

**MATERIALS ENGINEERING**  
Technical Datasheet  
**PLENCO 02311**  
Two-Stage Phenolic  
injection molded

PLENCO 02311 is a versatile general purpose organic filled phenolic molding compound offering excellent mold processability and optimized cure cycles. Plenco 02311 is also granulated to provide improved pourability characteristics for cold powder compression molding. UL recognized under component file E40654. 02311 is available in black color.

<b>PROPERTY</b>	<b>metric</b>	<b>english</b>	<b>ASTM Test Method</b>
Form	Granular		
Apparent Density	0.65 g/cm <sup>3</sup>	40.6 lb/ft <sup>3</sup>	D1895
Specific Gravity	1.41		D792
Mold Shrinkage*	0.0098 m/m	0.0098 in/in	D6289
Post Shrinkage 72hr 120°C	0.43 %		D6289
Izod Impact Notched	17.1 J/m	0.32 ft·lb/in	D256
Charpy Impact Notched	17.9 J/m	0.34 ft·lb/in	D256
Drop Ball Impact	99 J/m	1.9 ft·lb/in	Plenco
Tensile Strength	59 MPa	8,565 psi	D638
Tensile Modulus	8,477 MPa	1,229,000 psi	D638
Tensile Elongation	0.8 %		D638
Flexural Strength	87.0 MPa	12,611 psi	D790
Flexural Modulus	7,480 MPa	1,085,000 psi	D790
Compressive Strength	200 MPa	28,948 psi	D695
Heat Resistance	201 °C	394 °F	D794
Deflection Temperature 1.82MPa	159 °C	318 °F	D648
Water Absorption	0.42 %		D570
Rockwell Hardness	84 E scale		D785
Dielectric Strength short time	9.6 kV/mm	244 V/mil	D149
Dissipation Factor, 1MHz	0.076		D150
Permittivity, 1MHz	5.2		D150
Volume Resistivity	1.6E+12 ohm·cm	6.1E+11 ohm·in	D257
ASTM Arc Resistance	140 sec		D495
Comparative Tracking Index	166 V		D3638
UL Flammability	HB @1.5mm		UL 94
Oxygen Index	26.5 %		D2863
Coefficient of Thermal Expansion	6.8E-05 /°C	3.8E-05 /°F	E831
Thermal Conductivity 100°C	0.41 W/m°C	0.23 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.