---------------------------------|----------------------------------|-------------------------------|
| Charpy Impact Unnotched           | 10.0 J/cm²                      | 47.6 ft-lb/in²                   | DAM; ISO 179/1eU              |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |
|                                   | 10.0 J/cm²                      | 47.6 ft-lb/in²                   | 50%RH; ISO 179/1eU            |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |
| Charpy Impact, Notched            | 1.90 J/cm²                      | 9.04 ft-lb/in²                   | DAM; ISO 179/1eA              |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |
|                                   | 2.40 J/cm²                      | 11.4 ft-lb/in²                   | 50%RH; ISO 179/1eA            |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |
| Tensile Creep Modulus, 1 hour     | 9400 MPa                        | 1.36e+6 psi                      | 50%RH; ISO 899                |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |
| Tensile Creep Modulus, 1000 hours | 7300 MPa                        | 1.06e+6 psi                      | 50%RH; ISO 899                |
|                                   | @ Temperature 23.0 °C           | @ Temperature 73.4 °F            |                               |

| Thermal Properties                          | Metric | English | Comments                      |
|---------------------------------------------|--------|---------|-------------------------------|
| Melting Point                               | 221 °C | 430 °F  | 10°C/min; DAM; ISO 11357-1/-3 |
| Deflection Temperature at 1.8 MPa (264 psi) | 218 °C | 424 °F  | DAM; ISO 75-1/-2              |

| Electrical Properties      | Metric                | English               | Comments       |
|----------------------------|-----------------------|-----------------------|----------------|
| Comparative Tracking Index | 500 V                 | 500 V                 | DAM; IEC 60112 |
|                            | @ Temperature 23.0 °C | @ Temperature 73.4 °F |                |

| Processing Properties | Metric           | English          | Comments     |
|-----------------------|------------------|------------------|--------------|
| Melt Temperature      | 270 °C           | 518 °F           | DAM; Optimum |
|                       | 260 - 280 °C     | 500 - 536 °F     | DAM          |
| Mold Temperature      | 70.0 - 120 °C    | 158 - 248 °F     | DAM          |
|                       | 100 °C           | 212 °F           | DAM; optimum |
| Drying Temperature    | 80.0 °C          | 176 °F           | DAM          |
| Dry Time              | 2.00 - 4.00 hour | 2.00 - 4.00 hour | DAM          |
| Moisture Content      | <= 0.20 %        | <= 0.20 %        | DAM          |

| Descriptive Properties    | Value                                                       | Comments       |
|---------------------------|-------------------------------------------------------------|----------------|
| Appearance                | Black Color                                                 | DAM            |
| Drying Recommended        | Yes, if moisture content of resin exceeds recommended level | DAM            |
| Features                  | Chemical Resistance, Good                                   | DAM            |
|                           | Fatigue Resistant                                           | DAM            |
|                           | Fuel Resistant                                              | DAM            |
|                           | Grease Resistant                                            | DAM            |
|                           | Oil Resistant                                               | DAM            |
|                           | Stiffness, High                                             | DAM            |
|                           | Strength, High                                              | DAM            |
| Filler                    | Glass fiber reinforcement                                   | DAM            |
| Forms                     | Pellets                                                     | DAM            |
| Generic                   | Nylon 6                                                     | DAM            |
| Material Status           | Current                                                     | DAM            |
| Part Marking Code         | >PA6-GF45<                                                  | ISO 11469; DAM |
| Polymer Family            | Polyamide                                                   | DAM            |
| Polymer Type              | PA6                                                         | DAM            |
| Processing Method         | Injection Molding                                           | DAM            |
| Product Category          | Glass Reinforced Resins                                     | DAM            |
| Region Available - Global | Yes                                                         | DAM            |
| Resin Identification      | PA6-GF45                                                    | ISO 1043; DAM  |
| RoHS Compliance           | Contact Manufacturer                                        | DAM            |
| Uses                      | Appliance Components                                        | DAM            |
|                           | Automotive Applications                                     | DAM            |
|                           | Electrical/Electronic Applications                          | DAM            |
|                           | High Gloss Applications                                     | DAM            |
|                           | Industrial Applications                                     | DAM            |

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