

EVALCA EVAL® K102 Ethylene Vinyl Alcohol Copolymer Resin (discontinued **)

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

Material Notes:

38 mol % Ethylene. Data provided by EVALCA. Applications: Solid phase pressure forming. 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-K102-Ethylene-Vinyl-Alcohol-Copolymer-Resin-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in ³	ASTM D1505
Moisture Vapor Transmission	0.820 cc-mm/m ² -24hr-atm	2.08 cc-mil/100 in ² -24hr-atm	40°C, 90% RH
Oxygen Transmission	0.0140 cc-mm/m ² -24hr-atm	0.0356 cc-mil/100 in ² -24hr-atm	20°C; 65% RH; Permeability increases significantly at higher moisture content.
Melt Flow	3.0 g/10 min	3.0 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	6.0 g/10 min	6.0 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	95	95	ASTM D785
Tensile Strength, Ultimate	61.0 MPa	8850 psi	10%/min; ASTM D638
Tensile Strength, Yield	66.0 MPa	9570 psi	10%/min. ASTM D638
Elongation at Break	240 %	240 %	10%/min. ASTM D638
Elongation at Yield	5.0 %	5.0 %	10%/min. ASTM D638
Modulus of Elasticity	2.40 GPa	348 ksi	Youngs Modulus, ASTM D638, 10%/min.
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 µm/m-°C	38.9 µin/in-°F	Below Tg
	120 µm/m-°C	66.7 µin/in-°F	Above Tg

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	J/kg·°C	BTU/lb·°F	
Thermal Conductivity	0.340 W/m-K	2.36 BTU-in/hr-ft²-°F	For EVAL F101
Melting Point	175 °C	347 °F	DSC
Deflection Temperature at 0.46 MPa (66 psi)	90.0 °C	194 °F	
Vicat Softening Point	159 °C	318 °F	
Glass Transition Temp, Tg	62.0 °C	144 °F	Dynamic Viscoelasticity

Optical Properties	Metric	English	Comments
Haze	1.5 %	1.5 %	Estimated by MatWeb from similar grades
Gloss	90 %	90 %	Estimated by MatWeb from similar grades

Electrical Properties	Metric	English	Comments
Dielectric Constant	5.4	5.4	Frequency Not Specified
Dissipation Factor	0.22	0.22	Frequency Not Specified

Processing Properties	Metric	English	Comments
Melt Temperature	<= 240 °C	<= 464 °F	

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