

## Technical Data Sheet

### *Alathon* L5040

High Density Polyethylene



#### Product Description

*Alathon* L5040 is able to incorporate high levels of post-consumer recycle and retain excellent bottle physical properties. This resin provides high ESCR and processing stability. Typical applications include stress crack resistant bottles and extruded pipe and conduit.

|                   |                                                      |
|-------------------|------------------------------------------------------|
| Application       | Bottles for Industrial Use                           |
| Market            | Rigid Packaging                                      |
| Processing Method | Extrusion Blow Molding                               |
| Attribute         | High ESCR (Environmental Stress Cracking Resistance) |

| Typical Properties                                                               | Nominal Value | English Units         | Nominal Value | SI Units          | Test Method |
|----------------------------------------------------------------------------------|---------------|-----------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                                                  |               |                       |               |                   |             |
| Melt Flow Rate, (190 °C/2.16 kg)                                                 | 0.40          | g/10 min              | 0.40          | 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, (1% Secant)                                                    | 160000        | psi                   | 1100          | MPa               | ASTM D790   |
| Tensile Strength at Yield                                                        | 3400          | psi                   | 23.4          | MPa               | ASTM D638   |
| Tensile Elongation at Break                                                      | >600          | %                     | >600          | %                 | ASTM D638   |
| Environmental Stress Crack Resistance, F <sub>50</sub><br>(100% Igepal®, Cond B) | >1000         | hr                    | >1000         | hr                | ASTM D1693  |
| <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>                                                                   |               |                       |               |                   |             |
| Vicat Softening Temperature                                                      | 262           | °F                    | 128           | °C                | ASTM D1525  |
| Low Temperature Brittleness, F <sub>50</sub>                                     | <-103         | °F                    | <-75          | °C                | ASTM D746   |
| Deflection Temperature Under Load, (66 psi, Unannealed)                          | 169           | °F                    | 76            | °C                | ASTM D648   |