Technical Information

DOW™ LDPE 780E
Low Density Polyethylene Resin

Overview

LDPE 780E Low Density Polyethylene Resin can be readily processed using conventional injection moulding techniques utilising melt temperatures between 140 and 250°C, a mould temperature between 10 and 50°C, and injection pressure between 50 and 150 MPa.

When properly injection moulded, 780E Low Density Polyethylene Resin exhibit:

- Excellent flow
- Good rigidity
- Good surface gloss

Note: LDPE 780E Low Density Polyethylene Resin should comply with FDA regulation 177.1520 and with most European food contact regulations when used unmodified and processed according to good manufacturing practices for contact applications. Please, contact your nearest Dow office for food contact compliance statements.The purchaser remains responsible for determining whether the use complies with all relevant regulations.

Applications:

- Housewares.
- Toys & leisures.
- Containers.
- Compounding.

Complies with Canadian HPFB No Objection
Complies with U.S. FDA 21 CFR 177.1520

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.923	g/cm³	0.923	g/cm³	ASTM D792
Melt Index (190°C/2.16 kg)	20	g/10 min	20	g/10 min	ISO 1133
Spiral Flow					Dow Method
-- [1]	1.93	in	4.90	cm	
-- [2]	3.35	in	8.50	cm	
Molding Shrinkage					ASTM D955
Flow	0.023	in/in	2.3	%	
Across Flow	0.015	in/in	1.5	%	
Environmental Stress-Cracking Resistance (ESCR)					ASTM D1693
Compression Molded	1.40	hr	1.40	hr	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus - 2% Secant (Compression Molded)	23800	psi	164	MPa	ISO 527-2
Tensile Stress					ISO 527-2
Yield, Compression Molded	1190	psi	8.20	MPa	
Break, Compression Molded	1520	psi	10.5	MPa	
Tensile Strain (Break, Compression Molded)	50	%	50	%	ISO 527-2
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Elongation					ASTM D882
MD : Break, 7.9 mil (200 µm)	700	%	700	%	
TD : Break, 7.9 mil (200 µm)	750	%	750	%	
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Impact Strength	136	ft·lb/in²	286	kJ/m²	ISO 8256
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Shore Hardness (Shore D)	49		49		ISO 868

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Manufacturer website: https://www.dow.com/en-us/market/mkt-polyethylene.html

Thermal	Nominal Value (English)		Nominal Value (SI)		Test Method
Vicat Softening Temperature	199	°F	93.0	°C	ASTM D1525

Notes

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

[1] Injection Pressure: 8.70E+3 psi (600 bar)

[2] Injection Pressure: 1.74E+4 psi (1.20E+3 bar)

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North America		**Europe/Middle East**	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		**South Africa**	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	**Asia Pacific**	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

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