

**POKETONE M33FG3A**

Hyosung Chemical Corporation - Polyketone, Aliphatic

**General Information**
**Product Description**

15% glass-reinforced high-flow injection molding grade (Food Contact)

**General**

|                        |   |
|------------------------|---|
| Material Status        | • Commercial: Active                    |
| Availability           | • Asia Pacific • Europe • North America |
| Filler / Reinforcement | • Glass Fiber, 15% Filler by Weight     |
| Features               | • Food Contact Acceptable • High Flow   |
| Agency Ratings         | • ISO 10993 • KTW • NSF STD-61          |
| RoHS Compliance        | • RoHS Compliant                        |
| Processing Method      | • Injection Molding                     |

**Properties <sup>1</sup>**

| Physical                                     | Nominal Value | Unit                  | Test Method |
|--|---------------|-----------------------|-------------|
| Density / Specific Gravity                   | 1.35          |                       | ASTM D792   |
| Density                                      | 1.35          | g/cm <sup>3</sup>     | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (240°C/2.16 kg)    | 24            | g/10 min              | ASTM D1238  |
| Melt Mass-Flow Rate (MFR) (240°C/2.16 kg)    | 22            | g/10 min              | ISO 1133    |
| Molding Shrinkage - Flow                     |               |                       | ASTM D955   |
| 0.0787 in                                    | 4.0E-3        | in/in                 |             |
| 0.118 in                                     | 4.0E-3        | in/in                 |             |
| Molding Shrinkage - Across Flow              |               |                       | ASTM D955   |
| 0.0787 in                                    | 0.011         | in/in                 |             |
| 0.118 in                                     | 0.013         | in/in                 |             |
| Water Absorption (Saturation)                | 1.9           | %                     | ASTM D570   |
| Water Absorption (Saturation, 73°F)          | 1.9           | %                     | ISO 62      |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.50          | %                     | ASTM D570   |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.50          | %                     | ISO 62      |
| Mechanical                                   | Nominal Value | Unit                  | Test Method |
| Tensile Modulus                              | 595000        | psi                   | ASTM D638   |
| Tensile Modulus                              | 587000        | psi                   | ISO 527-1   |
| Tensile Strength (Yield)                     | 14500         | psi                   | ASTM D638   |
| Tensile Stress (Yield)                       | 14500         | psi                   | ISO 527-2   |
| Tensile Elongation (Break)                   | 6.0           | %                     | ASTM D638   |
| Tensile Strain (Break)                       | 6.0           | %                     | ISO 527-2   |
| Flexural Modulus                             | 580000        | psi                   | ASTM D790   |
| Flexural Modulus                             | 493000        | psi                   | ISO 178     |
| Flexural Strength                            | 20300         | psi                   | ASTM D790   |
| Flexural Stress                              | 19600         | psi                   | ISO 178     |
| Impact                                       | Nominal Value | Unit                  | Test Method |
| Charpy Notched Impact Strength               | 4.8           | ft·lb/in <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength             | No Break      |                       | ISO 179/1eU |
| Notched Izod Impact                          | 1.6           | ft·lb/in              | ASTM D256   |
| Notched Izod Impact Strength                 | 4.3           | ft·lb/in <sup>2</sup> | ISO 180/1A  |
| Unnotched Izod Impact Strength               | 33            | ft·lb/in <sup>2</sup> | ISO 180/1U  |
| Hardness                                     | Nominal Value | Unit                  | Test Method |
| Rockwell Hardness                            | 110           |                       | ASTM D785   |



|   |                      |                         |
|---|----------------------|-------------------------|
| Shore Hardness (Shore D)                                | 79                   | ISO 868                 |
| <b>Thermal</b>  | <b>Nominal Value</b> | <b>Unit</b>             |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 419 °F               | ASTM D648               |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 419 °F               | ISO 75-2/B              |
| Deflection Temperature Under Load (264 psi, Unannealed) | 410 °F               | ASTM D648               |
| Deflection Temperature Under Load (264 psi, Unannealed) | 401 °F               | ISO 75-2/A              |
| Vicat Softening Temperature                             | 401 °F               | ASTM D1525 <sup>2</sup> |
| Vicat Softening Temperature                             | 401 °F               | ISO 306/B50             |
| Melting Temperature                                     | 432 °F               | ISO 11357-3             |
| Melting Temperature                                     | 432 °F               | ASTM D3418              |
| CLTE - Flow (77 to 131°F)                               | 4.7E-5 in/in/°F      | ASTM E831               |
| CLTE - Transverse (77 to 131°F)                         | 2.6E-5 in/in/°F      | ASTM E831               |
| <b>Electrical</b>                                       | <b>Nominal Value</b> | <b>Unit</b>             |
| Surface Resistivity                                     | 1.0E+17 ohms         | ASTM D257               |
| Volume Resistivity                                      | 1.0E+14 ohms·cm      | ASTM D257               |
| Dielectric Strength                                     |                      | ASTM D149               |
| 0.0787 in   | 580 V/mil            |                         |
| 0.118 in  | 530 V/mil            |                         |
| Dielectric Constant (60 Hz)                             | 6.00                 | ASTM D150               |
| Dissipation Factor (60 Hz)                              | 0.011                | ASTM D150               |

### Processing Information

|                        |                      |             |
|------------------------|----------------------|-------------|
| <b>Injection</b>       | <b>Nominal Value</b> | <b>Unit</b> |
| Drying Temperature     | 176 °F               |             |
| Drying Time            | 3.0 to 4.0 hr        |             |
| Suggested Max Moisture | 0.20 %               |             |
| Rear Temperature       | 410 °F               |             |
| Middle Temperature     | 419 to 428 °F        |             |
| Front Temperature      | 446 °F               |             |
| Nozzle Temperature     | 464 °F               |             |
| Processing (Melt) Temp | 455 to 482 °F        |             |
| Mold Temperature       | 140 to 176 °F        |             |
| Back Pressure          | 42.7 to 99.6 psi     |             |
| Screw Speed            | 50 to 100 rpm        |             |

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Loading 2 (50 N)

