SHELL POLYMERS
MAKING THE EXPERIENCE MATTER

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

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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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