

Overview of materials for Ethylene Vinyl Acetate Copolymer (EVA), Film Grade

Categories: [Polymer](#); [Film](#); [Thermoplastic](#); [Ethylene Vinyl Acetate](#); [Ethylene Vinyl Acetate Copolymer \(EVA\)](#), [Film Grade](#)

Material Notes: This property data is a summary of similar materials in the MatWeb database for the category "Ethylene Vinyl Acetate Copolymer (EVA), Film Grade". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric		English	Comments
Density	0.921 - 0.970 g/cc		0.0333 - 0.0350 lb/in ³	Average value: 0.934 g/cc Grade Count:251
Water Absorption	0.100 %		0.100 %	Average value: 0.100 % Grade Count:3
Moisture Vapor Transmission	0.590 - 0.940 cc-mm/m ² -24hr-atm	1.50 - 2.39 cc-mil/100 in ² -24hr-atm		Average value: 0.789 cc-mm/m ² -24hr-atm Grade Count:8
Water Vapor Transmission	85.3 g/m ² /day		5.49 g/100 in ² /day	Average value: 85.3 g/m ² /day Grade Count:3
Oxygen Transmission	158 - 229 cc-mm/m ² -24hr-atm	401 - 582 cc-mil/100 in ² -24hr-atm		Average value: 199 cc-mm/m ² -24hr-atm Grade Count:8
Oxygen Transmission Rate	8900 cc/m ² /day		573 cc/100 in ² /day	Average value: 8900 cc/m ² /day Grade Count:3
Viscosity 	2.00e+6 - 2.00e+6 cP @Temperature 190 - 190 °C		2.00e+6 - 2.00e+6 cP @Temperature 374 - 374 °F	Average value: 2.00e+6 cP Grade Count:2
	2.00e+6 - 2.00e+6 cP @Shear Rate 50.0 - 50.0 1/s		2.00e+6 - 2.00e+6 cP @Shear Rate 50.0 - 50.0 1/s	Average value: 2.00e+6 cP Grade Count:2
Environmental Stress Crack Resistance	500 hour		500 hour	Average value: 500 hour Grade Count:16
Vinyl Acetate Content	2.00 - 29.5 %		2.00 - 29.5 %	Average value: 12.0 % Grade Count:129
Thickness	15.0 - 300 microns		0.591 - 11.8 mil	Average value: 53.3 microns Grade Count:118
Melt Flow	0.190 - 135 g/10 min		0.190 - 135 g/10 min	Average value: 3.07 g/10 min Grade Count:254
Mechanical Properties	Metric		English	Comments
Hardness, Shore A	62.0 - 96.0		62.0 - 96.0	Average value: 84.7 Grade Count:54
Hardness, Shore D	23.0 - 94.0		23.0 - 94.0	Average value: 40.8 Grade Count:70
Tensile Strength, Ultimate	3.40 - 33.0 MPa		493 - 4790 psi	Average value: 15.6 MPa Grade Count:60
Film Tensile Strength at Yield, MD	3.00 - 15.0 MPa		435 - 2180 psi	Average value: 7.17 MPa Grade Count:96
Film Tensile Strength at Yield, TD	2.00 - 11.0 MPa		290 - 1600 psi	Average value: 6.49 MPa Grade Count:96

Tensile Strength, Yield	3.40 - 10.0 MPa	493 - 1450 psi	Average value: 8.00 MPa Grade Count:45
Film Elongation at Break, MD	100 - 1000 %	100 - 1000 %	Average value: 381 % Grade Count:192
Film Elongation at Break, TD	260 - 1000 %	260 - 1000 %	Average value: 617 % Grade Count:192
Film Elongation at Yield, MD	6.40 - 19.4 %	6.40 - 19.4 %	Average value: 9.03 % Grade Count:25
Film Elongation at Yield, TD	5.40 - 16.0 %	5.40 - 16.0 %	Average value: 7.44 % Grade Count:25
Elongation at Break	50.0 - 1200 %	50.0 - 1200 %	Average value: 579 % Grade Count:77
Modulus of Elasticity	0.00500 - 0.338 GPa	0.725 - 49.0 ksi	Average value: 0.159 GPa Grade Count:54
Flexural Modulus	0.0190 - 0.145 GPa	2.76 - 21.0 ksi	Average value: 0.0708 GPa Grade Count:25
Secant Modulus	0.00500 - 1.05 GPa	0.725 - 152 ksi	Average value: 0.143 GPa Grade Count:22
Secant Modulus, MD	0.0241 - 0.600 GPa	3.50 - 87.0 ksi	Average value: 0.117 GPa Grade Count:146
Secant Modulus, TD	0.0248 - 0.700 GPa	3.60 - 102 ksi	Average value: 0.135 GPa Grade Count:146
Tensile Impact Strength	146 - 815 kJ/m ²	69.5 - 388 ft-lb/in ²	Average value: 596 kJ/m ² Grade Count:16
Coefficient of Friction	0.100 - 3.40	0.100 - 3.40	Average value: 0.536 Grade Count:32
Peel Strength	0.00105 - 6.00 kN/m	0.00599 - 34.2 pli	Average value: 1.00 kN/m Grade Count:4
Elmendorf Tear Strength MD	40.0 - 600 g	40.0 - 600 g	Average value: 198 g Grade Count:75
Elmendorf Tear Strength TD	30.0 - 345 g	30.0 - 345 g	Average value: 129 g Grade Count:70
Elmendorf Tear Strength, MD	0.197 - 18.9 g/micron	5.00 - 480 g/mil	Average value: 4.89 g/micron Grade Count:88
Elmendorf Tear Strength, TD	0.945 - 9.06 g/micron	24.0 - 230 g/mil	Average value: 3.75 g/micron Grade Count:76
Dart Drop	1.97 - 30.0 g/micron	50.0 - 762 g/mil	Average value: 6.91 g/micron Grade Count:117
Dart Drop Test	70.0 - 1100 g	0.154 - 2.43 lb	Average value: 309 g Grade Count:127
Film Tensile Strength at Break, MD	6.00 - 41.0 MPa	870 - 5940 psi	Average value: 26.7 MPa Grade Count:196
Film Tensile Strength at Break, TD	6.00 - 40.0 MPa	870 - 5800 psi	Average value: 24.1 MPa Grade Count:189

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+15 ohm-cm	1.00e+14 - 1.00e+15 ohm-cm	Average value: 3.25e+14 ohm-cm Grade Count:4

Thermal Properties	Metric	English	Comments
Melting Point	63.9 - 110 °C	147 - 230 °F	Average value: 94.1 °C Grade Count:181
Crystallization Temperature	85.0 - 96.0 °C	185 - 205 °F	Average value: 90.9 °C Grade Count:16
Vicat Softening Point	44.0 - 96.0 °C	111 - 205 °F	Average value: 75.8 °C Grade Count:177
Brittleness Temperature	-90.0 - -76.0 °C	-130 - -105 °F	Average value: -79.6 °C Grade Count:27

Optical Properties	Metric	English	Comments
Refractive Index	1.48 - 1.49	1.48 - 1.49	Average value: 1.48 Grade Count:12
Haze	0.900 - 28.0 %	0.900 - 28.0 %	Average value: 5.98 % Grade Count:186
Gloss	17.0 - 123 %	17.0 - 123 %	Average value: 73.1 % Grade Count:177
Yellow Index	2.90 - 8.20 %	2.90 - 8.20 %	Average value: 5.71 % Grade Count:3
Transmission, Visible	10.0 - 92.0 %	10.0 - 92.0 %	Average value: 86.3 % Grade Count:65
Reflection Coefficient, Visible (0-1)	0.0600 - 0.0900	0.0600 - 0.0900	Average value: 0.0800 Grade Count:4

Processing Properties	Metric	English	Comments
Processing Temperature	100 - 210 °C	212 - 410 °F	Average value: 155 °C Grade Count:27
Melt Temperature	150 - 221 °C	302 - 430 °F	Average value: 194 °C Grade Count:55
Die Opening	0.0635 - 0.150 cm	0.0250 - 0.0591 in	Average value: 0.0820 cm Grade Count:10

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.