

## POKETONE M33AG2Y

Hyosung Chemical Corporation - *Polyketone, Aliphatic*

### General Information

#### Product Description

Flame retarded (0.8mm V-0), 5% glass-reinforced high-flow injection molding grade

#### General

|                        |   |
|------------------------|---|
| Material Status        | • Commercial: Active                    |
| Availability           | • Asia Pacific • Europe • North America |
| Filler / Reinforcement | • Glass Fiber, 5.0% Filler by Weight    |
| Features               | • Flame Retardant • High Flow           |
| Agency Ratings         | • ISO 10993                             |
| RoHS Compliance        | • RoHS Compliant                        |
| Processing Method      | • Injection Molding                     |

### Properties <sup>1</sup>

| Physical                                     | Nominal Value | Unit                  | Test Method |
|--|---------------|-----------------------|-------------|
| Density / Specific Gravity                   | 1.29          |                       | ASTM D792   |
| Density                                      | 1.29          | g/cm <sup>3</sup>     | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (240°C/2.16 kg)    | 25            | g/10 min              | ASTM D1238  |
| Melt Mass-Flow Rate (MFR) (240°C/2.16 kg)    | 23            | g/10 min              | ISO 1133    |
| Molding Shrinkage - Flow                     |               |                       | ASTM D955   |
| 0.0394 in                                    | 7.0E-3        | in/in                 |             |
| 0.0787 in                                    | 7.0E-3        | in/in                 |             |
| 0.118 in                                     | 8.0E-3        | in/in                 |             |
| Molding Shrinkage - Across Flow              |               |                       | ASTM D955   |
| 0.0394 in                                    | 9.0E-3        | in/in                 |             |
| 0.0787 in                                    | 0.010         | in/in                 |             |
| 0.118 in                                     | 0.011         | in/in                 |             |
| Water Absorption (Saturation)                | 2.0           | %                     | ASTM D570   |
| Water Absorption (Saturation, 73°F)          | 2.0           | %                     | 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                              | 384000        | psi                   | ASTM D638   |
| Tensile Modulus                              | 370000        | psi                   | ISO 527-1   |
| Tensile Strength (Yield)                     | 7690          | psi                   | ASTM D638   |
| Tensile Stress (Yield)                       | 7690          | psi                   | ISO 527-2   |
| Tensile Elongation (Yield)                   | 12            | %                     | ASTM D638   |
| Tensile Strain (Yield)                       | 12            | %                     | ISO 527-2   |
| Tensile Elongation (Break)                   | 18            | %                     | ASTM D638   |
| Tensile Strain (Break)                       | 18            | %                     | ISO 527-2   |
| Flexural Modulus                             | 370000        | psi                   | ASTM D790   |
| Flexural Modulus                             | 319000        | psi                   | ISO 178     |
| Flexural Strength                            | 11500         | psi                   | ASTM D790   |
| Flexural Stress                              | 11300         | psi                   | ISO 178     |
| Impact                                       | Nominal Value | Unit                  | Test Method |
| Charpy Notched Impact Strength               | 2.9           | ft·lb/in <sup>2</sup> | ISO 179/1eA |
| Notched Izod Impact                          | 1.3           | ft·lb/in              | ASTM D256   |
| Notched Izod Impact Strength                 | 2.9           | ft·lb/in <sup>2</sup> | ISO 180/1A  |
| Hardness                                     | Nominal Value | Unit                  | Test Method |



|   |                      |                                 |
|---|----------------------|---------------------------------|
| Rockwell Hardness                                       | 106                  | ASTM D785                       |
| Shore Hardness (Shore D)                                | 77                   | ISO 868                         |
| <b>Thermal</b>  | <b>Nominal Value</b> | <b>Unit</b> <b>Test Method</b>  |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 414                  | °F      ASTM D648               |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 405                  | °F      ISO 75-2/B              |
| Deflection Temperature Under Load (264 psi, Unannealed) | 325                  | °F      ASTM D648               |
| Deflection Temperature Under Load (264 psi, Unannealed) | 302                  | °F      ISO 75-2/A              |
| Vicat Softening Temperature                             | 383                  | °F      ASTM D1525 <sup>2</sup> |
| Vicat Softening Temperature                             | 383                  | °F      ISO 306/B50             |
| Melting Temperature                                     | 432                  | °F      ISO 11357-3             |
| Melting Temperature                                     | 432                  | °F      ASTM D3418              |
| CLTE - Flow (77 to 131°F)                               | 3.9E-5               | in/in/°F      ASTM E831         |
| CLTE - Transverse (77 to 131°F)                         | 5.6E-5               | in/in/°F      ASTM E831         |
| <b>Electrical</b>                                       | <b>Nominal Value</b> | <b>Unit</b> <b>Test Method</b>  |
| Surface Resistivity                                     | 1.0E+18              | ohms      ASTM D257             |
| Volume Resistivity                                      | 1.0E+13              | ohms·cm      ASTM D257          |
| Dielectric Strength                                     | 740                  | V/mil      ASTM D149            |
| Dielectric Constant (60 Hz)                             | 5.30                 | ASTM D150                       |
| Dissipation Factor (60 Hz)                              | 0.014                | ASTM D150                       |
| Arc Resistance  | PLC 5                | ASTM D495                       |
| Comparative Tracking Index (CTI)                        | PLC 0                | UL 746A                         |
| High Amp Arc Ignition (HAI)                             | PLC 0                | UL 746A                         |
| High Voltage Arc Tracking Rate (HVTR)                   | PLC 2                | UL 746A                         |
| Hot-wire Ignition (HWI)                                 |                      | UL 746A                         |
| 0.03 in   | PLC 1                |                                 |
| 0.06 in   | PLC 0                |                                 |
| <b>Flammability</b>                                     | <b>Nominal Value</b> | <b>Unit</b> <b>Test Method</b>  |
| Flame Rating (0.031 in)                                 | V-0                  | UL 94                           |
| Glow Wire Flammability Index (0.031 in)                 | 1760                 | °F      IEC 60695-2-12          |
| Glow Wire Ignition Temperature (0.031 in)               | 1520                 | °F      IEC 60695-2-13          |

### 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 | 437 to 464           | °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)

