



**Product Data Sheet &  
General Processing Conditions**

**PermaStat® 4500  
Aliphatic Polyketone (PK)  
ESD Protection  
Permanently Anti-static**

**PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS**

<b>PERMANENCE</b>	<b>English</b>	<b>SI Metric</b>	<b>ASTM TEST</b>
Specific Gravity	1.21	1.21	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0180 - 0.0250 in/in	1.80 - 2.50 %	D 955

**MECHANICAL**

Impact Strength, Izod notched 1/8 in (3.2 mm) section	3.0 ft-lbs/in	160 J/m	D 256
unnotched 1/8 in (3.2 mm) section	No Break	No Break	D 4812
Tensile Strength	5000 psi	34 MPa	D 638
Tensile Elongation	> 10.0 %	> 10.0 %	D 638
Tensile Modulus	0.11 x 10 <sup>6</sup> psi	758 MPa	D 638
Flexural Strength	5250 psi	36 MPa	D 790
Flexural Modulus	0.15 x 10 <sup>6</sup> psi	1034 MPa	D 790

**ELECTRICAL**

Volume Resistivity	1E9 - 9.9E10 ohm.cm	1E9 - 9.9E10 ohm.cm	D 257
Surface Resistivity	1E10 - 9.9E11 ohm/sq	1E10 - 9.9E11 ohm/sq	D 257
Surface Resistance	1E9 - 9.9E10 ohm	1E9 - 9.9E10 ohm	ESD STM11.11
Static Decay MIL-PRF-81705D, 5kV to 50 V, 12% RH	< 2.00 s	< 2.00 s	FTMS101C 4046.1

**THERMAL**

Deflection Temperature @ 264 psi (1820 kPa)	115 °F	46 °C	D 648
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**PROPERTY NOTES**

Data herein is typical and not to be construed as specifications.  
Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

**GENERAL PROCESSING FOR INJECTION MOLDING**

	<b>English</b>	<b>SI Metric</b>
Injection Pressure	10000 - 15000 psi	69 - 103 MPa
Melt Temperature	450 - 500 °F	232 - 260 °C
Mold Temperature	125 - 200 °F	52 - 93 °C
Drying	4 hrs @ 200 °F	4 hrs @ 93 °C
Moisture Content	< 0.05 %	< 0.05 %
Dew Point	< -22 °F	< -30 °C

**PROCESSING NOTES**

Do not exceed 520 °F (270 °C) melt temperature.  
Desiccant Type Dryer Required.