

POKETONE® M33AG2Y

Description

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

| Physical Properties | ASTM | Value | ISO | Value |
|--|----------|------------------------|-------|------------------------|
| Density | D792 | 1.29 g/cm ³ | 1183 | 1.29 g/cm ³ |
| Shore D hardness | D2240 | | 868 | 77 |
| Hardness Rockwell | D785 | 106 | 2039 | |
| Water absorption equilibrium at RH 50% | D570 | 0.5 % | 62 | 0.5 % |
| Water absorption at Saturation | D570 | 2.0 % | 62 | 2.0 % |
| Melt flow index 240°C/2.16kg | D1238 | 25 g/10 min | 1133 | 23 ml/10 min |
| | D955 | | 294-4 | |
| | MD, 3 mm | 0.8 % | | |
| | TD, 3 mm | 1.1 % | | |
| Mold Shrinkage | MD, 2 mm | 0.7 % | | |
| | TD, 2 mm | 1.0 % | | |
| | MD, 1 mm | 0.7 % | | |
| | TD, 1 mm | 0.9 % | | |

| Mechanical Properties | ASTM | Value | ISO | Value |
|--------------------------------|-------|-----------|---------|---------------------|
| Tensile strength at yield | D638 | 53 MPa | 527-1 | 53 MPa |
| Tensile modulus | D638 | 2,650 MPa | 527-1 | 2,550 MPa |
| Tensile elongation at yield | D638 | 12 % | 527-1 | 12 % |
| Tensile elongation at break | D638 | 18 % | 527-1 | 18 % |
| Flexural strength | D790 | 79 MPa | 178 | 78 MPa |
| Flexural modulus | D790 | 2,550 MPa | 178 | 2,200 MPa |
| Notched Izod impact strength | D256 | 70 J/m | 180/1A | 6 kJ/m ² |
| Notched Charpy impact strength | D6110 | | 179/1eA | 6 kJ/m ² |

| Thermal Properties | ASTM | Value | ISO | Value |
|--|---------|-----------------------|----------|--------|
| Melting temperature | D3418 | 222 °C | 11357 | 222 °C |
| | E831 | | 11359 | |
| Coefficient of linear thermal expansion, 25°C to 55°C | MD | 7.1×10 ⁻⁵ | | |
| | TD | 10.1×10 ⁻⁵ | | |
| Vicat softening point | D1525 | 195 °C | 306/B50 | 195 °C |
| | 5 kg | | 50 N | |
| | D648 | | 75 | |
| Heat deflection temperature | 66 psi | 212 °C | 0.45 MPa | 207 °C |
| | 264 psi | 163 °C | 1.8 MPa | 150 °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 | 825 °C (0.8 mm) |
| Glow Wire Flammability Index (GWFI) | IEC 60695-2-12 | 960 °C (0.8 mm) |

Electrical Properties

| | Test Method & Condition | Value |
|---|-------------------------|-----------------------------------|
| Dielectric Strength (DS) | ASTM D149 | 29 kV/mm |
| Volume Resistivity (VR) | ASTM D257 | 10 ¹² Ω-cm |
| Surface Resistivity (SR) | ASTM D257 | 10 ¹⁷ Ω/m ² |
| Dielectric constant at 60Hz | ASTM D150 | 5.3 |
| Dissipation factor at 60Hz | ASTM D150 | 0.014 |
| Hot Wire Ignition (HWI) | UL 746A | PLC 1 (0.8 mm) PLC 0 (1.6 mm) |
| High Amp Arc Ignition (HAI) | UL 746A | PLC 0 |
| High Volt arc Track Rate (HVTR) | UL 746A | PLC 2 |
| 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.

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