*Alathon*

# L5008HP

High Density Polyethylene
Pressure Pipe Extrusion Grade
High Load Melt Index **16** Density **0.949**

## Applications

*Alathon* L5008HP is a bimodal, high molecular weight, high density polyethylene resin with excellent processing characteristics. L5008HP is selected by customers for pressure pipe applications including industrial piping, mining, oil & gas gathering, municipal water service lines and sewers. When L5008HP is combined with an Equistar approved black at the correct loading (see page 2), this compound meets the following standards:

- Plastics Pipe Institute (PPI) PE 4710 per PPI TR-3
- ASTM D3350 Cell Classification **PE445574C**
- Chemical Resistance per ASTM D2513 (see page 2)
- 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

## Processing Techniques

Specific recommendations for processing L5008HP can only be made when the processing conditions, equipment and end use are known. For further suggestions, please contact your Equistar sales or technical representative.

## Conformance

| Test[1] | Nominal Value | Units | Test Method |
|---|---|---|---|
| PENT at 2.4 MPa and 80 °C | >500 | hours | ASTM F1473 |
| Hydrostatic Design Basis, 73 °F (23 °C) | 1,600 | psi | ASTM D2837 |
| Hydrostatic Design Basis, 140 °F (60 °C) | 1,000 | psi | ASTM D2837 |

## Typical Properties

| Property [2] | Nominal Value | Units | Test Method |
|---|---|---|---|
| High Load Melt Index | 16.0 | g/10 min | ASTM D1238 |
| Melt Index | 0.07 | g/10 min | ASTM D1238 |
| Density | 0.949 | g/cc | ASTM D1505 |
| DSC Induction Temperature | 267 | °C | ASTM D3350 |
| 2% Secant Modulus | 141,000 | psi | ASTM D790 |
| Tensile Stress @ Yield | 3,540 | psi | ASTM D638 |
| Tensile Stress @ Break | 4,970 | psi | ASTM D638 |
| Elongation @ Break | 635 | % | ASTM D638 |
| Heat Deflection Temperature @ 66 psi | 68 | °C | ASTM D746 |

[1] Values were obtained from L5008HP compounded with an approved black masterbatch.
[2] Values were determined on natural resin.

**See page 2 for approved concentrates, formulation and chemical resistance.**

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## Approved Masterbatches

The following masterbatches are approved for use with *Alathon* L5008HP:

| Manufacturer | Masterbatch Code |
|---|---|
| Ampacet | 190872, 190109A |
| CP Chemicals | M151 |
| Modern Dispersions | PE 535-42 |
| PolyOne | 2107 Black PEC, 2116 Black PEC, PEC 2139, B60054 |

## Formulation

The amount of black concentrate added should be adjusted to maintain a carbon black level between 2.0 and 2.5 wt% in the final pipe. This will typically require the use of between 6.0 and 6.8 wt% of black concentrate when the concentrate contains 35 wt% of carbon black. Addition levels may need to be adjusted due to variation in the certified carbon black level in the black concentrate.

## Chemical Resistance

Chemical resistance was conducted in accordance with ASTM D2513-01a, Section 5.4 on L5008HP Black. Results can be found in the table below.

| | Weight Change | | Change in Tensile Strength | |
|---|---|---|---|---|
| **Reagent** | **% Change** | **Requirements** | **% Change** | **Requirements** |
| 100% Mineral Oil | 0.11 | 0.5% max. | 2.37 | ± 12% max. |
| 5% t-Butyl Mercaptan in Mineral Oil | 0.13 | 0.5% max. | 0.73 | ± 12% max. |
| 100% Ethylene Glycol | 0.12 | 0.5% max. | 1.37 | ± 12% max. |
| 15% Toluene in Methanol | 0.28 | 1.0% max. | 7.71 | ± 12% max. |