



# POLYMER INDUSTRIES

## DENSETEC Post Industrial: Typical Properties

| Property*  | ASTM Test Method  | Typical Values                   |                                  |
|--|-------------------|----------------------------------|----------------------------------|
|  |                   | English Units                    | Metric Units                     |
| <b>Physical Properties</b>                       |                   |                                  |                                  |
| Density  | D1505             | 59.6 lbs/ft <sup>3</sup>         | 0.955 g/cc                       |
| Melt Index, Condition 190 °C / 2.16 kg           | D1238             | -                                | 0.25 g/10 min                    |
| Polyethylene Classification                      | D4976             | Group 2, Class 3, Grade 5        | Group 2, Class 3, Grade 5        |
| <b>Mechanical Properties</b>                     |                   |                                  |                                  |
| Tensile Strength @ Yield                         | D638              | 4000 psi                         | 27.6 MPa                         |
| Ultimate Elongation                              | D638              | > 600%                           | > 600%                           |
| Tensile IMPact Strength                          | D1822             | 70 ft-lbf/in <sup>2</sup>        | 147 KJ/m <sup>2</sup>            |
| Notched Izod IMPact Strength                     | D256              | 2.99 ft-lbf/in                   | 159 J/m                          |
| Compressive Stress @Yield                        | D695              | 1,500 psi                        | 10.3 MPa                         |
| ESCR, Condition A (10% Igepal), F <sub>50</sub>  | D1693             | 45 hours                         | 45 hours                         |
| ESCR, Condition B (100% Igepal), F <sub>50</sub> | D1693             | 35 hours                         | 35 hours                         |
| Durometer Hardness                               | D2240             | 64 Shore D                       | 64 Shore D                       |
| Flexural Modulus                                 | D790              | 200,000 psi                      | 1379 MPa                         |
| Coefficient of Friction, Static                  | D1894             | 0.31                             | 0.31                             |
| Coefficient of Friction, Kinetic                 | D1894             | 0.22                             | 0.22                             |
| <b>Thermal Properties</b>                        |                   |                                  |                                  |
| Coefficient of Linear Thermal Expansion          | E831              | 7 X 10 <sup>-5</sup> in/in/°F    | 1.26 X 10 <sup>-4</sup> cm/cm/°C |
| Decomposition Temperature                        | Union Carbide     | ~ 650 °F                         | ~ 345 °C                         |
| Vicat Softening Temperature                      | D1525             | 257 °F                           | 125 °C                           |
| Heat Deflection Temperature @66 psi              | D648              | 171 °F                           | 77 °C                            |
| Brittleness Temperature                          | D746              | < -120 °F                        | < -84 °C                         |
| Glass Transition Temperature                     | Union Carbide     | -193 °F                          | -125 °C                          |
| Continuous Use Temperature                       | ---               | -100 °F to 180 °F                | -73 °C to 82 °C                  |
| Thermal Conductivity                             | Private Test      | 2.5 Btu-in/h-ft <sup>2</sup> -°F | .35 W/m-°K                       |
| Burn Rate  | D635              | 1 in/min                         | 25.4 mm/min                      |
| Ignition Temperature, Flash Conditions           | D1929             | 645 °F                           | 341 °C                           |
| Ignition Temperature, Self Ignition Conditions   | D1929             | 660 °F                           | 349 °C                           |
| Flame Spread                                     | E84 Tunnel Test   | 98                               | 98                               |
| Smoke Developed                                  | E84 Tunnel Test   | 350                              | 350                              |
| Fire Rating                                      | Underwriters Labs | UL94HB                           | UL94HB                           |
| <b>Electrical Properties</b>                     |                   |                                  |                                  |
| Dielectric Strength                              | D149              | 510 V/mil                        | 20.1 KV/mm                       |
| Dielectric Constant                              | D150              | 2.35                             | 2.35                             |
| Volume Resistivity                               | D257              | > 2.3 X 10 <sup>15</sup> ohm-in  | > 6 X 10 <sup>15</sup> ohm-cm    |

\*The nominal properties reported herein are typical of the product but do not reflect normal testing variance and therefore should not be used for specification purposes.

Typical Properties reported herein were determined on compression molded samples prepared in accordance with Procedure C of ASTM D4703, Annex A1.