





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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