

# MATERIALS ENGINEERING LABORATORY

## DATA REPORT

### Plenco 04527

#### Single-Stage Phenolic transfer molded

Plenco 04527 is a heat resistant, mineral and flock filled phenolic molding compound, offering excellent mechanical strength, and resistance to cracking in a wet-dry environment. UL recognized under component file E40654. 04527 is available in black.

| PROPERTY                         | metric                 | english                 | ASTM<br>Test<br>Method |
|----------------------------------|------------------------|-------------------------|------------------------|
| Form                             | Granular               |                         |                        |
| Apparent Density                 | 0.61 g/cm <sup>3</sup> | 38.2 lb/ft <sup>3</sup> | D1895                  |
| Specific Gravity                 | 1.60                   |                         | D792                   |
| Mold Shrinkage*                  | 0.0036 m/m             | 0.0036 in/in            | D6289                  |
| Post Shrinkage 72hr 120°C        | 0.32 %                 |                         | D6289                  |
| Izod Impact Notched              | 25.5 J/m               | 0.48 ft-lb/in           | D256                   |
| Charpy Impact Notched            | 24.3 J/m               | 0.46 ft-lb/in           | D256                   |
| Drop Ball Impact                 | 154 J/m                | 2.9 ft-lb/in            | Plenco                 |
| Tensile Strength                 | 61 MPa                 | 8,881 psi               | D638                   |
| Tensile Modulus                  | 10,014 MPa             | 1,452,000 psi           | D638                   |
| Tensile Elongation               | 1.0 %                  |                         | D638                   |
| Flexural Strength                | 89.6 MPa               | 13,000 psi              | D790                   |
| Flexural Modulus                 | 9,669 MPa              | 1,402,000 psi           | D790                   |
| Compressive Strength             | 170 MPa                | 24,588 psi              | D695                   |
| Heat Resistance                  | 205 °C                 | 402 °F                  | D794                   |
| Deflection Temperature 1.82MPa   | 234 °C                 | 452 °F                  | D648                   |
| Water Absorption                 | 0.45 %                 |                         | D570                   |
| Rockwell Hardness                | 71 E scale             |                         | D785                   |
| Dielectric Strength short time   | 8.5 kV/mm              | 215 V/mil               | D149                   |
| Dissipation Factor, 1MHz         | 0.102                  |                         | D150                   |
| Permittivity, 1MHz               | 7.5                    |                         | D150                   |
| Volume Resistivity               | 1.4E+12 ohm-cm         | 5.6E+11 ohm-in          | D257                   |
| ASTM Arc Resistance              | 183 sec                |                         | D495                   |
| Comparative Tracking Index       | 195 V                  |                         | D3638                  |
| UL Flammability                  | V-1 @1.5mm             |                         | UL 94                  |
| Oxygen Index                     | 33.0 %                 |                         | D2863                  |
| Coefficient of Thermal Expansion | 3.9E-05 /°C            | 2.2E-05 /°F             | E831                   |
| Thermal Conductivity 100°C       | 0.49 W/m/°C            | 0.28 Btu/hr/ft/°F       | E1461                  |

Limited Shelf-Life. Actual shelf-life obtained is dependent on storage conditions, molding process, and mold design. 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.