

## POKETONE® M63AS1B

### Description

Lubricated injection general purpose injection molding grade

### Physical Properties

|                                        | ASTM     | Value                  | ISO   | Value                  |
|----------------------------------------|----------|------------------------|-------|------------------------|
| Density                                | D792     | 1.24 g/cm <sup>3</sup> | 1183  | 1.24 g/cm <sup>3</sup> |
| Shore D hardness                       | D2240    |                        | 868   | 68                     |
| Hardness Rockwell                      | D785     | 109                    | 2039  |                        |
| Water absorption equilibrium at RH 50% | D570     | 0.6 %                  | 62    | 0.6 %                  |
| Water absorption at Saturation         | D570     | 2.3 %                  | 62    | 2.3 %                  |
| Melt flow index 240°C/2.16kg           | D1238    | 5.7 g/10 min           | 1133  | 5.3 ml/10 min          |
| Mold Shrinkage                         | D955     |                        | 294-4 |                        |
|                                        | MD, 3 mm | 1.5 %                  |       |                        |
|                                        | TD, 3 mm | 1.6 %                  |       |                        |
|                                        | MD, 2 mm |                        |       |                        |
|                                        | TD, 2 mm |                        |       |                        |

### Mechanical Properties

|                                  | ASTM  | Value     | ISO     | Value                |
|----------------------------------|-------|-----------|---------|----------------------|
| Tensile strength at yield        | D638  | 55 MPa    | 527-1   | 58 MPa               |
| Tensile modulus                  | D638  | 1,400 MPa | 527-1   | 1,300 MPa            |
| Tensile elongation at yield      | D638  |           | 527-1   |                      |
| Tensile elongation at break      | D638  | 200 %     | 527-1   | 200 %                |
| Flexural strength                | D790  | 55 MPa    | 178     | 55 MPa               |
| Flexural modulus                 | D790  | 1,300 MPa | 178     | 1,300 MPa            |
| Unnotched Izod impact strength   | D256  |           | 180/1U  |                      |
| Notched Izod impact strength     | D256  | 122 J/m   | 180/1A  | 14 kJ/m <sup>2</sup> |
| Unnotched Charpy impact strength | D6110 |           | 179/1eU |                      |
| Notched Charpy impact strength   | D6110 |           | 179/1eA | 16 kJ/m <sup>2</sup> |
| Falling dart impact strength     |       |           | 6603-2  |                      |

### Thermal Properties

|                                                       | ASTM    | Value                | ISO      | Value  |
|-------------------------------------------------------|---------|----------------------|----------|--------|
| Melting temperature                                   | D3418   | 222 °C               | 11357    | 222 °C |
| Coefficient of linear thermal expansion,<br>25 ~ 55°C | E831    |                      |          |        |
|                                                       | TD      | 1.0×10 <sup>-4</sup> | 11359    |        |
|                                                       | MD      | 1.0×10 <sup>-4</sup> |          |        |
| Vicat softening point                                 | D1525   |                      | 306/B50  |        |
|                                                       | 5 kg    | 190 °C               | 50 N     | 190 °C |
| Heat deflection temperature                           | D648    |                      | 75       |        |
|                                                       | 66 psi  | 190 °C               | 0.45 MPa | 185 °C |
|                                                       | 264 psi | 100 °C               | 1.8 MPa  | 82 °C  |

## Wear & Abrasion Resistance

|                                               | Pin on Disk         | Thrust Washer       |
|-----------------------------------------------|---------------------|---------------------|
| * Condition                                   | 1.3 MPa, 0.06 m/sec | 0.4 MPa, 0.12 m/sec |
| Dynamic coefficient of Friction against self  |                     |                     |
| Dynamic coefficient of Friction against steel |                     |                     |
| Wear factor against self                      |                     |                     |
| Wear factor against steel                     |                     |                     |
| Taber abrasion<br>1kg load, CS-17 wheel       | ASTM D1044          |                     |

## Electrical Properties

|                             | Test Method & Condition | Value                             |
|-----------------------------|-------------------------|-----------------------------------|
| Dielectric Strength (DS)    | ASTM D149               |                                   |
|                             | 3 mm                    | 16 kV/mm                          |
|                             | 2 mm                    | 20 kV/mm                          |
| Volume Resistivity (VR)     | ASTM D257               | 10 <sup>14</sup> Ω-cm             |
| Surface Resistivity (SR)    | ASTM D257               | 10 <sup>17</sup> Ω/m <sup>2</sup> |
| Dielectric constant at 60Hz | ASTM D150               | 6.3                               |
| Dissipation factor at 60Hz  | ASTM D150               | 0.013                             |

## Injection Molding Processing Conditions

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

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

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