

Covestro Makrolon® 2858

MVR (300 °C/1.2 kg) 9.0 cm³/10 min; medical devices; suitable for ETO and steam sterilization at 121°C; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent and opaque colors

As of 1 September 2015, Bayer MaterialScience was separated from Bayer AG and officially adopted its new name – Covestro.

Physical Properties	Metric	English	Comments
Bulk Density	0.660 g/cc	0.0238 lb/in ³	pellets; ISO 60
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.12 %	0.12 %	50% RH; ISO 62
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Oxygen Transmission	650 cc-mm/m ² -24hr-atm	1650 cc-mil/100 in ² -24hr-atm	cm ³ /(m ² ·24 h·bar), 100 µm film; b.o. ISO 2556
Nitrogen Transmission	120 cc-mm/m ² -24hr-atm	305 cc-mil/100 in ² -24hr-atm	cm ³ /(m ² ·24 h·bar), 100 µm film; b.o. ISO 2556
Carbon Dioxide Transmission	3800 cc-mm/m ² -24hr-atm	9650 cc-mil/100 in ² -24hr-atm	cm ³ /(m ² ·24 h·bar), 100 µm film; b.o. ISO 2556
Linear Mold Shrinkage	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	parallel/normal; b.o. ISO 2577
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	60x60x2 mm; 500 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0075 cm/cm	0.0075 in/in	60x60x2 mm; 500 bar; ISO 294-4
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Puncture Resistance	5400 N	1210 lb (f)	23°C; ISO 6603-2
	6300 N	1420 lb (f)	-30°C; 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	66.0 MPa	9570 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; ISO 527-1,-2

Elongation at Yield	6.1 %	6.1 %	50 mm/min; ISO 527-1,-2
	7.1 %	7.1 %	2 mm/min; ISO 178
Tensile Modulus	2.40 GPa	348 ksi	1 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; 2 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	15.0 kJ/m ² @Thickness 3.00 mm, Temperature -30.0 °C	7.14 ft-lb/in ² @Thickness 0.118 in, Temperature -22.0 °F	complete break; ISO 7391/b.o. ISO 180-A
	70.0 kJ/m ² @Thickness 3.00 mm, Temperature 23.0 °C	33.3 ft-lb/in ² @Thickness 0.118 in, Temperature 73.4 °F	partial break; ISO 7391/b.o. ISO 180-A
Charpy Impact Unnotched	NB	NB	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	1.60 J/cm ² @Thickness 3.00 mm, Temperature -30.0 °C	7.61 ft-lb/in ² @Thickness 0.118 in, Temperature -22.0 °F	complete break; ISO 7391/b.o. ISO 179-1eA
	7.50 J/cm ² @Thickness 3.00 mm, Temperature 23.0 °C	35.7 ft-lb/in ² @Thickness 0.118 in, Temperature 73.4 °F	partial break; ISO 7391/b.o. ISO 179-1eA
Puncture Energy	60.0 J	44.3 ft-lb	23°C; ISO 6603-2
	65.0 J	47.9 ft-lb	-30°C; 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