

Covestro Makrolon® 2456

Polycarbonate

MVR (300 °C/1.2 kg) 19 cm³/10 min; food contact quality; low viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent, translucent 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/in³	Pellets; ISO 60
Density	1.20 g/cc	0.0434 lb/in³	ISO 1183
Moisture Absorption at Equilibrium	0.12 %	0.12 %	ISO 62
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Water Vapor Transmission	15.0 g/m²/day	0.966 g/100 in²/day	85 % RH; 100 µm film; ISO 15106-1
Oxygen Transmission	700 cc-mm/m²-24hr-atm	1780 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 100 µm film; b.o. ISO 2556
	3150 cc-mm/m²-24hr-atm	8000 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 25.4 µm (1 mil) film; b.o. ISO 2556
Nitrogen Transmission	130 cc-mm/m²-24hr-atm	330 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 100 µm film; b.o. ISO 2556
	630 cc-mm/m²-24hr-atm	1600 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 25.4 µm (1 mil) film; b.o. ISO 2556
Carbon Dioxide Transmission	4000 cc-mm/m²-24hr-atm	10200 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 100 µm film; b.o. ISO 2556
	18900 cc-mm/m²-24hr-atm	48000 cc-mil/100 in²-24hr-atm	[cm³/(m²-24 h-bar)], 25.4 µm (1 mil) film; b.o. ISO 2556
Linear Mold Shrinkage, Flow	0.0065 cm/cm	0.0065 in/in	60x60x2 mm; 500 bar; ISO 294-4,2577
Linear Mold Shrinkage, Transverse	0.0070 cm/cm	0.0070 in/in	60x60x2 mm; 500 bar; ISO 294-4,2577
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
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; ISO 527-1/-2
Elongation at Yield	6.2 %	6.2 %	50 mm/min; ISO 527-1/-2
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 @Strain 3.5 %	10600 psi @Strain 3.5 %	2 mm/min; ISO 178
Flexural Modulus	2.35 GPa	341 ksi	2 mm/min; ISO 178
Flexural Strain at Yield	7.1 %	7.1 %	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
	65.0 kJ/m ² @Thickness 3.00 mm, Temperature 23.0 °C	30.9 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	1.40 J/cm ² @Thickness 3.00 mm, Temperature -30.0 °C	6.66 ft-lb/in ² @Thickness 0.118 in, Temperature -22.0 °F	Complete break; ISO 7391/b.o. ISO 179-1eA
	6.50 J/cm ² @Thickness 3.00 mm, Temperature 23.0 °C	30.9 ft-lb/in ² @Thickness 0.118 in, Temperature 73.4 °F	Partial break; ISO 7391/b.o. ISO 179-1eA
Impact	5100	5100	Puncture - maximum force (N); ISO 6603-2
	6000 @Temperature -30.0 °C	6000 @Temperature -22.0 °F	Puncture - maximum force (N); ISO 6603-2
Puncture Energy	55.0 J	40.6 ft-lb	ISO 6603-2
	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
	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