



54N20 High-Density Polyethylene Resin

Technical Data Sheet



Product Description

Shell Polymers HDPE 54N20 is designed to deliver excellent stiffness/impact balance, flow easily, and offer good overall processability. Certified to NSF/ANSI 51 and NSF/ANSI/CAN 61.



Highlights

- Intended for use in thin wall injection molding
- Balances physical property performance and flowability
- Gas phase technology

Resin Properties	Method	Nominal Value
Density	ASTM D792	0.954 g/cm ³
Melt Index (190 °C / 2.16 kg)	ASTM D1238	20 g/10 min

Mechanical Properties	Method	Nominal Value (English)	Nominal Value (SI)
Environmental Stress-Cracking Resistance (ESCR) ^(a)	ASTM D1693	2 hr	2 hr
Tensile ^(b) Strength at Yield	ASTM D638	4150 psi	28.6 MPa
Tensile ^(b) Strength at Break	ASTM D638	1850 psi	12.8 MPa
Tensile ^(b) Elongation at Yield	ASTM D638	8.5%	8.5%
Tensile ^(b) Elongation at Break	ASTM D638	146%	146%
Flexural Modulus 1% Secant	ASTM D790B	191,500 psi	1320 MPa
Flexural Modulus 2% Secant	ASTM D790B	165,000 psi	1140 MPa
Tensile Impact Strength	ASTM D1822	24.0 ft-lb/in ²	50.3 kJ/m ²
Notched Izod Impact (-30 °C)	ASTM D256	0.70 ft-lb/in	36.0 J/m

Thermal Properties	Method	Nominal Value (English)	Nominal Value (SI)
Deflection Temperature Under Load at 66 psi (0.455 MPa) Unannealed	ASTM D648	164 °F	73 °C
Peak Melting Temperature		267 °F	130 °C
Peak Crystallization Temperature		241 °F	116 °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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