# Makrolon® 3638

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 2.0 cm³/10 min
- high viscosity
- food contact quality
- biocompatible according to many ISO 10993-1 test requirements
- pharmaceutical applications
- medical devices

| Rheological properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Melt volume-flow rate, MVR | 2 | cm³/10min | ISO 1133 |
| Temperature | 300 | °C | - |
| Load | 1.2 | kg | - |
| Molding shrinkage, parallel | 0.8 | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 0.8 | % | ISO 294-4, 2577 |
| Melt Flow Index, MFI | 2.5 | g/10min | ISO 1133 |
| MFI temperature | 300 | °C | - |
| MFI load | 1.2 | kg | - |

| Mechanical Properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Tensile Modulus | 2300 | MPa | ISO 527 |
| Yield stress | 64 | MPa | ISO 527 |
| Yield strain | 6.6 | % | ISO 527 |
| Nominal strain at break | >50 | % | ISO 527 |
| Impact Strength (Charpy), +23°C | no break | kJ/m² | ISO 179/1eU |
| Puncture - maximum force, +23°C | 5500 | N | ISO 6603-2 |
| Puncture - maximum force, -30°C | 6400 | N | ISO 6603-2 |
| Puncture energy, +23°C | 55 | J | ISO 6603-2 |
| Puncture energy, -30°C | 60 | J | ISO 6603-2 |
| Flexural Modulus (23°C) | 2300 | MPa | ISO 178 |
| Flexural strength | 94 | MPa | ISO 178 |
| Notched Impact Strength (Izod), 23°C | 65 | kJ/m² | ISO 180/1A |
| Notched Impact Strength (Izod) | 55 | kJ/m² | ISO 180/1A |
| Temperature | -30 | °C | - |
| Ball Indentation Hardness | 108 | MPa | ISO 2039-1 |

| Thermal Properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Glass Transition Temperature (10°C/min) | 152 | °C | ISO 11357-1/-2 |
| Temp. of deflection under load (1.80 MPa) | 132 | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 145 | °C | ISO 75-1/-2 |
| Vicat softening temperature, 50°C/h 50N | 150 | °C | ISO 306 |
| Coeff. of Linear Therm. Expansion, parallel | 70 | E-6/K | ISO 11359-1/-2 |
| Coeff. of Linear Therm. Expansion, normal | 70 | E-6/K | ISO 11359-1/-2 |
| Oxygen index | 26 | % | ISO 4589-1/-2 |

| Other Properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Water Absorption | 0.3 | % | Sim. to ISO 62 |
| Humidity absorption | 0.12 | % | Sim. to ISO 62 |
| Density | 1200 | kg/m³ | ISO 1183 |
| Bulk density | 660 | kg/m³ | - |

| Test specimen production | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Injection Molding, melt temperature | 310 | °C | ISO 294 |
| Injection Molding, mold temperature | 90 | °C | ISO 294 |
| Injection Molding, injection velocity | 200 | mm/s | ISO 294 |

## Characteristics

## Processing
Injection Molding, Blow Molding

## Delivery form
Pellets

## Special Characteristics
Transparent, Sterilizable

## Certifications
Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, Food approval

## Applications
Medical

## Disclaimer