

LyondellBasell Lupolen® 5231 HX

Medium flow, impact resistant, very stress-crack resistant grade for closures, bottles that contain carbonated liquids, storage and tote boxes, as well as engineering components.

Data was collected by ISO methods and originally provided by BASF. The Lupolen® product line is now produced by Basell.

Physical Properties	Metric	English	Comments
Density	0.952 g/cc	0.0344 lb/in ³	
Water Absorption	0.010 %	0.010 %	
Moisture Absorption at Equilibrium	0.10 %	0.10 %	
Linear Mold Shrinkage, Flow	0.023 cm/cm	0.023 in/in	
Linear Mold Shrinkage, Transverse	0.024 cm/cm	0.024 in/in	
Melt Flow	3.3 g/10 min @Load 2.16 kg, Temperature 190 °C	3.3 g/10 min @Load 4.76 lb, Temperature 374 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	25.0 MPa	3630 psi	
Elongation at Break	>= 50 %	>= 50 %	
Elongation at Yield	9.0 %	9.0 %	
Tensile Modulus	1.10 GPa	160 ksi	
Tensile Impact Strength	90.0 kJ/m ²	42.8 ft-lb/in ²	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	
Dielectric Constant	2.4 @Frequency 100 Hz	2.4 @Frequency 100 Hz	
	2.4 @Frequency 1e+6 Hz	2.4 @Frequency 1e+6 Hz	
Dielectric Strength	150 kV/mm	3810 kV/in	

Dissipation Factor	0.00020 @Frequency 100 Hz	0.00020 @Frequency 100 Hz
	0.00020 @Frequency 1e+6 Hz	0.00020 @Frequency 1e+6 Hz

Comparative Tracking Index

600 V

600 V

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	165 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	91.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	
Melting Point	133 $^\circ\text{C}$	271 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	73.0 $^\circ\text{C}$	163 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	44.0 $^\circ\text{C}$	111 $^\circ\text{F}$	
Vicat Softening Point	75.0 $^\circ\text{C}$	167 $^\circ\text{F}$	
Flammability, UL94	HB @Thickness 0.400 mm	HB @Thickness 0.0157 in	
Oxygen Index	17 %	17 %	