

General Information

Product Description

Chemical abbreviation according to ISO 1043-1: POM
Molding compound ISO 9988- POM-K, M-GNR, 03-002
POM copolymer
Standard-Injection molding type with high rigidity, hardness and toughness; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation.
Fulfils EG-directive 2002/72/EU as well as the recommendation XXXIII for consumer goods of the BgVV, corresponding to FDA-regulation for food contact.
UL-registration for all colours and a thickness more than 1.5 mm as UL 94 HB, temperature index UL 746 B electrical 110 °C, mechanical 90 °C.
Burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm.
Ranges of applications: automotive engineering, precision engineering, electric and electronics industry, domestic appliances.
FDA = Food and Drug Administration (USA)
BgVV = Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin
FMVSS = Federal Motor Vehicle Safety Standard (USA)
UL = Underwriters Laboratories (USA)

| General | Test Method |
|--------------------------|--|
| Material Status | • Commercial: Active |
| Availability | <ul style="list-style-type: none"> • Africa • Asia • Europe • Latin America • Middle East • North America • Pacific Rim • South America |
| Test Standards Available | <ul style="list-style-type: none"> • ISO • ISO 10350 |
| Features | <ul style="list-style-type: none"> • Chemical Resistance, Good • Copolymer • Food Contact Acceptable • Fuel Resistant • Hardness, High • Heat Resistance, High • Hydrolysis Resistant • Rigidity, High • Solvent Resistant • Toughness, Good |
| Uses | <ul style="list-style-type: none"> • Appliances • Automotive Applications • Electrical/Electronic Applications |
| Agency Ratings | <ul style="list-style-type: none"> • BgVV Recommendation XXXIII • EU 2002/72/EG • FDA Food Contact, Unspecified Rating |
| Forms | <ul style="list-style-type: none"> • Pellets |
| Processing Method | <ul style="list-style-type: none"> • Extrusion • Extrusion, Film • Extrusion, Profile • Extrusion, Sheet • Injection Molding |
| Multi-Point Data | <ul style="list-style-type: none"> • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2) |
| Resin ID | <ul style="list-style-type: none"> • POM <p>ISO 1043</p> |

ASTM and ISO Properties ¹

| Physical | Nominal Value Unit | Test Method |
|--------------------------------------|--------------------|---------------|
| Water Absorption Sat/23C | 0.65 % | ISO 62 |
| Water Absorption 23C/50RH | 0.20 % | ISO 62 |
| Mechanical | Nominal Value Unit | Test Method |
| Tensile Modulus ² | 413000 psi | ISO 527-1, -2 |
| Tensile Stress at Yield ³ | 9280 psi | ISO 527-1, -2 |

| | | |
|--|-------|---------------|
| Tensile Strain at Yield ³ | 9.0 % | ISO 527-1, -2 |
| Nominal Tensile Strain at Break ⁴ | 30 % | ISO 527-1, -2 |

| Flammability | Nominal Value Unit | Test Method |
|--|--------------------|-------------|
| Flame Rating - UL (0.0591 in) (0.118 in) | HB HB | UL 94 |

Additional Properties

Density of Melt, Internal Method: 1200 kg/m³
 Eff. Thermal Diffusivity, Internal Method: 4.85E-8 m²/s
 Ejection Temperature: 165°C
 Specific Heat Capacity of Melt, Internal Method: 2210 J/(kg-K)
 Thermal Conductivity of Melt, Internal Method: 0.155 W/(m-K)
 Unnotched Charpy Impact Strength, ISO 179, Type 1, Edgewise, 23°C, Partial Break: 180 kJ/m²

ISO 10350 Properties ⁵

| Rheological properties | Nominal Value Unit | Test Method |
|--|------------------------------|-------------|
| Melt volume-flow rate (190°C/2.16 kg) | 0.488 in ³ /10min | ISO 1133 |
| Molding shrinkage (parallel) | 2.0 % | ISO 2577 |
| Molding shrinkage (normal) | 1.8 % | ISO 2577 |

| Mechanical properties 23°C/50%r.h. | Nominal Value Unit | Test Method |
|--|----------------------------|--------------|
| Tensile creep modulus (1h) | 363000 psi | ISO 899-1 |
| Tensile creep modulus (1000h) | 189000 psi | ISO 899-1 |
| Charpy impact strength (+23°C) | 85.7 ft-lb/in ² | ISO 179 /1eU |
| Charpy impact strength (-30°C) | 76.1 ft-lb/in ² | ISO 179 /1eU |
| Charpy notched impact strength (+23°C) | 3.09 ft-lb/in ² | ISO 179 /1eA |
| Charpy notched impact strength (-30°C) | 2.86 ft-lb/in ² | ISO 179 /1eA |

| Thermal properties | Nominal Value Unit | Test Method |
|---|--------------------|-----------------|
| Melting temperature (10°C/min) | 331 °F | ISO 11357-1, -3 |
| Temp. of deflection under load (1.80 MPa) | 219 °F | ISO 75-1, -2 |
| Vicat softening temperature (50°C/h 50N) | 302 °F | ISO 306 |
| Coeff.of linear therm. expansion (parallel) | 0.000061 in/in/°F | ISO 11359-1, -2 |
| Coeff.of linear therm. expansion (normal) | 0.000061 in/in/°F | ISO 11359-1, -2 |

| Electrical properties 23°C/50%r.h. | Nominal Value Unit | Test Method |
|------------------------------------|--------------------|-------------|
| Relative permittivity (100 Hz) | 4.00 | IEC 60250 |
| Relative permittivity (1 MHz) | 4.00 | IEC 60250 |
| Dissipation factor (100 Hz) | 0.0020 | IEC 60250 |
| Dissipation factor (1 MHz) | 0.0050 | IEC 60250 |
| Volume resistivity | 3.9E+13 ohm-in | IEC 60093 |
| Surface resistivity | 1.0E+14 ohms | IEC 60093 |
| Electric strength | 890 V/mil | IEC 60243-1 |
| Comparative tracking index | 600 | IEC 60112 |

| Other properties | Nominal Value Unit | Test Method |
|------------------|---------------------------|-------------|
| Density | 0.0509 lb/in ³ | ISO 1183 |

| Test specimen production | Nominal Value Unit | Test Method |
|---------------------------------------|--------------------|-------------|
| Processing conditions acc. ISO | 9988 | |
| Injection Molding, melt temperature | 383 °F | ISO 294 |
| Injection Molding, mold temperature | 185 °F | ISO 10724 |
| Injection Molding, injection velocity | 8 in/sec | ISO 294 |
| Injection Molding, pressure at hold | 13100 psi | ISO 294 |

Processing Information

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Processing (Melt) Temp | 374 to 446 | °F |
| Mold Temperature | 140 to 248 | °F |

| Extrusion | Nominal Value | Unit |
|------------------|---------------|------|
| Melt Temperature | 356 to 374 | °F |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 0.039 in/min

³ 2.0 in/min

⁴ Type 1A, 2.0 in/min

⁵ Typical properties: these are not to be construed as specifications. Additional ISO 10350 data and disclaimer information may be found on ISO 10350 Data Sheet.



US INFORMATION SERVICES

Product Information

phone: +1-800-833-4882

phone: +1-859-372-3244

Customer Service

phone: +1-859-372-3214

phone: +1-800-526-4960