

## EVALCA EVAL® EF-XL Ethylene Vinyl Alcohol Copolymer Film (discontinued \*\*)

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

### Material Notes:

Biaxially oriented type film; property values for 15 µm film. Data provided by EVALCA. 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-XL-Ethylene-Vinyl-Alcohol-Copolymer-Film-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_EVALCA-EVAL-EF-XL-Ethylene-Vinyl-Alcohol-Copolymer-Film-nbspdiscontinued-.php)

| Physical Properties         | Metric                                 | English                                     | Comments                                                                       |
|-----------------------------|----------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|
| Moisture Vapor Transmission | 0.600 cc-mm/m <sup>2</sup> -24hr-atm   | 1.52 cc-mil/100 in <sup>2</sup> -24hr-atm   | 40°C, 90% RH                                                                   |
| Oxygen Transmission         | 0.00400 cc-mm/m <sup>2</sup> -24hr-atm | 0.0102 cc-mil/100 in <sup>2</sup> -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       | 100 %         | 100 %     | 10%/min.; ASTM D638                 |
| Film Elongation at Break, TD       | 100 %         | 100 %     | 10%/min.; ASTM D638                 |
| Secant Modulus, MD                 | 3.50 GPa      | 508 ksi   | Youngs Modulus, ASTM D638, 10%/min. |
| Secant Modulus, TD                 | 3.50 GPa      | 508 ksi   | Youngs Modulus, ASTM D638, 10%/min. |
| Elmendorf Tear Strength MD         | 260 g         | 260 g     | ASTM D638                           |
| Elmendorf Tear Strength TD         | 330 g         | 330 g     | ASTM D638                           |
| Elmendorf Tear Strength, MD        | 17.0 g/micron | 433 g/mil | 0.6 mil; ASTM D638                  |
| Elmendorf Tear Strength, TD        | 21.7 g/micron | 550 g/mil | 0.6 mil; ASTM D638                  |
| Film Tensile Strength at Break, MD | 205 MPa       | 29700 psi | 10%/min.; ASTM D638                 |
| Film Tensile Strength at Break, TD | 195 MPa       | 28300 psi | 10%/min.; ASTM D638                 |

| Thermal Properties     | Metric      | English                            | Comments                                |
|------------------------|-------------|------------------------------------|-----------------------------------------|
| 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 <sup>2</sup> -°F | For EVAL F101                           |
| Melting Point          | 181 °C      | 358 °F                             | DSC                                     |

| Optical Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
| Haze               | 0.50 % | 0.50 %  | 65% RH   |
| Gloss              | 95 %   | 95 %    | 65% RH   |

| Electrical Properties | Metric       | English      | Comments                |
|-----------------------|--------------|--------------|-------------------------|
| Surface Resistance    | 2.70e+15 ohm | 2.70e+15 ohm |                         |
| Dielectric Constant   | 5.0          | 5.0          | Frequency Not Specified |
| Dissipation Factor    | 0.22         | 0.22         | Frequency Not Specified |

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