

Technical Data Sheet

Alathon L5008



High Density Polyethylene

Product Description

Alathon L5008 is a bimodal, high molecular weight, high density polyethylene resin with excellent processing characteristics. L5008 is selected by customers for demanding pressure pipe applications. When combined with an approved color or black masterbatch at the correct use level, L5008 may meet the following standards or requirements (see Technical Data Sheet for limitations and more information):

- ASTM D3350 Cell Classifications: **PE445564C CC0**, **PE445564E CC0**, **PE445565C CC0**, and **PE445565E CC0**
- NSF Standard 14 and Standard 61 for Potable Water Pipe and Fittings
- NSF Standard 358-1 for PE Pipe and Fittings for "Geothermal" Heat Pump Systems
- PE80 per ISO 9080 & ISO 12162
- Plastics Pipe Institute (PPI) PE 3408 and PE4608 per PPI TR-3

Regulatory Status

For regulatory compliance information, see *Alathon L5008* [Product Stewardship Bulletin \(PSB\) and Safety Data Sheet \(SDS\)](#).

| | |
|--------------------------|---|
| Status | Commercial |
| Availability | North America; South & Central America |
| Application | Drinking Water Pipe |
| Market | Industrial, Building & Construction; Pipe |
| Processing Method | Pipe |

| Typical Properties | Nominal Value | English Units | Nominal Value | SI Units | Test Method |
|--|---------------|-------------------|---------------|-------------------|-------------|
| Physical | | | | | |
| Melt Flow Rate | | | | | |
| (190 °C/2.16 kg) | 0.07 | g/10 min | 0.07 | g/10 min | ASTM D1238 |
| (190 °C/21.6 kg) | 16 | g/10 min | 16 | g/10 min | ASTM D1238 |
| Density, (23 °C) | 0.949 | g/cm ³ | 0.949 | g/cm ³ | ASTM D1505 |
| Mechanical | | | | | |
| Flexural Modulus, (2% Secant) | 141000 | psi | 972 | MPa | ASTM D790 |
| Tensile Stress at Break | 4970 | psi | 34.3 | MPa | ASTM D638 |
| Tensile Stress at Yield | 3560 | psi | 24.5 | MPa | ASTM D638 |
| Tensile Elongation at Break | 635 | % | 635 | % | ASTM D638 |
| PENT, (2.4 MPa, 80 °C, Air) | >100 | hr | >100 | hr | ASTM F1473 |
| Value was determined on L5008 compounded with an approved masterbatch. | | | | | |
| Thermal | | | | | |
| Deflection Temperature Under Load, (66 psi, Unannealed) | 154 | °F | 68 | °C | ASTM D648 |
| DSC Induction Temperature | 500 | °F | 260 | °C | ASTM D3350 |
| Oxidative-Induction Time, (200 °C) | 100 | min | 100 | min | ASTM D3895 |
| Value was determined on L5008 compounded with an approved masterbatch. | | | | | |
| Conformance Testing | | | | | |

| | | | |
|------------------------------------|----------|-------|------------|
| Hydrostatic Design Basis | | | |
| (73 °F) | 1600 psi | | ASTM D2837 |
| (140 °F) | 1000 psi | | ASTM D2837 |
| Minimum Required Strength, (20 °C) | | 8 MPa | ISO 12162 |

Notes

Typical Property values were determined on natural L5008 resin, unless otherwise noted. Conformance Test values were determined from L5008 compounded with an approved masterbatch.

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Approved Black Masterbatches

The following black masterbatches are approved for use with *Alathon* L5008 when added to produce a carbon black level in the final article of 2.00 - 2.56 wt%. When using a nominal 35 wt% carbon black masterbatch, this will result in a use level of the masterbatch between 6.0 and 7.3 wt%. Addition levels may need to be adjusted due to variation in the certified carbon black level in the particular masterbatch lot.

| <u>Manufacturer</u> | <u>Masterbatch Code</u> |
|---------------------------------|----------------------------------|
| Ampacet Corporation | 190872, 190109A |
| Ingenia Polymers Corporation | IPBK033A |
| Modern Dispersions Incorporated | PE 535-42 |
| PolyOne Corporation | 2116 Black PEC, PEC 2139, B60054 |
| PolyOne Corporation | PE-335-4710L BLACK PEC |
| RTP Company | PE 42000 BK MB |

Approved Color Masterbatches

| <u>Manufacturer</u> | <u>Masterbatch Code</u> | <u>Use Level</u> | <u>Restrictions</u> |
|---------------------|----------------------------|------------------|------------------------|
| Ampacet Corporation | LR-180685 Blue UV HDPE MB | 4% | none |
| PolyOne Corporation | 2612 Blue PEC | 4% | none |
| PolyOne Corporation | 2614 Lavender (Purple) PEC | 4% | non-potable water only |

Chlorine Classification

Alathon L5008 has not been tested for chlorine resistance and is designated a CC0 per ASTM D3350-14.

Caution

If an approved masterbatch is not used in the manufacture of pipe or fittings, the customer assumes all responsibility for determining that the final article meets the applicable material and pipe or fittings standards.

Certifications



Certified as meeting requirements of Plastics Pipe Institute and NSF International, as stated above.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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