Technical Data Sheet

Hyperzone HY4008LSC

High Density Polyethylene

Product Description

Hyperzone HY4008LSC is a bimodal, high molecular weight, high density polyethylene resin with excellent processing characteristics. HY4008LSC is selected by customers for pressure pipe applications including industrial piping, mining, oil & gas gathering, municipal water service lines and sewers. Customers typically use HY4008LSC in large diameter, thick wall applications requiring high resistance to pipe failure by rapid crack propagation and slow crack growth mechanisms. When HY4008LSC is combined with a LyondellBasell approved color or black masterbatch at the correct use level, this compound may meet the following standards or requirements:

- ASTM D3350 Cell Classifications: **PE445574C** and **PE445576C**. For Oxidative Resistance Classification Categorization values (CC) please contact your LyondellBasell Technical Service Engineer or Sales Manager.
- 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
- Plastics Pipe Institute (PPI) PE4710 and PE 100 per PPI TR-3

Regulatory Status

For regulatory compliance information, see *Hyperzone* HY4008LSC Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	North America
Application	Drainage Pipe; Drinking Water Pipe; Industrial; Soil & Waste 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/5.0 kg)	0.22	g/10 min	0.22	g/10 min	ASTM D1238
(190 °C/21.6 kg)	7.5	g/10 min	7.5	g/10 min	ASTM D1238
Density, (23 °C)	0.949	g/cm³	0.949	g/cm³	ASTM D1505
Mechanical					
Flexural Modulus, (2% Secant)	142000	psi	977	MPa	ASTM D790
Tensile Stress at Break	4900	psi	34	MPa	ASTM D638
Tensile Stress at Yield	3700	psi	26	MPa	ASTM D638
Tensile Elongation at Break	530	%	530	%	ASTM D638
PENT on Natural Resin, (2.4 MPa, 80 °C, Air)	>7500	hr	>7500	hr	ASTM F1473
Thermal					
Low Temperature Brittleness, F_{50}	<-103	°F	<-75	°C	ASTM D746
DSC Induction Temperature	516	°F	269	°C	ASTM D3350
Oxidative-Induction Time, (200 °C)	>110	min	>110	min	ASTM D3895
Conformance Testing					

Hydrostatic Design Basis				
(73 °F)	1600	psi		ASTM D2837
(140 °F)	1000	psi		ASTM D2837
Minimum Required Strength, (20 °C)			10 MPa	ISO 9080

Notes

Typical Property values were determined on natural HY4008LSC resin, unless otherwise noted. Conformance Test values were determined from HY4008LSC 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.

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.

Approved Masterbatches

Please contact your Equistar pressure pipe contact for a list of approved masterbatches and dosing levels.

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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