

Covestro Makrolon® ET3117

MVR (300 °C/1.2 kg) 6.0 cm³/10 min; Extrusion; high viscosity; UV stabilized; easy release; available in color code 550115 only; multi wall sheets / profiles; corrugated sheet

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 1183-1
Moisture Absorption at Equilibrium	0.12 %	0.12 %	ISO 62, 50% RH
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Water Vapor Transmission	15.0 g/m²/day @Thickness 0.100 mm	0.966 g/100 in²/day @Thickness 0.00394 in	85% RH, film; ISO 15106-1
Oxygen Transmission	67.0 cc-mm/m²-24hr-atm @Thickness 0.100 mm	170 cc-mil/100 in²-24hr-atm @Thickness 0.00394 in	670 cc/m²-24hr-bar; film; b.o. ISO 2556
	70.0 cc-mm/m²-24hr-atm @Thickness 0.0254 mm	178 cc-mil/100 in²-24hr-atm @Thickness 0.00100 in	2760 cc/m²-24hr-bar; film; b.o. ISO 2556
Nitrogen Transmission	12.0 cc-mm/m²-24hr-atm @Thickness 0.100 mm	30.5 cc-mil/100 in²-24hr-atm @Thickness 0.00394 in	120 cc/m²-24hr-bar; film; b.o. ISO 2556
	13.0 cc-mm/m²-24hr-atm @Thickness 0.0254 mm	33.0 cc-mil/100 in²-24hr-atm @Thickness 0.00100 in	510 cc/m²-24hr-bar; film; b.o. ISO 2556
Carbon Dioxide Transmission	380 cc-mm/m²-24hr-atm @Thickness 0.100 mm	965 cc-mil/100 in²-24hr-atm @Thickness 0.00394 in	3800 cc/m²-24hr-bar; film; b.o. ISO 2556
	429 cc-mm/m²-24hr-atm @Thickness 0.0254 mm	1090 cc-mil/100 in²-24hr-atm @Thickness 0.00100 in	16900 cc/m²-24hr-bar; 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 @Thickness 2.00 mm	0.0070 in/in @Thickness 0.0787 in	60x60x2 mm; 500 bar; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0075 cm/cm @Thickness 2.00 mm	0.0075 in/in @Thickness 0.0787 in	60x60x2 mm; 500 bar; ISO 294-4
Melt Flow	6.5 g/10 min @Load 1.20 kg, Temperature 300 °C	6.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Puncture Resistance	5600 N @Temperature 23.0 °C	1260 lb (f) @Temperature 73.4 °F	ISO 6603-2
	6500 N @Temperature -30.0 °C	1460 lb (f) @Temperature -22.0 °F	ISO 6603-2
Ball Indentation Hardness	112 MPa	16200 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	$\geq 50 \%$	$\geq 50 \%$	Nominal, 50 mm/min; ISO 527-1,-2
	130 %	130 %	50 mm/min; b.o. ISO 527-1,-2
Elongation at Yield	6.3 %	6.3 %	50 mm/min; ISO 527-1,-2
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527-1,-2
Flexural Strength	98.0 MPa	14200 psi	2 mm/min; ISO 178
Flexural Yield Strength	74.0 MPa @Strain 3.5 %	10700 psi @Strain 3.5 %	2 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	2 mm/min; ISO 178
Flexural Strain at Yield	7.0 %	7.0 %	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	20.0 kJ/m ² @Thickness 3.20 mm, Temperature -30.0 °C	9.52 ft-lb/in ² @Thickness 0.126 in, Temperature -22.0 °F	complete break; b.o. ISO 180-A
	70.0 kJ/m ² @Thickness 3.20 mm, Temperature 23.0 °C	33.3 ft-lb/in ² @Thickness 0.126 in, Temperature 73.4 °F	partial break; 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/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
	8.00 J/cm ² @Thickness 3.00 mm, Temperature 23.0 °C	38.1 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 @Temperature 23.0 °C	44.3 ft-lb @Temperature 73.4 °F	ISO 6603-2
	70.0 J @Temperature -30.0 °C	51.6 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