

Overview of materials for PETG Copolyester

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , PETG Copolyester

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "PETG Copolyester". 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-PETG-Copolyester.php

Physical Properties	Metric	English	Comments
Density	1.18 - 1.33 g/cc	0.0426 - 0.0480 lb/in ³	Average value: 1.27 g/cc Grade Count:20
Water Absorption	0.130 - 0.200 %	0.130 - 0.200 %	Average value: 0.153 % Grade Count:3
Linear Mold Shrinkage	0.00200 - 0.00600 cm/cm	0.00200 - 0.00600 in/in	Average value: 0.00404 cm/cm Grade Count:12

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	105 - 119	105 - 119	Average value: 110 Grade Count:7
Tensile Strength, Ultimate	26.0 - 57.9 MPa	3770 - 8400 psi	Average value: 39.5 MPa Grade Count:17
Tensile Strength, Yield	28.3 - 58.6 MPa	4100 - 8500 psi	Average value: 48.0 MPa Grade Count:10
Elongation at Break	5.00 - 350 %	5.00 - 350 %	Average value: 104 % Grade Count:17
Elongation at Yield	3.90 - 4.10 %	3.90 - 4.10 %	Average value: 4.00 % Grade Count:5
Modulus of Elasticity	1.10 - 2.69 GPa	160 - 390 ksi	Average value: 1.93 GPa Grade Count:16
Flexural Yield Strength	39.2 - 88.9 MPa	5690 - 12900 psi	Average value: 72.0 MPa Grade Count:16
Flexural Modulus	1.24 - 2.76 GPa	180 - 400 ksi	Average value: 1.99 GPa Grade Count:18
Izod Impact, Notched	0.267 - 10.7 J/cm	0.500 - 20.0 ft-lb/in	Average value: 3.01 J/cm Grade Count:13
	0.270 - 0.520 J/cm @Temperature -40.0 - - 40.0 °C	0.506 - 0.974 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.360 J/cm Grade Count:3
Izod Impact, Unnotched	0.497 - 13.3 J/cm	0.930 - 25.0 ft-lb/in	Average value: 6.94 J/cm Grade Count:7

Mechanical Properties	Metric 0.277628 - 0.277628 J/cm	English 0.520111 - 0.520111 ft-lb/in	Comments Average value: 0.278 J/cm Grade Count:1
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
Charpy Impact Unnotched	NB - NB @Temperature -30.0 - - 30.0 °C	NB - NB @Temperature -22.0 - - 22.0 °F	Grade Count:2
Charpy Impact, Notched	0.310 - 0.370 J/cm² @Temperature -30.0 - - 30.0 °C	1.48 - 1.76 ft-lb/in² @Temperature -22.0 - - 22.0 °F	Average value: 0.340 J/cm² Grade Count:2
Falling Dart Impact	542.328 - 542.328 J @Temperature -40.0 - - 40.0 °C	400.001 - 400.001 ft-lb @Temperature -40.0 - - 40.0 °F	Average value: 542 J Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	43.0 - 100 µm/m-°C	23.9 - 55.6 µin/in-°F	Average value: 67.8 µm/m-°C Grade Count:5
Thermal Conductivity	0.190 - 0.225 W/m-K	1.32 - 1.56 BTU-in/hr-ft²-°F	Average value: 0.202 W/m-K Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	60.0 - 98.9 °C	140 - 210 °F	Average value: 70.6 °C Grade Count:10
Deflection Temperature at 1.8 MPa (264 psi)	55.0 - 90.0 °C	131 - 194 °F	Average value: 65.1 °C Grade Count:13
Vicat Softening Point	73.0 - 85.0 °C	163 - 185 °F	Average value: 79.2 °C Grade Count:5
Glass Transition Temp, Tg	79.0 - 81.1 °C	174 - 178 °F	Average value: 80.0 °C Grade Count:5

Optical Properties	Metric	English	Comments
Haze	0.300 - 1.00 %	0.300 - 1.00 %	Average value: 0.680 % Grade Count:5
Transmission, Visible	82.0 - 91.0 %	82.0 - 91.0 %	Average value: 88.0 % Grade Count:8

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10.0 - 1.00e+15 ohm-cm	10.0 - 1.00e+15 ohm-cm	Average value: 1.67e+14 ohm-cm Grade Count:12
Surface Resistance	1000 - 1.00e+16 ohm	1000 - 1.00e+16 ohm	Average value: 7.69e+14 ohm Grade Count:9
Static Decay	0.0100 - 2.00 sec	0.0100 - 2.00 sec	Average value: 1.03 sec Grade Count:7
Dielectric Constant	2.40 - 2.60	2.40 - 2.60	Average value: 2.50 Grade Count:3

Dielectric Strength Electrical Properties	16.0 - 16.1 kV/mm Metric	406 - 410 kV/in English	Average value: 16.1 kV/mm Grade Count:5
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Processing Properties	Metric	English	Comments
Processing Temperature	45.0 - 249 °C	113 - 480 °F	Average value: 171 °C Grade Count:5
Die Temperature	195 - 293 °C	383 - 560 °F	Average value: 254 °C Grade Count:5
Melt Temperature	180 - 293 °C	356 - 560 °F	Average value: 245 °C Grade Count:9
Mold Temperature	12.0 - 70.0 °C	53.6 - 158 °F	Average value: 31.9 °C Grade Count:4
Drying Temperature	65.0 - 102 °C	149 - 216 °F	Average value: 71.5 °C Grade Count:7
Moisture Content	0.0200 %	0.0200 %	Average value: 0.0200 % Grade Count:4
Dew Point	-33.9 °C	-29.0 °F	Average value: -33.9 °C Grade Count:4

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