



## Product Data Sheet & General Processing Conditions

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

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

PERMANENCE	English	SI Metric	ASTM TEST
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

	English	SI Metric
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.

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complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.

Data are obtained from specimens molded under carefully controlled conditions from representative samples of the compound described herein. Properties may be materially affected by molding techniques applied and by the size and shape of the item molded. No assurance can be implied that all molded articles will have the same properties as those listed.

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