

EVALCA EVAL® EF-F Ethylene Vinyl Alcohol Copolymer Film (discontinued **)

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

Material Notes:

32 mol % Ethylene. Non oriented type film; property values for 15 µm film. Data provided by EVALCA. Applications: 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-EF-F-Ethylene-Vinyl-Alcohol-Copolymer-Film-nbspdiscontinued-.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|--|---|--|
| Moisture Absorption at Equilibrium | 3.9 % | 3.9 % | Equilibrium at 65% RH |
| | 3.9 % | 3.9 % | 65% RH |
| Water Absorption at Saturation | 8.5 % | 8.5 % | 100% RH |
| Moisture Vapor Transmission | 1.50 cc-mm/m ² -24hr-atm | 3.81 cc-mil/100 in ² -24hr-atm | 40°C, 90% RH |
| Oxygen Transmission | 0.00800 cc-mm/m ² -24hr-atm | 0.0203 cc-mil/100 in ² -24hr-atm | 20°C; 65% RH; Permeability increases significantly at higher moisture content. |
| Thickness | 15.2 microns | 0.600 mil | |

| Mechanical Properties | Metric | English | Comments |
|------------------------------------|---------------|-----------|-------------------------------------|
| Film Elongation at Break, MD | 180 % | 180 % | 10%/min.; ASTM D638 |
| Film Elongation at Break, TD | 140 % | 140 % | 10%/min.; ASTM D638 |
| Secant Modulus, MD | 2.00 GPa | 290 ksi | Youngs Modulus, ASTM D638, 10%/min. |
| Secant Modulus, TD | 1.90 GPa | 276 ksi | Youngs Modulus, ASTM D638, 10%/min. |
| Elmendorf Tear Strength MD | 380 g | 380 g | ASTM D638 |
| Elmendorf Tear Strength TD | 300 g | 300 g | ASTM D638 |
| Elmendorf Tear Strength, MD | 24.9 g/micron | 633 g/mil | 0.6 mil; ASTM D638 |
| Elmendorf Tear Strength, TD | 19.7 g/micron | 500 g/mil | 0.6 mil; ASTM D638 |
| Film Tensile Strength at Break, MD | 80.0 MPa | 11600 psi | 10%/min.; ASTM D638 |
| Film Tensile Strength at Break, TD | 52.0 MPa | 7540 psi | 10%/min.; ASTM D638 |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------------|----------------|----------|
| | 50.0 µm/m-°C | 27.8 µin/in-°F | |

| CTE linear Thermal Properties | Metric @ Temperature 20.0 °C | English @ Temperature 68.0 °F | Comments Estimated by MatWeb from similar grades |
|----------------------------------|------------------------------------|---------------------------------------|---|
| | 110 µm/m-°C @Temperature 100 °C | 61.1 µin/in-°F @Temperature 212 °F | Estimated by MatWeb from similar grades |
| Specific Heat Capacity | 2.40 J/g-°C | 0.574 BTU/lb-°F | Estimated by MatWeb from similar grades |
| Thermal Conductivity | 0.340 W/m-K | 2.36 BTU-in/hr-ft ² -°F | For EVAL F101 |
| Melting Point | 181 °C | 358 °F | DSC |

| Optical Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
| Haze | 1.5 % | 1.5 % | 65% RH |
| Gloss | 90 % | 90 % | 65% RH |

| 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 |

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