

# MATERIALS ENGINEERING LABORATORY DATA REPORT

## PLENCO 04309

### Two-Stage Phenolic injection molded

PLENCO 04309 is a heat resistant, glass reinforced phenolic molding compound offering improved mechanical strength and electrical strength properties. UL recognized under component file E40654. 04309 is available in black.

| PROPERTY                         | metric                 | english                 | ASTM Test Method |
|----------------------------------|------------------------|-------------------------|------------------|
| Form                             | Nodular                |                         |                  |
| Apparent Density                 | 0.64 g/cm <sup>3</sup> | 39.7 lb/ft <sup>3</sup> | D1895            |
| Specific Gravity                 | 1.54                   |                         | D792             |
| Mold Shrinkage*                  | 0.0066 m/m             | 0.0066 in/in            | D6289            |
| Post Shrinkage 72hr 120°C        | 0.19 %                 |                         | D6289            |
| Izod Impact Notched              | 21.1 J/m               | 0.40 ft·lb/in           | D256             |
| Charpy Impact Notched            | 19.3 J/m               | 0.36 ft·lb/in           | D256             |
| Drop Ball Impact                 | 143 J/m                | 2.7 ft·lb/in            | Plenco           |
| Tensile Strength                 | 49 MPa                 | 7,038 psi               | D638             |
| Tensile Modulus                  | 9,383 MPa              | 1,361,000 psi           | D638             |
| Tensile Elongation               | 0.6 %                  |                         | D638             |
| Flexural Strength                | 81.9 MPa               | 11,873 psi              | D790             |
| Flexural Modulus                 | 8,706 MPa              | 1,263,000 psi           | D790             |
| Compressive Strength             | 164 MPa                | 23,778 psi              | D695             |
| Heat Resistance                  | 203 °C                 | 398 °F                  | D794             |
| Deflection Temperature 1.82MPa   | 163 °C                 | 325 °F                  | D648             |
| Water Absorption                 | 0.19 %                 |                         | D570             |
| Rockwell Hardness                | 80 E scale             |                         | D785             |
| Dielectric Strength short time   | 8.0 kV/mm              | 204 V/mil               | D149             |
| Dissipation Factor, 1MHz         | 0.062                  |                         | D150             |
| Permittivity, 1MHz               | 6.3                    |                         | D150             |
| Volume Resistivity               | 5.8E+12 ohm·cm         | 2.3E+12 ohm·in          | D257             |
| ASTM Arc Resistance              | 153 sec                |                         | D495             |
| Comparative Tracking Index       | 175 V                  |                         | D3638            |
| UL Flammability                  | V-0 @1.50mm            |                         | UL 94            |
| Oxygen Index                     | 30.6 %                 |                         | D2863            |
| Coefficient of Thermal Expansion | 4.7E-05 /°C            | 2.6E-05 /°F             | E831             |
| Thermal Conductivity 100°C       | 0.50 W/m/°C            | 0.29 Btu/hr/ft/°F       | E1461            |

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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.*