

## Technical Data Sheet

### *Alathon* L5040TC

High Density Polyethylene



#### Product Description

*Alathon* L5040TC is a bimodal high density polyethylene copolymer natural resin used by customers for telecommunications and power conduits. L5040TC offers an excellent balance of stiffness, toughness and ease of processing. Conduits made with this resin are used with fiber optic cable, electrical cable and telecommunications cable. L5040TC meets the material requirements for polyethylene conduit as per ASTM F2160 and also meets the requirements of ASTM D3350 cell classification PE435580A.

|                          |                                           |
|--------------------------|-------------------------------------------|
| <b>Application</b>       | Conduit                                   |
| <b>Market</b>            | Industrial, Building & Construction; Pipe |
| <b>Processing Method</b> | Pipe                                      |

| Typical Properties                                                    | Nominal Value | English Units         | Nominal Value | SI Units          | Test Method |
|-----------------------------------------------------------------------|---------------|-----------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                                       |               |                       |               |                   |             |
| Melt Flow Rate, (190 °C/2.16 kg)                                      | 0.29          | g/10 min              | 0.29          | g/10 min          | ASTM D1238  |
| Density, (23 °C)                                                      | 0.949         | g/cm <sup>3</sup>     | 0.949         | g/cm <sup>3</sup> | ASTM D1505  |
| <b>Mechanical</b>                                                     |               |                       |               |                   |             |
| Flexural Modulus, (2% Secant)                                         | 145000        | psi                   | 1000          | MPa               | ASTM D790   |
| Tensile Strength at Yield                                             | 3700          | psi                   | 26            | MPa               | ASTM D638   |
| Tensile Elongation at Break                                           | >600          | %                     | >600          | %                 | ASTM D638   |
| Environmental Stress Crack Resistance                                 |               |                       |               |                   |             |
| F <sub>10</sub> (10% Igepal®, Cond B)                                 | >200          | hr                    | >200          | hr                | ASTM D1693  |
| F <sub>50</sub> (100% Igepal®, Cond B)                                | >1000         | hr                    | >1000         | hr                | ASTM D1693  |
| Notched Constant Ligament Stress, (10% Igepal, 50 °C, 600 psi stress) | >160          | hr                    | >160          | hr                | ASTM F2136  |
| <b>Impact</b>                                                         |               |                       |               |                   |             |
| Tensile Impact Strength                                               | 188           | ft-lb/in <sup>2</sup> | 395           | kJ/m <sup>2</sup> | ASTM D1822  |
| <b>Hardness</b>                                                       |               |                       |               |                   |             |
| Shore Hardness, (Shore D)                                             | 63            |                       | 63            |                   | ASTM D2240  |
| <b>Thermal</b>                                                        |               |                       |               |                   |             |
| Low Temperature Brittleness, F <sub>50</sub>                          | <-96          | °F                    | <-71          | °C                | ASTM D746   |
| Deflection Temperature Under Load, (66 psi, Unannealed)               | 169           | °F                    | 76            | °C                | ASTM D648   |