Shell Polymers

52N7
High-Density Polyethylene Resin

Technical Data Sheet

Product Description

Shell Polymers HDPE 52N7 is designed to deliver superior low temperature toughness and excellent stiffness. This resin also offers good processability. Certified to NSF/ANSI 51. UL 94HB recognized.

Highlights

- Intended for use in pails and other industrial injection molded parts
- Gas phase technology

Resin Properties	Method	Nominal Value
Density	ASTM D792	0.952 g/cm^3
Melt Index (190 °C / 2.16 kg)	ASTM D1238	6.5 g/10 min

Mechanical Properties	Method	Nominal Value (English)	Nominal Value (SI)
Environmental Stress-Cracking Resistance (ESCR)[a]	ASTM D1693	23 hr	23 hr
Tensile[b] Strength at Yield	ASTM D638	4030 psi	27.8 MPa
Tensile[b] Strength at Break	ASTM D638	2060 psi	14.2 MPa
Tensile[b] Elongation at Yield	ASTM D638	8.4 %	8.4 %
Tensile[b] Elongation at Break	ASTM D638	672 %	672 %
Flexural Modulus 1% Secant	ASTM D790B	188,500 psi	1300 MPa
Flexural Modulus 2% Secant	ASTM D790B	159,500 psi	1100 MPa
Tensile Impact Strength	ASTM D1822	37.7 ft·lb/in^2	79.3 kJ/m^2
Notched Izod Impact (-30 °C)	ASTM D256	0.90 ft·lb/in	48.0 J/m

Thermal Properties	Method	Nominal Value (English)	Nominal Value (SI)
Deflection Temperature Under Load at 66 psi (0.455 MPa) Unannealed	ASTM D648	169 °F	76.1 °C
Peak Melting Temperature		268 °F	131 °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.

www.shell.us/polymers