

EVALCA EVAL® LC-E151B Ethylene Vinyl Alcohol Copolymer Resin (discontinued **)

Category : Polymer , Film , Thermoplastic , Ethylene Vinyl Alcohol (EVOH)

Material Notes:

44 mol % Ethylene. Data provided by EVALCA. Applications: Melt phase forming, solid phase pressure forming, blow molding, tubes EVOH is used in packaging applications because of its outstanding gas barrier properties. EVAL™ is now produced as a part of the Kuraray product line.

Order this product through the following link:

http://www.lookpolymers.com/polymer_EVALCA-EVAL-LC-E151B-Ethylene-Vinyl-Alcohol-Copolymer-Resin-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in ³	ASTM D1505
Moisture Absorption at Equilibrium	1.5 %	1.5 %	Equilibrium at 50% RH
	1.5 %	1.5 %	50% RH
Water Absorption at Saturation	5.0 %	5.0 %	100% RH
Moisture Vapor Transmission	0.540 cc-mm/m ² -24hr-atm	1.37 cc-mil/100 in ² -24hr-atm	40°C, 90% RH
Oxygen Transmission	0.0300 cc-mm/m ² -24hr-atm	0.0762 cc-mil/100 in ² -24hr-atm	20°C; 65% RH; Permeability increases significantly at higher moisture content.
Melt Flow	1.6 g/10 min @Load 2.16 kg, Temperature 190 °C	1.6 g/10 min @Load 4.76 lb, Temperature 374 °F	ASTM D1238
	3.5 g/10 min @Load 2.16 kg, Temperature 210 °C	3.5 g/10 min @Load 4.76 lb, Temperature 410 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ASTM D785
Tensile Strength, Yield	59.0 MPa	8560 psi	10%/min. ASTM D638
Film Elongation at Break, MD	280 %	280 %	Orientation not specified; ASTM D882
Modulus of Elasticity	2.10 GPa	305 ksi	Youngs Modulus, ASTM D638, 10%/min.
Film Tensile Strength at Break, MD	51.0 MPa	7400 psi	Orientation not specified; ASTM D882

Thermal Properties	Metric	English	Comments
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CTE, linear Thermal Properties	Metric 80.0 μm/m-°C	English 44.4 μin/in-°F	Comments Below Tg
	130 μm/m-°C	72.2 μin/in-°F	Above Tg
Specific Heat Capacity	2.40 J/g-°C	0.574 BTU/lb-°F	
Thermal Conductivity	0.340 W/m-K	2.36 BTU-in/hr-ft²-°F	For EVAL F101
Melting Point	165 °C	329 °F	DSC
Deflection Temperature at 0.46 MPa (66 psi)	80.0 °C	176 °F	For EP-E105
Vicat Softening Point	155 °C	311 °F	For EP-E105
Glass Transition Temp, Tg	55.0 °C	131 °F	Dynamic Viscoelasticity

Optical Properties	Metric	English	Comments
Haze	1.7 %	1.7 %	Film; ASTM D1003
Gloss	85 %	85 %	45°; Film; ASTM D2457

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.20e+13 ohm-cm	1.20e+13 ohm-cm	
Surface Resistance	2.10e+15 ohm	2.10e+15 ohm	
Dielectric Constant	5.0	5.0	Frequency Not Specified
Dissipation Factor	0.22	0.22	Frequency Not Specified

Processing Properties	Metric	English	Comments
Melt Temperature	<= 250 °C	<= 482 °F	

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