

**MATERIALS ENGINEERING**  
Technical Datasheet  
**PLENCO 04504**  
Two-Stage Phenolic  
injection molded

PLENCO 04504 is a two-stage, mineral and cellulose-filled phenolic molding compound having better impact and heat resistance than general purpose molding compounds. Since it also has good electrical properties, it has found use in a wide variety of wiring device applications. It is UL recognized under file E40654. 04504 is available in black.

<b>PROPERTY</b>	<b>metric</b>	<b>english</b>	<b>ASTM Test Method</b>
Form	Granular		
Apparent Density	0.64 g/cm <sup>3</sup>	39.8 lb/ft <sup>3</sup>	D1895
Specific Gravity	1.55		D792
Mold Shrinkage*	0.0069 m/m	0.0069 in/in	D6289
Post Shrinkage 72hr 120°C	0.29 %		D6289
Izod Impact Notched	17.0 J/m	0.32 ft·lb/in	D256
Charpy Impact Notched	17.1 J/m	0.32 ft·lb/in	D256
Drop Ball Impact	100 J/m	1.9 ft·lb/in	Plenco
Tensile Strength	53 MPa	7,634 psi	D638
Tensile Modulus	9,865 MPa	1,431,000 psi	D638
Tensile Elongation	0.7 %		D638
Flexural Strength	80.3 MPa	11,641 psi	D790
Flexural Modulus	9,050 MPa	1,313,000 psi	D790
Compressive Strength	176 MPa	25,492 psi	D695
Heat Resistance	197 °C	387 °F	D794
Deflection Temperature 1.82MPa	178 °C	353 °F	D648
Water Absorption	0.23 %		D570
Rockwell Hardness	79 E scale		D785
Dielectric Strength short time	10.0 kV/mm	254 V/mil	D149
Dissipation Factor, 1MHz	0.102		D150
Permittivity, 1MHz	5.7		D150
Volume Resistivity	3.0E+11 ohm·cm	1.2E+11 ohm·in	D257
ASTM Arc Resistance	170 sec		D495
Comparative Tracking Index	183 V		D3638
UL Flammability	V-0 @1.5mm		UL 94
Oxygen Index	%		D2863
Coefficient of Thermal Expansion	5.7E-05 /°C	3.2E-05 /°F	E831
Thermal Conductivity 100°C	0.52 W/m/°C	0.30 Btu/hr/ft/°F	E1461

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.