

MATERIALS ENGINEERING
Technical Datasheet
PLENCO 03509
Two-Stage Phenolic
compression molded

PLENCO 03509 is a mineral and flock filled phenolic molding compound offering excellent electrical properties, dimensional stability, and improved heat resistance. UL recognized under component file E40654. 03509 is available in black or brown.

PROPERTY	metric	english	ASTM Test Method
Form	Granular		
Apparent Density	0.66 g/cm ³	41.5 lb/ft ³	D1895
Specific Gravity	1.59		D792
Mold Shrinkage*	0.0029 m/m	0.0029 in/in	D6289
Post Shrinkage 72hr 120°C	0.11 %		D6289
Izod Impact Notched	19.7 J/m	0.37 ft·lb/in	D256
Charpy Impact Notched	22.2 J/m	0.42 ft·lb/in	D256
Drop Ball Impact	116 J/m	2.2 ft·lb/in	Plenco
Tensile Strength	54 MPa	7,865 psi	D638
Tensile Modulus	10,425 MPa	1,512,000 psi	D638
Tensile Elongation	0.6 %		D638
Flexural Strength	83.9 MPa	12,174 psi	D790
Flexural Modulus	9,440 MPa	1,369,000 psi	D790
Compressive Strength	195 MPa	28,328 psi	D695
Heat Resistance	205 °C	400 °F	D794
Deflection Temperature 1.82MPa	193 °C	379 °F	D648
Water Absorption	0.17 %		D570
Rockwell Hardness	84 E scale		D785
Dielectric Strength short time	17.2 kV/mm	437 V/mil	D149
Dissipation Factor, 1MHz	0.029		D150
Permittivity, 1MHz	4.8		D150
Volume Resistivity	3.1E+12 ohm·cm	1.2E+12 ohm·in	D257
ASTM Arc Resistance	170 sec		D495
Comparative Tracking Index	175 V		D3638
UL Flammability	V-0 @3.0mm		UL 94
Oxygen Index	37.1 %		D2863
Coefficient of Thermal Expansion	5.4E-05 /°C	3.0E-05 /°F	E831
Thermal Conductivity 100°C	0.47 W/m/°C	0.27 Btu/hr/ft/°F	E1461

Prior to molding compression electrical specimens, material is dried 30 min @ 90C, 110C preheat.

Store in cool dry place.

The Typical Values listed are results obtained from the testing of standard specimens using the stated test procedures, with said specimens molded under controlled laboratory conditions from representative samplings of the product. Although Plastics Engineering Company at all times reserves the right to make changes in the materials, suppliers and processing, the values listed as typical are those to be expected at the time of our manufacture. The final determination of the accuracy or completeness of any information, the suitability of the product for the use contemplated, the manner of its use, and the matter of any infringement of patents in use, are all the sole responsibility of the user. PLASTICS ENGINEERING COMPANY MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THIS PRODUCT, INCLUDING NO WARRANTY OF THE MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Plastics Engineering Company reserves at all times the right to discontinue the production of any or all of its products. This is an uncontrolled copy and not subject to updates.

*Mold Shrinkage obtained under controlled laboratory conditions with relatively simple mold geometry and should be used for comparison purposes only and not for actual tool design.