

Overview of materials for Polycyclohexylenedimethylene Terephthalate (PCT), 30% Glass Reinforced

Category : Polymer , Thermoplastic , Polyester, TP , Polycyclohexylenedimethylene Terephthalate (PCT) , Polycyclohexylenedimethylene Terephthalate (PCT), 30% Glass Reinforced

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "PCT or PCTA, 30% Glass Reinforced". Specific grades with glass content between 25% and 34% are included. 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-Polycyclohexylenedimethylene-Terephthalate-PCT-30-Glass-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.39 - 1.65 g/cc	0.0502 - 0.0596 lb/in ³	Average value: 1.52 g/cc Grade Count:15
Filler Content	30.0 %	30.0 %	Average value: 30.0 % Grade Count:10
Linear Mold Shrinkage	0.00200 - 0.00300 cm/cm	0.00200 - 0.00300 in/in	Average value: 0.00269 cm/cm Grade Count:8
Linear Mold Shrinkage, Transverse	0.00750 - 0.00900 cm/cm	0.00750 - 0.00900 in/in	Average value: 0.00806 cm/cm Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	65.0 - 119	65.0 - 119	Average value: 84.7 Grade Count:3
Tensile Strength, Ultimate	97.0 - 125 MPa	14100 - 18100 psi	Average value: 113 MPa Grade Count:15
Elongation at Break	1.20 - 3.10 %	1.20 - 3.10 %	Average value: 2.05 % Grade Count:15
Modulus of Elasticity	7.40 - 11.0 GPa	1070 - 1600 ksi	Average value: 9.35 GPa Grade Count:15
Flexural Yield Strength	150 - 188 MPa	21800 - 27300 psi	Average value: 171 MPa Grade Count:15
Flexural Modulus	6.50 - 10.5 GPa	943 - 1520 ksi	Average value: 8.61 GPa Grade Count:15
Izod Impact, Notched	0.750 - 1.50 J/cm	1.41 - 2.81 ft-lb/in	Average value: 1.05 J/cm Grade Count:3
	1.10 - 1.10 J/cm @Temperature -40.0 - -40.0 °C	2.06 - 2.06 ft-lb/in @Temperature -40.0 - -40.0 °F	Average value: 1.10 J/cm Grade Count:1

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched (ISO)	6.00 - 10.0 kJ/m ²	2.86 - 4.76 ft-lb/in ²	Average value: 7.91 kJ/m ² Grade Count:11
Charpy Impact Unnotched	2.00 - 5.50 J/cm ²	9.52 - 26.2 ft-lb/in ²	Average value: 3.82 J/cm ² Grade Count:14
Charpy Impact, Notched	0.600 - 1.00 J/cm ²	2.86 - 4.76 ft-lb/in ²	Average value: 0.770 J/cm ² Grade Count:15

Thermal Properties	Metric	English	Comments
CTE, linear	6.00 - 48.0 µm/m-°C	3.33 - 26.7 µin/in-°F	Average value: 28.7 µm/m-°C Grade Count:3
CTE, linear, Transverse to Flow	85.0 - 100 µm/m-°C	47.2 - 55.6 µin/in-°F	Average value: 91.7 µm/m-°C Grade Count:3
Melting Point	283 - 285 °C	541 - 545 °F	Average value: 284 °C Grade Count:13
Deflection Temperature at 0.46 MPa (66 psi)	268 - 276 °C	514 - 529 °F	Average value: 271 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	221 - 262 °C	430 - 504 °F	Average value: 247 °C Grade Count:15
UL RTI, Electrical	150 °C	302 °F	Average value: 150 °C Grade Count:4
UL RTI, Mechanical without Impact	140 - 150 °C	284 - 302 °F	Average value: 149 °C Grade Count:4
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:13

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 - 1.00e+16 ohm-cm	1.00e+15 - 1.00e+16 ohm-cm	Average value: 3.25e+15 ohm-cm Grade Count:4
Surface Resistance	1.00e+15 - 1.00e+16 ohm	1.00e+15 - 1.00e+16 ohm	Average value: 5.50e+15 ohm Grade Count:4
Dielectric Constant	3.00 - 3.30	3.00 - 3.30	Average value: 3.11 Grade Count:3
Dielectric Strength	16.1 - 35.0 kV/mm	409 - 889 kV/in	Average value: 25.6 kV/mm Grade Count:6
Dissipation Factor	0.00200 - 0.0180	0.00200 - 0.0180	Average value: 0.0101 Grade Count:3
Comparative Tracking Index	440 - 600 V	440 - 600 V	Average value: 520 V Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 120 °C	176 - 248 °F	Average value: 102 °C Grade Count:5
Melt Temperature	295 - 310 °C	563 - 590 °F	Average value: 302 °C Grade Count:15

Mold Temperature Processing Properties	80.0 - 175 °C Metric	176 - 347 °F English	Average value: 112 °C Grade Count:10 Comments
Drying Temperature	70.0 - 150 °C	158 - 302 °F	Average value: 98.7 °C Grade Count:15
Moisture Content	0.0300 %	0.0300 %	Average value: 0.0300 % Grade Count:14

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