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Covestro Makrolon® 2458

MVR (300 °C/1.2 kg) 19 cm³/10 min; medical devices; suitable for ETO and steam sterilization at 121°C; biocompatible according to many ISO 10993-1 test requirements; low viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent and opaque colors

Physical Properties	Metric	English	Comments
Bulk Density	0.660 g/cc	0.0238 lb/in³	Pellets; ISO 60
Density	1.20 g/cc	0.0434 lb/in³	ISO 1183
Moisture Absorption at Equilibrium	0.12 %	0.12 %	50% RH; ISO 62
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	parallel/normal; b.o. ISO 2577
Linear Mold Shrinkage, Flow	0.0065 cm/cm	0.0065 in/in	60x60x2 mm; 500 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0070 cm/cm	0.0070 in/in	60x60x2 mm; 500 bar; ISO 294-4
Melt Flow	20 g/10 min @Load 1.20 kg, Temperature 300 °C	20 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Puncture Resistance	5100 N @Temperature 23.0 °C	1150 lb (f) @Temperature 73.4 °F	ISO 6603-2
	6000 N @Temperature -30.0 °C	1350 lb (f) @Temperature -22.0 °F	ISO 6603-2
Ball Indentation Hardness	115 MPa	16700 psi	ISO 2039-1
Tensile Strength at Break	70.0 MPa	10200 psi	50 mm/min; ISO 527-1,-2
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527-1,-2
Elongation at Break	>= 50 %	>= 50 %	Nominal, 50 mm/min; ISO 527-1,-2
	130 %	130 %	50 mm/min; b.o. ISO 527-1,-2
Elongation at Yield	6.1 %	6.1 %	50 mm/min; ISO 527-1,-2
Tensile Modulus	2.40 GPa	348 ksi	50 mm/min; ISO 527-1,-2
Flexural Strength	97.0 MPa	14100 psi	2 mm/min; ISO 178
Flexural Yield Strength	73.0 MPa	10600 psi	at 3.5% strain; ISO 178
Flexural Modulus	2.35 GPa	341 ksi	ISO 178

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Flexural Strain at Yield	7.1 %	7.1 %	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	15.0 kJ/m² @Thickness 3.00 mm, Temperature -30.0 °C	7.14 ft-lb/in² @Thickness 0.118 in, Temperature -22.0 °F	ISO 7391/b.o. ISO 180-A
	65.0 kJ/m² @Thickness 3.00 mm, Temperature 23.0 °C	30.9 ft-lb/in² @Thickness 0.118 in, Temperature 73.4 °F	ISO 7391/b.o. ISO 180-A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179-1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179-1eU
	NB @Temperature -60.0 °C	NB @Temperature -76.0 °F	ISO 179-1eU
Charpy Impact, Notched	1.40 J/cm² @Thickness 3.00 mm, Temperature -30.0 °C	6.66 ft-lb/in² @Thickness 0.118 in, Temperature -22.0 °F	ISO 7391/b.o. ISO 179-1eA
	6.50 J/cm² @Thickness 3.00 mm, Temperature 23.0 °C	30.9 ft-lb/in² @Thickness 0.118 in, Temperature 73.4 °F	ISO 7391/b.o. ISO 179-1eA
Puncture Energy	55.0 J @Temperature 23.0 °C	40.6 ft-lb @Temperature 73.4 °F	ISO 6603-2
	65.0 J @Temperature -30.0 °C	47.9 ft-lb @Temperature -22.0 °F	ISO 6603-2
Tensile Creep Modulus, 1 hour	2200 MPa	319000 psi	ISO 899-1
Tensile Creep Modulus, 1000 hours	1900 MPa	276000 psi	ISO 899-1