

Alathon

# L5008

High Density Polyethylene  
Pressure Pipe Extrusion Grade

High Load Melt Index **16** Density **0.949**



## Applications

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 L5008 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 4608 per PPI TR-3
- Plastics Pipe Institute (PPI) PE 3408 per PPI TR-4
- PE80 per ISO 9080 & ISO 12162
- ASTM D3350 Cell Classification **PE445564C**
- 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 L5008 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 <sup>1</sup>	Nominal Value	Units	Test Method
PENT at 2.4 MPa and 80 °C	>100	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 <sup>2</sup>	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

<sup>1</sup> Values were obtained from L5008 compounded with an approved black masterbatch.

<sup>2</sup> 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* L5008:

Manufacturer	Masterbatch Code
Ampacet	190872, 190109A
CP Chemicals	M151
Modern Dispersions	PE 535-42
PolyOne Corp.	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 L5008 Black. Results can be found in the table below.

Reagent	Weight Change		Change in Tensile Strength	
	% 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.