

# PLUSTEK PB318G9

Polyamide 6  
Polyram Ram-On Industries

Message:  
45% GLASS FIBER REINFORCED POLYAMIDE 6, UV STABILIZED FOR INJECTION MOLDING APPLICATIONS.

| General Information                                 |                                                       |                   |                         |
|-----------------------------------------------------|-------------------------------------------------------|-------------------|-------------------------|
| Filler / Reinforcement                              | Glass fiber reinforced material, 45% filler by weight |                   |                         |
| Additive                                            | UV stabilizer                                         |                   |                         |
| Processing Method                                   | Injection molding                                     |                   |                         |
| Physical                                            | Nominal Value                                         | Unit              | Test Method             |
| Specific Gravity                                    | 1.42                                                  | g/cm <sup>3</sup> | ASTM D792, ISO 1183     |
| Molding Shrinkage                                   |                                                       |                   |                         |
| Flow                                                | 0.15 - 0.40                                           | %                 |                         |
| --                                                  | 0.15 - 0.40                                           | %                 | ISO 2577                |
| Water Absorption                                    |                                                       |                   |                         |
| Saturation                                          | 4.9                                                   | %                 | ASTM D570               |
| Saturated, 23°C                                     | 4.9                                                   | %                 | ISO 62                  |
| Mechanical                                          | Nominal Value                                         | Unit              | Test Method             |
| Tensile Modulus                                     | 14000                                                 | MPa               | ASTM D638, ISO 527-2    |
| Tensile Strength (Yield)                            | 200                                                   | MPa               | ASTM D638, ISO 527-2    |
| Tensile Elongation (Break)                          | 2.5                                                   | %                 | ASTM D638, ISO 527-2    |
| Flexural Modulus                                    | 13500                                                 | MPa               | ASTM D790, ISO 178      |
| Flexural Strength                                   | 280                                                   | MPa               | ASTM D790, ISO 178      |
| Impact                                              | Nominal Value                                         | Unit              | Test Method             |
| Notched Izod Impact                                 |                                                       |                   |                         |
| 23°C                                                | 200                                                   | J/m               | ASTM D256               |
| 23°C                                                | 18                                                    | kJ/m <sup>2</sup> | ISO 180                 |
| Thermal                                             | Nominal Value                                         | Unit              | Test Method             |
| Deflection Temperature Under Load                   |                                                       |                   |                         |
| 0.45 MPa, not annealed                              | 220                                                   | °C                | ASTM D648, ISO 75-2/B   |
| 1.8 MPa, not annealed                               | 215                                                   | °C                | ASTM D648, ISO 75-2/A   |
| Maximum operating temperature-Short Peaks Operation | 200                                                   | °C                |                         |
| Maximum Continuous Use Temperature                  | 110                                                   | °C                |                         |
| Melting Temperature                                 | 218                                                   | °C                | ISO 11357-3, ASTM D3418 |
| Electrical                                          | Nominal Value                                         | Unit              | Test Method             |
| Volume Resistivity                                  | 1.0E+14                                               | ohms · cm         | IEC 60093               |
| Dielectric Strength                                 | 65                                                    | kV/mm             | IEC 60243-1             |
| Flammability                                        | Nominal Value                                         | Unit              | Test Method             |

| Flame Rating (3.00 mm) | HB            | UL 94 |
|------------------------|---------------|-------|
| Injection              | Nominal Value | Unit  |
| Drying Temperature     | 85.0          | °C    |
| Drying Time            | 3.0           | hr    |
| Suggested Max Moisture | 0.15          | %     |
| Rear Temperature       | 220 - 260     | °C    |
| Middle Temperature     | 230 - 265     | °C    |
| Front Temperature      | 250 - 270     | °C    |
| Mold Temperature       | 55.0 - 95.0   | °C    |
| Injection Pressure     | 70.0 - 105    | MPa   |
| Injection Rate         | Fast          |       |
| Holding Pressure       | 30.0 - 70.0   | MPa   |
| Back Pressure          | 0.350 - 0.700 | MPa   |
| Screw Speed            | 60 - 90       | rpm   |
| Injection instructions |               |       |

Fill Speed: 50 to 75 mm/sec

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