



48BG9HL.DEV

High-Density Polyethylene Resin

Technical Data Sheet



Product Description

Shell Polymers 48BG9HL an extra high molecular weight, ethylene-hexene copolymer exhibiting the characteristics of good melt strength, rigidity, excellent ESCR and low temperature impact strength, and durability.



Highlights

- Designed for extrusion blow molding and sheet extrusion
- Suitable for use in shipping containers Jerry cans, fuel containers, and agricultural chemical tanks
- Gas phase technology

Resin Properties	Method	Nominal Value
Density	ASTM D792	0.948 g/cm ³
Melt Index (190 °C / 2.16 kg)	ASTM D1238	<0.1 g/10 min
High Load Melt Index (190 °C / 21.6 kg)	ASTM D1238	9.0 g/10 min
ESCR ^(a)	ASTM D1693	>2000 hr

Mechanical Properties	Method	Nominal Value (English)	Nominal Value (SI)
Tensile ^(b) Strength at Yield	ASTM D638	3190 psi	22 MPa
Tensile ^(b) Strength at Break	ASTM D638	4060 psi	28 MPa
Tensile ^(b) Elongation at Yield	ASTM D638	9.5%	9.5%
Tensile ^(b) Elongation at Break	ASTM D638	>1000%	>1000%
Flexural Modulus 2% Secant	ASTM D790B	135,000 psi	930 MPa
Flexural Modulus 1% Secant	ASTM D790B	159,500 psi	1100 MPa
Tensile Impact Strength	ASTM D1822	176 ft·lb _i /in ²	370 kJ/m ²
Notched IZOD Impact (RT)	ASTM D256	6.3 ft·lb _i /in	336 J/m
Notched IZOD Impact (-30 °C)	ASTM D256	3.0 ft·lb _i /in	161 J/m
Brittleness Temperature	ASTM D746	< -103 °F	< -75 °C
Durometer Hardness Shore D	ASTM D2240	64	64

Thermal Properties	Method	Nominal Value (English)	Nominal Value (SI)
Deflection Temperature under load at 66 psi un-annealed	ASTM D648	156 °F	69 °C
Vicat Softening Temperature	ASTM D1525	257 °F	125 °C
Peak Melt Temperature		266 °F	130 °C
Peak Crystallization Temperature		243 °F	117 °C

Notes

Typical properties only. Not to be construed as specifications. Users should confirm results by performing their own tests. Plaques molded in accordance with ASTM D4703C.

^(a)ESCR tested using Condition B, 100% Igepal

^(b)Tensile properties tested on Type IV specimens

Regulatory Statement:

- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.1a or 3.2a

Consult the Regulatory Data Sheet for more details. It is available upon request. Please contact your Account Manager.

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