

## EVALCA EVAL® LC-F101BZ Ethylene Vinyl Alcohol Copolymer Resin (discontinued \*\*)

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

### Material Notes:

32 mol % Ethylene. Data provided by EVALCA. Applications: Blown film, cast film, melt phase forming, blow molding, profile coextrusion.

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-F101BZ-Ethylene-Vinyl-Alcohol-Copolymer-Resin-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_EVALCA-EVAL-LC-F101BZ-Ethylene-Vinyl-Alcohol-Copolymer-Resin-nbspdiscontinued-.php)

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in <sup>3</sup>	ASTM D1505
Moisture Absorption at Equilibrium	2.2 %	2.2 %	Equilibrium at 50% RH
	2.2 %	2.2 %	50% RH
Water Absorption at Saturation	8.5 %	8.5 %	100% RH
Moisture Vapor Transmission	1.50 cc-mm/m <sup>2</sup> -24hr-atm	3.81 cc-mil/100 in <sup>2</sup> -24hr-atm	40°C, 90% RH
Oxygen Transmission	0.00800 cc-mm/m <sup>2</sup> -24hr-atm	0.0203 cc-mil/100 in <sup>2</sup> -24hr-atm	20°C; 65% RH; Permeability increases significantly at higher moisture content.
Melt Flow	1.6 g/10 min	1.6 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	3.8 g/10 min	3.8 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 210 °C	@Load 4.76 lb, Temperature 410 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	ASTM D785
Tensile Strength, Yield	77.0 MPa	11200 psi	10%/min. ASTM D638
Film Elongation at Break, MD	230 %	230 %	Orientation not specified; ASTM D882
Elongation at Yield	8.0 %	8.0 %	10%/min. ASTM D638
Modulus of Elasticity	2.60 GPa	377 ksi	Youngs Modulus, ASTM D638, 10%/min.
Flexural Yield Strength	129 MPa	18700 psi	Bending Strength; ASTM D790

Flexural Modulus Mechanical Properties	4.30 GPa Metric	624 ksi English	Bending Elasticity; ASTM D790 Comments
Izod Impact, Notched	0.900 J/cm	1.69 ft-lb/in	ASTM D256
Taber Abrasion, mg/1000 Cycles	1.2	1.2	ASTM D1175
Film Tensile Strength at Break, MD	72.0 MPa	10400 psi	Orientation not specified; ASTM D882

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	27.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Below Tg
	110 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	61.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Above Tg
Specific Heat Capacity	2.40 J/g- $^\circ\text{C}$	0.574 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	0.340 W/m-K	2.36 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	
Melting Point	181 $^\circ\text{C}$	358 $^\circ\text{F}$	DSC
Deflection Temperature at 0.46 MPa (66 psi)	100 $^\circ\text{C}$	212 $^\circ\text{F}$	
Vicat Softening Point	173 $^\circ\text{C}$	343 $^\circ\text{F}$	
Glass Transition Temp, Tg	69.0 $^\circ\text{C}$	156 $^\circ\text{F}$	Dynamic Viscoelasticity

Optical Properties	Metric	English	Comments
Haze	1.4 %	1.4 %	Film; ASTM D1003
Gloss	90 %	90 %	45 $^\circ$ ; Film; ASTM D2457

Electrical Properties	Metric	English	Comments
Electrical Resistivity	4.70e+12 ohm-cm	4.70e+12 ohm-cm	
Surface Resistance	1.90e+15 ohm	1.90e+15 ohm	
Dielectric Constant	5.5	5.5	Frequency Not Specified
Dissipation Factor	0.21	0.21	Frequency Not Specified

Processing Properties	Metric	English	Comments
Melt Temperature	$\leq 240$ $^\circ\text{C}$	$\leq 464$ $^\circ\text{F}$	

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