



# DOW™ LDPE 993I

## Low Density Polyethylene Resin

### Overview

- Low Density Polyethylene (LDPE)
- Typical applications include toys, lids, and closures
- Good gloss, rigidity, excellent flow
- Complies with U.S. FDA 21 CFR 177.152 (c) 2.1
- Complies with Canadian HPFB No Objection (With Limitations)
- Complies with EU, No 10/2011
- Consult the regulations for complete details

DOW Polyethylene 993I Low Density Polyethylene Resin is a medium molecular weight distribution homopolymer designed to offer good gloss and rigidity with excellent flow characteristics. This resin has good processability over a wide range of molding conditions.

### Additive

- Antiblock: No
- Slip: 400 ppm
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.923 g/cm <sup>3</sup>	0.923 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.923 g/cm <sup>3</sup>	0.923 g/cm <sup>3</sup>	Dow Method
Melt Index (190°C/2.16 kg)	25 g/10 min	25 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693
122°F (50°C), 100% Igepal, F50	< 1.00 hr	< 1.00 hr	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield	1500 psi	10.3 MPa	
Break	1700 psi	11.7 MPa	
Tensile Elongation			ASTM D638
Yield	3.0 %	3.0 %	
Break	40 %	40 %	
Flexural Modulus - 2% Secant	46000 psi	317 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	7.9 ft·lb/in	420 J/m	ASTM D256
Tensile Impact Strength <sup>2</sup>	120 ft·lb/in <sup>2</sup>	252 kJ/m <sup>2</sup>	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	43	43	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	104 °F	40.0 °C	
Brittleness Temperature	-29.0 °F	-33.9 °C	ASTM D746
Vicat Softening Temperature	199 °F	92.8 °C	ASTM D1525
Melting Temperature (DSC)	230 °F	110 °C	Dow Method
Peak Crystallization Temperature (DSC)	212 °F	100 °C	Dow Method

### Additional Information

Plaque molded and tested in accordance with ASTM D4976.

### Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

<sup>2</sup> Type S

