

## Technical Data Sheet

### *Alathon* H5234



High Density Polyethylene

#### Product Description

*Alathon* H5234 is a high flow injection molding grade of resin selected by customers for fast cycle and thin wall molding. It provides good cold temperature impact resistance. Typical applications include frozen food, ice cream, and deli/condiment containers.

**Application** Housewares; TWIM Food Containers

**Market** Rigid Packaging

**Processing Method** Injection Molding

| Typical Properties                                      | Nominal Value | English Units      | Nominal Value | SI Units          | Test Method |
|---------------------------------------------------------|---------------|--------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                         |               |                    |               |                   |             |
| Melt Flow Rate, (190 °C/2.16 kg)                        | 34            | g/10 min           | 34            | g/10 min          | ASTM D1238  |
| Density, (23 °C)                                        | 0.952         | g/cm <sup>3</sup>  | 0.952         | g/cm <sup>3</sup> | ASTM D1505  |
| Bulk Density                                            | 37-39         | lb/ft <sup>3</sup> | 593-625       | kg/m <sup>3</sup> | ASTM D1895  |
| Spiral Flow                                             | 15.5          | in                 | 39.4          | cm                | LYB Method  |
| <b>Mechanical</b>                                       |               |                    |               |                   |             |
| Flexural Modulus                                        |               |                    |               |                   |             |
| (1% Secant)                                             | 169000        | psi                | 1170          | MPa               | ASTM D790   |
| (2% Secant)                                             | 137000        | psi                | 946           | MPa               | ASTM D790   |
| Flexural Young's Modulus                                | 175400        | psi                | 1210          | MPa               | ASTM D790   |
| Tensile Modulus, (1% Secant)                            | 110000        | psi                | 758           | MPa               | ASTM D638   |
| Tensile Young's Modulus                                 | 136000        | psi                | 938           | MPa               | ASTM D638   |
| Tensile Stress at Break, (23 °C)                        | 3820          | psi                | 26            | MPa               | ASTM D638   |
| Tensile Elongation at Break, (23 °C)                    | 9.0           | %                  | 9.0           | %                 | ASTM D638   |
| <b>Impact</b>                                           |               |                    |               |                   |             |
| Notched Izod Impact Strength, (23 °C)                   | 0.49          | ft-lb/in           | 26            | J/m               | ASTM D256   |
| Unnotched Impact Strength, (-18 °C)                     | 10            | ft-lb/in           | 530           | J/m               | ASTM D4812  |
| <b>Hardness</b>                                         |               |                    |               |                   |             |
| Shore Hardness, (Shore D, max)                          | 68            |                    | 68            |                   | ASTM D2240  |
| <b>Thermal</b>                                          |               |                    |               |                   |             |
| Vicat Softening Temperature                             | 250           | °F                 | 121           | °C                | ASTM D1525  |
| Low Temperature Brittleness, F <sub>50</sub>            | <-105         | °F                 | <-76          | °C                | ASTM D746   |
| Deflection Temperature Under Load, (66 psi, Unannealed) | 157           | °F                 | 69            | °C                | ASTM D648   |
| Melting Temperature                                     | 262.9         | °F                 | 128.3         | °C                | ASTM D3418  |
| Crystallization Temperature                             | 237.2         | °F                 | 114.0         | °C                | ASTM D3418  |