

# PLUSTEK PB145

Polyamide 6  
Polyram Ram-On Industries

Message:  
General puprpose Polyamide 6 for Fast Cycle Injection Moulding applications.

| General Information              |                    |                   |                      |
|----------------------------------|--------------------|-------------------|----------------------|
| Features                         | Fast molding cycle |                   |                      |
|                                  | General            |                   |                      |
| Uses                             | General            |                   |                      |
| RoHS Compliance                  | RoHS compliance    |                   |                      |
| Processing Method                | Injection molding  |                   |                      |
| Physical                         | Nominal Value      | Unit              | Test Method          |
| Specific Gravity                 | 1.14               | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Molding Shrinkage                |                    |                   |                      |
| Flow                             | 1.3 - 1.7          | %                 | ASTM D955            |
| --                               | 1.3 - 1.7          | %                 | ISO 2577             |
| Water Absorption                 |                    |                   |                      |
| Saturation                       | 9.5                | %                 | ASTM D570            |
| Saturated, 23°C                  | 9.5                | %                 | ISO 62               |
| Equilibrium, 23°C, 50% RH        | 3.0                | %                 | ASTM D570, ISO 62    |
| Hardness                         | Nominal Value      | Unit              | Test Method          |
| Rockwell Hardness                |                    |                   |                      |
| Class r                          | 120                |                   | ASTM D785            |
| R scale                          | 120                |                   | ISO 2039-2           |
| Mechanical                       | Nominal Value      | Unit              | Test Method          |
| Tensile Strength (Yield)         | 90.0               | MPa               | ASTM D638, ISO 527-2 |
| Tensile Elongation (Break)       | > 10               | %                 | ASTM D638, ISO 527-2 |
| Flexural Modulus                 | 2600               | MPa               | ASTM D790, ISO 178   |
| Flexural Strength                | 100                | MPa               | ASTM D790, ISO 178   |
| Impact                           | Nominal Value      | Unit              | Test Method          |
| Charpy Notched Impact Strength   |                    |                   | ISO 179              |
| -30°C                            | 3.5                | kJ/m <sup>2</sup> | ISO 179              |
| 23°C                             | 5.5                | kJ/m <sup>2</sup> | ISO 179              |
| Charpy Unnotched Impact Strength |                    |                   | ISO 179              |
| -30°C                            | No Break           |                   | ISO 179              |
| 23°C                             | No Break           |                   | ISO 179              |
| Notched Izod Impact              |                    |                   |                      |
| -30°C                            | 35                 | J/m               | ASTM D256            |

| 23°C                                                | 50            | J/m               | ASTM D256               |
|-----------------------------------------------------|---------------|-------------------|-------------------------|
| -30°C                                               | 3.5           | kJ/m <sup>2</sup> | ISO 180                 |
| 23°C                                                | 5.0           | kJ/m <sup>2</sup> | ISO 180                 |
| Thermal                                             | Nominal Value | Unit              | Test Method             |
| Deflection Temperature Under Load                   |               |                   |                         |
| 0.45 MPa, not annealed                              | 185           | °C                | ASTM D648, ISO 75-2/B   |
| 1.8 MPa, not annealed                               | 80.0          | °C                | ASTM D648, ISO 75-2/A   |
| Maximum operating temperature-Short Peaks Operation | 180           | °C                |                         |
| Maximum Continuous Use Temperature                  | 80            | °C                |                         |
| Flammability                                        | 17            | mm/min            | FMVSS 302               |
| Melting Temperature                                 | 218           | °C                | ISO 11357-3, ASTM D3418 |
| Electrical                                          | Nominal Value | Unit              | Test Method             |
| Surface Resistivity                                 | 1.0E+13       | ohms              | IEC 60093               |
| Volume Resistivity                                  | 1.0E+17       | ohms·cm           | IEC 60093               |
| Dielectric Strength                                 | 100           | kV/mm             | IEC 60243-1             |
| Dielectric Constant (1 MHz)                         | 3.50          |                   | IEC 60250               |
| Flammability                                        | Nominal Value | Unit              | Test Method             |
| Flame Rating                                        |               |                   | UL 94                   |
| 1.60 mm                                             | V-2           |                   | UL 94                   |
| 3.00 mm                                             | V-2           |                   | 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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