

# DURACON® KT-20

Acetal (POM) Copolymer

Polyplastics Co., Ltd.

## Message:

DURACON®KT-20 is a polyoxymethylene (POM) copolymer product, which contains 20% mineral fillers. It can be processed by injection molding and is available in North America or Asia Pacific.

Features include:

flame retardant/rated flame

Hard

Wear-resistant

| General Information                         |                                      |                                       |             |
|---------------------------------------------|--------------------------------------|---------------------------------------|-------------|
| UL YellowCard                               | E45034-235754                        |                                       |             |
| Filler / Reinforcement                      | Mineral filler, 20% filler by weight |                                       |             |
| Features                                    | Rigidity, high                       |                                       |             |
|                                             | Good wear resistance                 |                                       |             |
| UL File Number                              | E45034                               |                                       |             |
| Forms                                       | Particle                             |                                       |             |
| Processing Method                           | Injection molding                    |                                       |             |
| Part Marking Code (ISO 11469)               | >POM-MH20                            |                                       |             |
| Physical                                    | Nominal Value                        | Unit                                  | Test Method |
| Density                                     | 1.59                                 | g/cm <sup>3</sup>                     | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)   | 5.0                                  | g/10 min                              | ISO 1133    |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 3.70                                 | cm <sup>3</sup> /10min                | ISO 1133    |
| Water Absorption (23°C, 24 hr)              | 0.80                                 | %                                     | ISO 62      |
| Hardness                                    | Nominal Value                        | Unit                                  | Test Method |
| Rockwell Hardness (M-Scale)                 | 90                                   |                                       | ISO 2039-2  |
| Mechanical                                  | Nominal Value                        | Unit                                  | Test Method |
| Tensile Modulus                             | 8000                                 | MPa                                   | ISO 527-2   |
| Tensile Stress                              | 91.0                                 | MPa                                   | ISO 527-2   |
| Tensile Strain (Break)                      | 4.8                                  | %                                     | ISO 527-2   |
| Flexural Modulus                            | 7050                                 | MPa                                   | ISO 178     |
| Flexural Stress                             | 150                                  | MPa                                   | ISO 178     |
| Coefficient of Friction                     |                                      |                                       | JIS K7218   |
| Dynamic <sup>1</sup>                        | 0.35                                 |                                       | JIS K7218   |
| With steel-dynamic <sup>2</sup>             | 0.36                                 |                                       | JIS K7218   |
| Wear Factor                                 |                                      |                                       | JIS K7218   |
| 0.98 MPa, 0.30 m/sec <sup>3</sup>           | < 1.0                                | 10 <sup>-8</sup> mm <sup>3</sup> /N·m | JIS K7218   |
| 0.060 MPa, 0.15 m/sec <sup>4</sup>          | 200                                  | 10 <sup>-8</sup> mm <sup>3</sup> /N·m | JIS K7218   |

|                                                                                                                                    |                               |                                       |                    |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------|--------------------|
| 0.98 MPa, 0.30 m/sec <sup>5</sup>                                                                                                  | 2500                          | 10 <sup>-8</sup> mm <sup>3</sup> /N·m | JIS K7218          |
| 0.060 MPa, 0.15 m/sec <sup>6</sup>                                                                                                 | 4000                          | 10 <sup>-8</sup> mm <sup>3</sup> /N·m | JIS K7218          |
| <b>Impact</b>                                                                                                                      | <b>Nominal Value</b>          | <b>Unit</b>                           | <b>Test Method</b> |
| Charpy Notched Impact Strength                                                                                                     | 3.5                           | kJ/m <sup>2</sup>                     | ISO 179/1eA        |
| <b>Thermal</b>                                                                                                                     | <b>Nominal Value</b>          | <b>Unit</b>                           | <b>Test Method</b> |
| Heat Deflection Temperature (1.8 MPa, Unannealed)                                                                                  | 145                           | °C                                    | ISO 75-2/A         |
| Linear thermal expansion coefficient                                                                                               |                               |                                       | Internal method    |
| Flow: 23 to 55°C                                                                                                                   | 4.0E-5                        | cm/cm/°C                              | Internal method    |
| Lateral: 23 to 55°C                                                                                                                | 9.0E-5                        | cm/cm/°C                              | Internal method    |
| <b>Electrical</b>                                                                                                                  | <b>Nominal Value</b>          | <b>Unit</b>                           | <b>Test Method</b> |
| Surface Resistivity                                                                                                                | 4.0E+15                       | ohms                                  | IEC 60093          |
| Volume Resistivity                                                                                                                 | 4.0E+13                       | ohms·cm                               | IEC 60093          |
| Dielectric Strength (3.00 mm)                                                                                                      | 26                            | kV/mm                                 | IEC 60243-1        |
| <b>Flammability</b>                                                                                                                | <b>Nominal Value</b>          | <b>Unit</b>                           | <b>Test Method</b> |
| Flame Rating                                                                                                                       | HB                            |                                       | UL 94              |
| <b>Additional Information</b>                                                                                                      | <b>Nominal Value</b>          |                                       |                    |
| Color Number                                                                                                                       | CF2001                        |                                       |                    |
| <b>Injection</b>                                                                                                                   | <b>Nominal Value</b>          | <b>Unit</b>                           |                    |
| Drying Temperature                                                                                                                 | 80.0 - 90.0                   | °C                                    |                    |
| Drying Time                                                                                                                        | 3.0 - 4.0                     | hr                                    |                    |
| Processing (Melt) Temp                                                                                                             | 190 - 210                     | °C                                    |                    |
| Mold Temperature                                                                                                                   | 60.0 - 80.0                   | °C                                    |                    |
| Injection Pressure                                                                                                                 | 49.0 - 98.0                   | MPa                                   |                    |
| Screw Speed                                                                                                                        | 100 - 150                     | rpm                                   |                    |
| <b>Injection instructions</b>                                                                                                      |                               |                                       |                    |
| Injection speed: 5-50 mm/sInjection Holding pressure: Gate sealing time + alphaCooling: Plasticizing time or ejection capable time |                               |                                       |                    |
| <b>NOTE</b>                                                                                                                        |                               |                                       |                    |
| 1.                                                                                                                                 | vs. M90-44, 0.06 MPa, 15 cm/s |                                       |                    |
| 2.                                                                                                                                 | 0.98 MPa, 30 cm/s             |                                       |                    |
| 3.                                                                                                                                 | vs C-Steel, Steel Side        |                                       |                    |
| 4.                                                                                                                                 | vs M90-44, Material Side      |                                       |                    |
| 5.                                                                                                                                 | vs C-Steel, Material Side     |                                       |                    |
| 6.                                                                                                                                 | vs M90-44, M90-44 Side        |                                       |                    |

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