

# Alathon® H5234

High Density Polyethylene

LyondellBasell Industries

## Message:

ALATHON H 5234 is a high flow injection molding grade of resin designed 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.

| General Information                       |   |                   |                 |
|---|---|-------------------|-----------------|
| Features                                  | Fast Molding Cycle<br>Food Contact Acceptable<br>High Flow<br>Low Temperature Impact Resistance |                   |                 |
| Uses                                      | Containers<br>Food Containers<br>Thin-walled Parts  |                   |                 |
| Agency Ratings                            | FDA 21 CFR 177.1520   |                   |                 |
| Forms                                     | Pellets   |                   |                 |
| Processing Method                         | Injection Molding   |                   |                 |
| Physical                                  | Nominal Value   | Unit              | Test Method     |
| Density                                   | 0.952   | g/cm <sup>3</sup> | ASTM D1505      |
| Apparent Density                          | 0.59 to 0.63  | g/cm <sup>3</sup> | ASTM D1895      |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 34  | g/10 min          | ASTM D1238      |
| Spiral Flow                               | 39.4  | cm                | Internal Method |
| Hardness                                  | Nominal Value   | Unit              | Test Method     |
| Durometer Hardness (Shore D)              | 68  |                   | ASTM D2240      |
| Mechanical                                | Nominal Value   | Unit              | Test Method     |
| Tensile Modulus <sup>1</sup>              |   |                   | ASTM D638       |
| --  | 938   | MPa               |                 |
| 1% Secant                                 | 758   | MPa               |                 |
| Tensile Strength <sup>2</sup> (Break)     | 26.3  | MPa               | ASTM D638       |
| Tensile Elongation <sup>3</sup> (Break)   | 9.0   | %                 | ASTM D638       |
| Flexural Modulus <sup>4</sup>             |   |                   | ASTM D790       |
| --  | 1210  | MPa               |                 |
| 1% Secant                                 | 1170  | MPa               |                 |
| 2% Secant                                 | 945   | MPa               |                 |
| Impact                                    | Nominal Value   | Unit              | Test Method     |
| Notched Izod Impact (23°C)                | 26  | J/m               | ASTM D256       |
| Unnotched Izod Impact (-18°C)             | 530   | J/m               | ASTM D4812      |

| Thermal  | Nominal Value | Unit | Test Method |
|--|---------------|------|-------------|
| Deflection Temperature Under Load (0.45 MPa, Unannealed) | 69.4          | °C   | ASTM D648   |
| Brittleness Temperature                                  | < -76.1       | °C   | ASTM D746   |
| Vicat Softening Temperature                              | 121           | °C   | ASTM D1525  |
| Peak Melting Temperature                                 | 128           | °C   | ASTM D3418  |
| Peak Crystallization Temperature (DSC)                   | 114           | °C   | ASTM D3418  |

| Injection          | Nominal Value | Unit |
|--------------------|---------------|------|
| Rear Temperature   | 232           | °C   |
| Middle Temperature | 243           | °C   |
| Front Temperature  | 246           | °C   |
| Nozzle Temperature | 246           | °C   |

| NOTE |                    |
|------|--------------------|
| 1.   | Type I, 50 mm/min  |
| 2.   | Type IV, 50 mm/min |
| 3.   | Type IV, 50 mm/min |
| 4.   | 13 mm/min          |

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