

Overview of materials for Ethylene Acrylic Acid

Category : Polymer , Thermoplastic , Ethylene Acrylic Acid

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Ethylene Acrylic Acid". 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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Ethylene-Acrylic-Acid.php

Physical Properties	Metric	English	Comments
Density	0.910 - 1.27 g/cc	0.0329 - 0.0459 lb/in ³	Average value: 0.949 g/cc Grade Count:65
Water Absorption	0.0500 %	0.0500 %	Average value: 0.0500 % Grade Count:5
Moisture Absorption at Equilibrium	0.0500 %	0.0500 %	Average value: 0.0500 % Grade Count:5
pH	2.00 - 12.0	2.00 - 12.0	Average value: 7.91 Grade Count:9
Viscosity	50.0 - 4000 cP	50.0 - 4000 cP	Average value: 578 cP Grade Count:9
	575 - 30000 cP @Temperature 140 - 190 °C	575 - 30000 cP @Temperature 284 - 374 °F	Average value: 5530 cP Grade Count:12
Methyl Acrylate Content	6.50 - 20.0 %	6.50 - 20.0 %	Average value: 12.8 % Grade Count:8
Acrylic Acid Content	6.00 - 15.0 %	6.00 - 15.0 %	Average value: 7.90 % Grade Count:15
Thickness	60.0 microns	2.36 mil	Average value: 60.0 microns Grade Count:4
Melt Flow	0.500 - 1300 g/10 min	0.500 - 1300 g/10 min	Average value: 60.8 g/10 min Grade Count:49

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	62.0 - 85.0	62.0 - 85.0	Average value: 73.3 Grade Count:4
Hardness, Shore D	22.0 - 50.0	22.0 - 50.0	Average value: 40.2 Grade Count:6
Tensile Strength, Ultimate	1.50 - 24.7 MPa	218 - 3580 psi	Average value: 14.9 MPa Grade Count:25
Film Tensile Strength at Yield, MD	8.10 - 9.40 MPa	1170 - 1360 psi	Average value: 8.68 MPa Grade Count:4
Film Tensile Strength at Yield, TD	7.90 - 9.20 MPa	1150 - 1330 psi	Average value: 8.32 MPa Grade Count:4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	4.00 - 10.8 MPa	580 - 1570 psi	Average value: 7.34 MPa Grade Count:21
Film Elongation at Break, MD	210 - 540 %	210 - 540 %	Average value: 433 % Grade Count:11
Film Elongation at Break, TD	440 - 750 %	440 - 750 %	Average value: 567 % Grade Count:11
Elongation at Break	50.0 - 800 %	50.0 - 800 %	Average value: 371 % Grade Count:29
Modulus of Elasticity	0.0221 - 0.124 GPa	3.21 - 18.0 ksi	Average value: 0.0758 GPa Grade Count:15
Flexural Modulus	0.00500 - 0.0427 GPa	0.725 - 6.20 ksi	Average value: 0.0222 GPa Grade Count:5
Secant Modulus, MD	0.0278 - 0.170 GPa	4.03 - 24.7 ksi	Average value: 0.101 GPa Grade Count:7
Secant Modulus, TD	0.0271 - 0.175 GPa	3.93 - 25.4 ksi	Average value: 0.0967 GPa Grade Count:7
Tensile Impact Strength	25.0 - 25.0 kJ/m ² @Temperature -40.0 - -40.0 °C	11.9 - 11.9 ft-lb/in ² @Temperature -40.0 - -40.0 °F	Average value: 25.0 kJ/m ² Grade Count:1
Elmendorf Tear Strength MD	255 - 450 g	255 - 450 g	Average value: 346 g Grade Count:4
Elmendorf Tear Strength TD	305 - 510 g	305 - 510 g	Average value: 429 g Grade Count:4
Elmendorf Tear Strength, MD	1.31 - 8.93 g/micron	33.3 - 227 g/mil	Average value: 5.27 g/micron Grade Count:11
Elmendorf Tear Strength, TD	5.10 - 30.2 g/micron	130 - 767 g/mil	Average value: 11.0 g/micron Grade Count:11
Dart Drop	6.56 - 11.8 g/micron	167 - 300 g/mil	Average value: 8.00 g/micron Grade Count:8
Dart Drop Test	4.30 - 7.90 g	0.00948 - 0.0174 lb	Average value: 5.50 g Grade Count:3
Seal Strength	1800 - 2500 g/25 mm	1800 - 2500 g/in	Average value: 2080 g/25 mm Grade Count:4
Film Tensile Strength at Break, MD	20.7 - 42.7 MPa	3000 - 6190 psi	Average value: 30.6 MPa Grade Count:11
Film Tensile Strength at Break, TD	22.1 - 44.8 MPa	3200 - 6500 psi	Average value: 30.3 MPa Grade Count:11

Thermal Properties	Metric	English	Comments
Melting Point	66.7 - 216 °C	152 - 421 °F	Average value: 108 °C Grade Count:43
Vicat Softening Point	38.3 - 92.2 °C	101 - 198 °F	Average value: 68.0 °C Grade Count:39
Dropping Point	76.0 - 105 °C	169 - 221 °F	Average value: 95.1 °C Grade Count:12

Optical Properties	Metric	English	Comments
Haze	3.00 - 18.3 %	3.00 - 18.3 %	Average value: 7.20 % Grade Count:8
Gloss	39.0 - 100 %	39.0 - 100 %	Average value: 62.5 % Grade Count:8

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	Average value: 1.00e+15 ohm-cm Grade Count:9
Dielectric Constant	2.30 - 2.80	2.30 - 2.80	Average value: 2.48 Grade Count:5
Dissipation Factor	0.00700 - 0.0130	0.00700 - 0.0130	Average value: 0.0102 Grade Count:5

Chemical Properties	Metric	English	Comments
Total Acid Number	0.000 - 200	0.000 - 200	Average value: 67.4 Grade Count:8

Processing Properties	Metric	English	Comments
Processing Temperature	191 - 310 °C	376 - 590 °F	Average value: 262 °C Grade Count:13
Nozzle Temperature	177 - 290 °C	351 - 554 °F	Average value: 225 °C Grade Count:5
Adapter Temperature	180 - 300 °C	356 - 572 °F	Average value: 229 °C Grade Count:8
Die Temperature	170 - 300 °C	338 - 572 °F	Average value: 228 °C Grade Count:11
Melt Temperature	135 - 305 °C	275 - 581 °F	Average value: 211 °C Grade Count:16

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