

## POKETONE® M33AA2Y

### Description

Flame retarded (0.8mm V-0), 30% glass-reinforced medium-flow injection molding grade

### Physical Properties

|                                        | ASTM     | Value                  | ISO   | Value                  |
|----------------------------------------|----------|------------------------|-------|------------------------|
| Density                                | D792     | 1.48 g/cm <sup>3</sup> | 1183  | 1.48 g/cm <sup>3</sup> |
| Shore D hardness                       | D2240    |                        | 868   |                        |
| Hardness Rockwell                      | D785     |                        | 2039  |                        |
| Water absorption equilibrium at RH 50% | D570     | 0.4 %                  | 62    | 0.4 %                  |
| Water absorption at Saturation         | D570     | 1.7 %                  | 62    | 1.7 %                  |
| Melt flow index 240°C/2.16kg           | D1238    | 8 g/10 min             | 1133  | 5.4 ml/10min           |
|                                        | D955     |                        | 294-4 |                        |
|                                        | MD, 3 mm |                        |       |                        |
|                                        | TD, 3 mm |                        |       |                        |
| Mold Shrinkage                         | MD, 2 mm | 0.4 %                  |       |                        |
|                                        | TD, 2 mm | 1.0 %                  |       |                        |
|                                        | MD, 1 mm |                        |       |                        |
|                                        | TD, 1 mm |                        |       |                        |

### Mechanical Properties

|                                | ASTM  | Value     | ISO     | Value                  |
|--------------------------------|-------|-----------|---------|------------------------|
| Tensile strength at yield      | D638  | 112 MPa   | 527-1   |                        |
| Tensile modulus                | D638  |           | 527-1   |                        |
| Tensile elongation at yield    | D638  |           | 527-1   |                        |
| Tensile elongation at break    | D638  | 4.3 %     | 527-1   |                        |
| Flexural strength              | D790  | 176 MPa   | 178     |                        |
| Flexural modulus               | D790  | 7,300 MPa | 178     |                        |
| Notched Izod impact strength   | D256  | 127 J/m   | 180/1A  |                        |
| Notched Charpy impact strength | D6110 |           | 179/1eA | 10.3 kJ/m <sup>2</sup> |

### Thermal Properties

|                                                       | ASTM    | Value  | ISO      | Value  |
|-------------------------------------------------------|---------|--------|----------|--------|
| Melting temperature                                   | D3418   | 222 °C | 11357    | 222 °C |
| Coefficient of linear thermal expansion, 25°C to 55°C | E831    |        | 11359    |        |
| Vicat softening point                                 | D1525   | 210 °C | 306/B50  | 210 °C |
|                                                       | 5 kg    |        | 50 N     |        |
|                                                       | D648    |        | 75       |        |
| Heat deflection temperature                           | 66 psi  | 220 °C | 0.45 MPa | 220 °C |
|                                                       | 264 psi | 215 °C | 1.8 MPa  | 215 °C |

## Flammability Properties

|                                       | Test Method & Condition | Value        |
|---------------------------------------|-------------------------|--------------|
| Flame resistance                      | UL 94                   | V-0 (0.8 mm) |
| Glow Wire Ignition Temperature (GWIT) | IEC 60695-2-13          |              |
| Glow Wire Flammability Index (GWFI)   | IEC 60695-2-12          |              |

## Electrical Properties

|                                               | Test Method & Condition | Value                             |
|-----------------------------------------------|-------------------------|-----------------------------------|
| Dielectric Strength (DS)                      | ASTM D149               | 38 kV/mm                          |
| Volume Resistivity (VR)                       | ASTM D257               | 10 <sup>12</sup> Ω-cm             |
| Surface Resistivity (SR)                      | ASTM D257               | 10 <sup>17</sup> Ω/m <sup>2</sup> |
| Dielectric constant at 60Hz                   | ASTM D150               |                                   |
| Dissipation factor at 60Hz                    | ASTM D150               |                                   |
| Hot Wire Ignition (HWI)                       | UL 746A                 | PLC 1                             |
| High Amp Arc Ignition (HAI)                   | UL 746A                 | PLC 0                             |
| High Volt arc Track Rate (HVTR)               | UL 746A                 |                                   |
| High voltage, low current Arc Resistance (AR) | ASTM D495               | PLC 5                             |
| Comparative Tracking Index (CTI)              | ASTM D3638              | PLC 0                             |

## Injection Molding Processing Conditions

|             |                        | Value             |
|-------------|------------------------|-------------------|
| Pre-drying  | Drying temperature     | 80 °C             |
|             | Drying time            | 3 ~ 4 hr          |
|             | Suggested max moisture | 0.20 %            |
| Temperature | Nozzle temperature     | 240 °C            |
|             | Zone 1 temperature     | 230 °C            |
|             | Zone 2 temperature     | 220 °C            |
|             | Zone 3 temperature     | 215 °C            |
|             | Zone 4 temperature     | 210 °C            |
|             | Processing temperature | 225 ~ 240 °C      |
|             | Mold temperature       | 60 ~ 80 °C        |
| Pressure    | Back pressure          | 0.294 ~ 0.686 MPa |
| Speed       | Screw Speed            | 50 ~ 100 rpm      |

\* The data listed here is not for specification warranty, but typical value.

All products purchased from or supplied by Hyosung Chemical Corporation are subject to terms and conditions set out in the contract, order acknowledgement and/or bill of loading. Values given above are simply references for representing typical level and do not expressly or impliedly guarantee anything. Neither should it be interpreted as specification limit nor sole criterion for part/tool design that is intended to have a legal binding effect. All other information, including that herein, supplied by Hyosung Chemical is considered accurate but is furnished upon the express condition that the customer shall make its own assessment to determine the product's suitability for a particular purpose. Hyosung Chemical makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent. Any references in this brochure to "Hyosung Chemical" refer to the collectivity of Hyosung Chemical engaged in the manufacture and sale of chemical products. Particular contracts are entered into by any such company individually and any warranty, representation or any other commitment provided by Hyosung Chemical is the commitment of such individual company only.