

Covestro Makrolon® 2805

MVR (300 °C/1.2 kg) 9.0 cm³/10 min; general purpose; medium 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	0.600 g/cc	0.0217 lb/in³	pellets; ISO 60
Density	1.20 g/cc	0.0434 lb/in³	ISO 1183-1
Moisture Absorption at Equilibrium	0.12 %	0.12 %	50% RH; ISO 62
Water Absorption at Saturation	0.35 %	0.35 %	ISO 62
Water Vapor Transmission	15.0 g/m²/day	0.966 g/100 in²/day	ISO 15106-1
Oxygen Transmission	650 cc-mm/m²-24hr-atm	1650 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 100 µm film; b.o. ISO 2556
	2760 cc-mm/m²-24hr-atm	7010 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 25.4 µm (1 mil) film; b.o. ISO 2556
Nitrogen Transmission	120 cc-mm/m²-24hr-atm	305 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 100 µm film; b.o. ISO 2556
	510 cc-mm/m²-24hr-atm	1300 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 25.4 µm (1 mil) film; b.o. ISO 2556
Carbon Dioxide Transmission	3800 cc-mm/m²-24hr-atm	9650 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 100 µm film; b.o. ISO 2556
	16900 cc-mm/m²-24hr-atm	42900 cc-mil/100 in²-24hr-atm	cm³/(m²·24 h·bar), 25.4 µm (1 mil) film; b.o. ISO 2556
Linear Mold Shrinkage	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	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	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	24000 N @Temperature 23.0 °C	5400 lb (f) @Temperature 73.4 °F	ISO 6603-2
	28000 N @Temperature -30.0 °C	6300 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	66.0 MPa	9570 psi	50 mm/min; ISO 527-1,-2

Elongation at Break	$\geq 50 \%$	$\geq 50 \%$	Nominal, 50 mm/min; ISO 527-1,-2
Elongation at Yield	6.2 %	6.2 %	50 mm/min; ISO 527-1,-2
	130 %	130 %	50 mm/min; b.o. 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	10600 psi	at 3.5% strain; 2 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 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 76.2 mm, Temperature -30.0 °C	7.14 ft-lb/in ² @Thickness 3.00 in, Temperature -22.0 °F	complete break; ISO 7391/b.o. ISO 180-A
	70.0 kJ/m ² @Thickness 76.2 mm, Temperature 23.0 °C	33.3 ft-lb/in ² @Thickness 3.00 in, Temperature 73.4 °F	partial break; 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	1.80 J/cm ² @Temperature -30.0 °C	8.57 ft-lb/in ² @Temperature -22.0 °F	3 mm, complete break; ISO 7391/b.o. ISO 179-1eA
	7.50 J/cm ² @Temperature 23.0 °C	35.7 ft-lb/in ² @Temperature 73.4 °F	3 mm, partial break; ISO 7391/b.o. ISO 179-1eA
Puncture Energy	81.3 J @Temperature 23.0 °C	60.0 ft-lb @Temperature 73.4 °F	ISO 6603-2
	88.1 J @Temperature -30.0 °C	65.0 ft-lb @Temperature -22.0 °F	ISO 6603-2
Tensile Creep Modulus, 1 hour	2200 MPa	319000 psi	ISO 889-1
Tensile Creep Modulus, 1000 hours	1900 MPa	276000 psi	v