# G-PAEK™ 1220GF

### Polyether Ketone

Gharda Chemicals Ltd.

#### Message:

Product Details: Ultra high performance thermoplastic polymer, 20% glass fiber reinforced in Polyether Ketone, semi-crystalline granules suitable for injection molding, easy flow, Dark Beige in color and also custom colors in Blue and Black.

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

| General Information              |                                  |       |             |  |  |
|----------------------------------|----------------------------------|-------|-------------|--|--|
| Filler / Reinforcement           | Glass Fiber,20% Filler by Weight |       |             |  |  |
| Features                         | Good Chemical Resistance         |       |             |  |  |
|                                  | Good Flow                        |       |             |  |  |
|                                  | Good Sterilizability             |       |             |  |  |
|                                  | Good Strength                    |       |             |  |  |
|                                  | High Heat Resistance             |       |             |  |  |
|                                  | Semi Crystalline                 |       |             |  |  |
| Uses                             | High Temperature Applications    |       |             |  |  |
|                                  | Medical/Healthcare Applications  |       |             |  |  |
|                                  | Non-specific Food Applications   |       |             |  |  |
| Appearance                       | Beige                            |       |             |  |  |
|                                  | Black                            |       |             |  |  |
|                                  | Blue                             |       |             |  |  |
| Forms                            | Granules                         |       |             |  |  |
| Processing Method                | Injection Molding                |       |             |  |  |
| Physical                         | Nominal Value                    | Unit  | Test Method |  |  |
| Density                          | 1.45                             | g/cm³ |             |  |  |
| Molding Shrinkage <sup>1</sup>   |                                  |       |             |  |  |
| Flow                             | 0.60                             | %     |             |  |  |
| Across Flow                      | 0.90                             | %     |             |  |  |
| Water Absorption (Equilibrium)   | 0.050                            | %     | ASTM D570   |  |  |
| Hardness                         | Nominal Value                    | Unit  | Test Method |  |  |
| Rockwell Hardness (M-Scale)      | 100                              |       | ASTM D785   |  |  |
| Durometer Hardness (Shore D)     | 91                               |       | ASTM D2240  |  |  |
| Mechanical                       | Nominal Value                    | Unit  | Test Method |  |  |
| Tensile Modulus (23°C)           | 8500                             | MPa   | ASTM D638   |  |  |
| Tensile Strength (Yield, 23°C)   | 130                              | MPa   | ASTM D638   |  |  |
| Tensile Elongation (Break, 23°C) | 2.8                              | %     | ASTM D638   |  |  |

| Flexural Modulus (23°C)      | 8.60                     | MPa  | ASTM D790   |
|------------------------------|--------------------------|------|-------------|
| Flexural Strength (23°C)     | 192                      | MPa  | ASTM D790   |
| Impact                       | Nominal Value            | Unit | Test Method |
| Notched Izod Impact (23°C)   | 45                       | J/m  | ASTM D256   |
| Unnotched Izod Impact        | 680                      | J/m  | ASTM D256   |
| Thermal                      | Nominal Value            | Unit | Test Method |
| Continuous Use Temperature   | 280                      | °C   | UL 746B     |
| Glass Transition Temperature | 152                      | °C   | ASTM D3418  |
| Melting Temperature          | 372                      | °C   | ASTM D3418  |
| Flammability                 | Nominal Value            |      | 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.                           | 410°C nozzle, 220°C Mold |      |             |
|                              |                          |      |             |

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