

# MATERIALS ENGINEERING LABORATORY

## DATA REPORT

### Plenco 05118

#### Two-Stage Phenolic compression molded

Plenco 05118 is a mineral and graphite filled phenolic molding compound. Customers have found this material useful for bearing seals. 05118 provides for a low coefficient of friction, abrasion resistance, minimal water absorption, and excellent dimensional stability under severe exposure. 05118 is available in gray. 05118 is not recommended for electrical insulating applications.

PROPERTY	metric	english	ASTM Test Method
Form	Granular		
Apparent Density	0.88 g/cm <sup>3</sup>	55.2 lb/ft <sup>3</sup>	D1895
Specific Gravity	1.81		D792
Mold Shrinkage*	0.0017 m/m	0.0017 in/in	D6289
Post Shrinkage 72hr 120°C	0.06 %		D6289
Izod Impact Notched	16.3 J/m	0.31 ft-lb/in	D256
Charpy Impact Notched	18.1 J/m	0.34 ft-lb/in	D256
Drop Ball Impact	58 J/m	1.1 ft-lb/in	Plenco
Tensile Strength	34 MPa	4,961 psi	D638
Tensile Modulus	12,326 MPa	1,788,000 psi	D638
Tensile Elongation	0.4 %		D638
Flexural Strength	57.4 MPa	8,322 psi	D790
Flexural Modulus	10,867 MPa	1,576,000 psi	D790
Compressive Strength	138 MPa	19,969 psi	D695
Heat Resistance	214 °C	417 °F	D794
Deflection Temperature 1.82MPa	196 °C	385 °F	D648
Water Absorption	0.05 %		D570
Rockwell Hardness	60 E scale		D785
Dielectric Strength short time	kV/mm	V/mil	D149
Dissipation Factor, 1MHz			D150
Permittivity, 1MHz			D150
Volume Resistivity	ohm-cm	ohm-in	D257
ASTM Arc Resistance	sec		D495
Comparative Tracking Index	V		D3638
UL Flammability			UL 94
Oxygen Index	43.2 %		D2863
Coefficient of Thermal Expansion	3.6E-05 /°C	2.0E-05 /°F	E831
Thermal Conductivity 100°C	1.08 W/m°C	0.62 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.