

Overview of materials for Thermoplastic Olefinic Elastomer (TPO), Film Grade

Category : Polymer , Film , Thermoplastic , Elastomer, TPE , Thermoplastic Olefinic Elastomer (TPO), Film Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Thermoplastic Olefinic Elastomer (TPO), 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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Thermoplastic-Olefinic-Elastomer-TPO-Film-Grade.php

Physical Properties	Metric	English	Comments
Density	0.862 - 0.910 g/cc	0.0311 - 0.0329 lb/in ³	Average value: 0.885 g/cc Grade Count:16
Thickness	20.3 - 50.8 microns	0.800 - 2.00 mil	Average value: 26.8 microns Grade Count:9
Melt Flow	1.10 - 20.0 g/10 min	1.10 - 20.0 g/10 min	Average value: 5.68 g/10 min Grade Count:16

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	66.0	66.0	Average value: 66.0 Grade Count:4
Hardness, Shore D	33.0 - 40.0	33.0 - 40.0	Average value: 35.7 Grade Count:3
Tensile Strength, Ultimate	1.90 - 5.70 MPa	276 - 827 psi	Average value: 3.24 MPa Grade Count:7
Film Tensile Strength at Yield, MD	2.89 - 6.80 MPa	419 - 986 psi	Average value: 5.00 MPa Grade Count:9
Film Tensile Strength at Yield, TD	2.70 - 6.40 MPa	392 - 928 psi	Average value: 4.35 MPa Grade Count:9
Tensile Strength, Yield	4.70 - 6.80 MPa	682 - 986 psi	Average value: 5.47 MPa Grade Count:3
Film Elongation at Break, MD	340 - 640 %	340 - 640 %	Average value: 490 % Grade Count:9
Film Elongation at Break, TD	570 - 810 %	570 - 810 %	Average value: 657 % Grade Count:9
Film Elongation at Yield, MD	10.0 %	10.0 %	Average value: 10.0 % Grade Count:3
Film Elongation at Yield, TD	8.00 - 10.0 %	8.00 - 10.0 %	Average value: 9.00 % Grade Count:3
Elongation at Yield	30.0 - 48.0 %	30.0 - 48.0 %	Average value: 41.7 % Grade Count:3
Flexural Modulus	0.0123 - 0.110 GPa	1.78 - 16.0 ksi	Average value: 0.0398 GPa Grade Count:7
Secant Modulus, MD	0.0374 - 0.117 GPa	5.42 - 17.0 ksi	Average value: 0.0727 GPa Grade

Mechanical Properties	Metric	English	Count:9 Comments
Secant Modulus, TD	0.0381 - 0.124 GPa	5.53 - 18.0 ksi	Average value: 0.0791 GPa Grade Count:9
Tear Strength	33.0 - 81.3 kN/m	188 - 464 pli	Average value: 49.0 kN/m Grade Count:7
Elmendorf Tear Strength, MD	1.97 - 13.4 g/micron	50.0 - 340 g/mil	Average value: 6.78 g/micron Grade Count:9
Elmendorf Tear Strength, TD	5.12 - 17.2 g/micron	130 - 437 g/mil	Average value: 10.7 g/micron Grade Count:8
Dart Drop	5.51 - 72.8 g/micron	140 - 1850 g/mil	Average value: 37.6 g/micron Grade Count:9
Tensile Set	18.0 - 85.0 %	18.0 - 85.0 %	Average value: 37.1 % Grade Count:7
Film Tensile Strength at Break, MD	55.4 - 75.8 MPa	8040 - 11000 psi	Average value: 62.6 MPa Grade Count:9
Film Tensile Strength at Break, TD	35.0 - 68.9 MPa	5080 - 9990 psi	Average value: 51.5 MPa Grade Count:9

Thermal Properties	Metric	English	Comments
Melting Point	70.0 - 103 °C	158 - 217 °F	Average value: 89.8 °C Grade Count:9
Vicat Softening Point	47.1 - 167 °C	117 - 333 °F	Average value: 72.2 °C Grade Count:8

Optical Properties	Metric	English	Comments
Haze	0.100 - 7.50 %	0.100 - 7.50 %	Average value: 1.99 % Grade Count:8
Gloss	63.0 - 97.0 %	63.0 - 97.0 %	Average value: 87.4 % Grade Count:8

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