

# G-PAEK™ 1230GF

Polyether Ketone  
Gharda Chemicals Ltd.

Message:

Product Details: Ultra high performance thermoplastic polymer, 30% glass fiber reinforced in Polyether Ketone, semi-crystalline granules suitable for injection molding, easy flow, Beige in color.

Application Areas: Suitable for high temperature applications, where higher strength in load-bearing applications is required. Chemically resistant to aggressive environments, suitable for sterilization for medical and food contact applications.

| General Information                |                                  |                   |             |
|------------------------------------|----------------------------------|-------------------|-------------|
| Filler / Reinforcement             | Glass Fiber,30% Filler by Weight |                   |             |
| Features                           | Food Contact Acceptable          |                   |             |
|                                    | Good Chemical Resistance         |                   |             |
|                                    | Good Flow                        |                   |             |
|                                    | Good Sterilizability             |                   |             |
|                                    | High Heat Resistance             |                   |             |
|                                    | High Strength                    |                   |             |
|                                    | Semi Crystalline                 |                   |             |
| Uses                               | High Temperature Applications    |                   |             |
|                                    | Medical/Healthcare Applications  |                   |             |
|                                    | Non-specific Food Applications   |                   |             |
| Appearance                         | Beige                            |                   |             |
| Processing Method                  | Injection Molding                |                   |             |
| Physical                           | Nominal Value                    | Unit              | Test Method |
| Density                            | 1.50                             | g/cm <sup>3</sup> |             |
| Spiral Flow <sup>1</sup>           | 3.10                             | cm                | ASTM D3123  |
| Molding Shrinkage <sup>2</sup>     |                                  |                   |             |
| Flow                               | 0.30                             | %                 |             |
| Across Flow                        | 1.0                              | %                 |             |
| Water Absorption (Equilibrium)     | 0.040                            | %                 | ASTM D570   |
| Hardness                           | Nominal Value                    | Unit              | Test Method |
| Durometer Hardness (Shore D, 23°C) | 92                               |                   | ASTM D2240  |
| Mechanical                         | Nominal Value                    | Unit              | Test Method |
| Tensile Modulus (23°C)             | 11500                            | MPa               | ASTM D638   |
| Tensile Strength (Yield, 23°C)     | 185                              | MPa               | ASTM D638   |
| Tensile Elongation (Break, 23°C)   | 2.0 to 3.0                       | %                 | ASTM D638   |
| Flexural Modulus (23°C)            | 10500                            | MPa               | ASTM D790   |
| Flexural Strength (23°C)           | 280                              | MPa               | ASTM D790   |
| Impact                             | Nominal Value                    | Unit              | Test Method |

| Notched Izod Impact (23°C)                              | 60                       | J/m     | ASTM D256   |
|---------------------------------------------------------|--------------------------|---------|-------------|
| Unnotched Izod Impact (23°C)                            | 610                      | J/m     | ASTM D256   |
| Thermal                                                 | Nominal Value            | Unit    | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 358                      | °C      | ASTM D648   |
| Continuous Use Temperature                              | 280                      | °C      | UL 746B     |
| Glass Transition Temperature                            | 152                      | °C      | ASTM D3418  |
| Melting Temperature                                     | 372                      | °C      | ASTM D3418  |
| Electrical                                              | Nominal Value            | Unit    | Test Method |
| Surface Resistivity                                     | 1.0E+16                  | ohms    | ASTM D257   |
| Volume Resistivity                                      | 1.0E+16                  | ohms·cm | ASTM D257   |
| Dielectric Strength (3.20 mm)                           | 20                       | kV/mm   | ASTM D149   |
| Arc Resistance <sup>3</sup>                             | 160                      | sec     | ASTM D495   |
| Comparative Tracking Index <sup>4</sup>                 | 140                      | V       | ASTM D3638  |
| Flammability                                            | Nominal Value            | Unit    | Test Method |
| Flame Rating (0.800 mm)                                 | V-0                      |         | UL 94       |
| Injection                                               | Nominal Value            | Unit    |             |
| Drying Temperature                                      | 150                      | °C      |             |
| Drying Time                                             | 4.0 to 6.0               | hr      |             |
| Hopper Temperature                                      | 60.0 to 80.0             | °C      |             |
| Nozzle Temperature                                      | 420                      | °C      |             |
| Processing (Melt) Temp                                  | 390 to 420               | °C      |             |
| Mold Temperature                                        | 200 to 220               | °C      |             |
| NOTE                                                    |                          |         |             |
| 1.                                                      | 420°C nozzle, 220°C Mold |         |             |
| 2.                                                      | 420°C nozzle, 220°C Mold |         |             |
| 3.                                                      | 500 V                    |         |             |
| 4.                                                      | 50 drops                 |         |             |

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