

Technical Data

Product Description

DOW LDPE™ 150E Low Density Polyethylene Resin can be readily extruded using conventional blown film techniques utilising melt temperatures between 170 and 230°C. DOW LDPE 150E Low Density Polyethylene Resin, when properly fabricated, shows a good combination of processability, stiffness and physical properties.

DOW™ LDPE
150E

Note: DOW LDPE 150E Low Density Polyethylene Resin should comply with:

- EU, No 10/2011
- U.S. FDA 21 CFR 177.1520(c)2.2
- U.S. FDA-DMF
- Consult the regulations for complete details

Applications:

- Heavy duty industrial film

Generic
LDPE

This data represents typical values that have been calculated from all products classified as: Generic LDPE

This information is provided for comparative purposes only.

General	DOW™ LDPE 150E	Generic LDPE
Manufacturer / Supplier	<ul style="list-style-type: none"> • The Dow Chemical Company 	<ul style="list-style-type: none"> • Generic
Generic Symbol	<ul style="list-style-type: none"> • LDPE 	<ul style="list-style-type: none"> • LDPE
Material Status	<ul style="list-style-type: none"> • Commercial: Active 	<ul style="list-style-type: none"> • Commercial: Active
Search for UL Yellow Card	<ul style="list-style-type: none"> • The Dow Chemical Company 	--
Availability	<ul style="list-style-type: none"> • Asia Pacific • Europe 	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Agency Ratings	<ul style="list-style-type: none"> • DMF • EU No 10/2011 • FDA 21 CFR 177.1520(c) 2.2 	--
Forms	<ul style="list-style-type: none"> • Pellets 	--

Physical	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Density / Specific Gravity				
--	--	0.909 to 0.948		ASTM D792
--	--	0.870 to 24.0	g/cm³	ISO 1183
--	0.921	--	g/cm³	ASTM D792
--	--	0.916 to 0.927	g/cm³	ASTM D1505
--	--	0.915 to 0.921	g/cm³	ASTM D4883
Apparent (Bulk) Density	--	0.33 to 0.55	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)				
190°C/2.16 kg	--	0.10 to 10	g/10 min	ASTM D1238
190°C/2.16 kg	0.25	0.13 to 7.6	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	--	3.5 to 30	cm³/10min	ISO 1133
Molding Shrinkage - Flow	--	0.020 to 0.033	in/in	ASTM D955



Physical	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Environmental Stress-Cracking Resistance (ESCR)	--	0.00 to 125	hr	ASTM D1693
Carbon Black Content	--	1.7 to 45	%	ASTM D1603
Vinyl Acetate Content	--	0.0 to 28.0	wt%	
Mechanical	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Tensile Modulus				
--	--	18900 to 50800	psi	ASTM D638
--	--	23400 to 43900	psi	ISO 527-1
Tensile Strength				
Yield	--	992 to 2060	psi	ASTM D638
Yield	--	1160 to 1890	psi	ISO 527-2
Break	--	861 to 2470	psi	ASTM D638
Break	--	870 to 2760	psi	ISO 527-2
--	--	958 to 2900	psi	ASTM D638
--	--	986 to 2330	psi	ISO 527-2
Tensile Elongation				
Yield	--	3.0 to 110	%	ASTM D638
Break	--	88 to 710	%	ASTM D638
Break	--	93 to 820	%	ISO 527-2
Apparent Bending Modulus	--	17000 to 35000	psi	ASTM D747
Flexural Modulus				
--	--	14400 to 49000	psi	ASTM D790
--	--	2900 to 40800	psi	ISO 178
Flexural Strength	--	683 to 1450	psi	ASTM D790
Coefficient of Friction	--	0.098 to 1.0		ASTM D1894
Films	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Film Thickness - Tested	3.9	1.1 to 2.0	mil	
Film Puncture Energy	--	13.8	in·lb	
Film Puncture Force	--	2.09 to 11.5	lbf	
Film Puncture Resistance	--	51.8	ft·lb/in ³	
Film Toughness				ASTM D882
MD	--	1470	ft·lb/in ³	
TD	--	1580	ft·lb/in ³	
Elastic Modulus				ASTM D882
MD	--	24700 to 29300	psi	
TD	--	25700 to 30800	psi	
Secant Modulus				
MD	--	18900 to 36400	psi	ASTM D882
TD	--	23800 to 41200	psi	ASTM D882
--	--	23200 to 27800	psi	ISO 527-3
2% Secant, MD : 3.9 mil	18600	--	psi	ISO 527-3
2% Secant, TD : 3.9 mil	18600	--	psi	ISO 527-3



Films	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Tensile Strength				
MD : Yield	--	1410 to 1750	psi	ASTM D882
TD : Yield	--	1190 to 2280	psi	ASTM D882
Yield	--	1430 to 1770	psi	ISO 527-3
MD : Yield, 3.9 mil	1330	--	psi	ISO 527-3
TD : Yield, 3.9 mil	1100	--	psi	ISO 527-3
MD : Break	--	2680 to 4220	psi	ASTM D882
TD : Break	--	2040 to 3570	psi	ASTM D882
Break	--	2510 to 3950	psi	ISO 527-3
MD : Break, 3.9 mil	3050	--	psi	ISO 527-3
TD : Break, 3.9 mil	2970	--	psi	ISO 527-3
--	--	2280 to 3920	psi	ISO 527-3
Tensile Elongation				
MD : Break	--	99 to 450	%	ASTM D882
MD : Break, 3.9 mil	470	--	%	ASTM D882
TD : Break	--	470 to 870	%	ASTM D882
TD : Break, 3.9 mil	530	--	%	ASTM D882
Break	--	190 to 670	%	ISO 527-3
Flexural Modulus - MD				
	--	16100	psi	ASTM D790
Dart Drop Impact				
--	--	43 to 170	g	ASTM D1709
--	--	70 to 290	g	ISO 7765-1
3.9 mil	430	--	g	ISO 7765-1/A
Elmendorf Tear Strength				
MD	--	3.0 to 590	g	ASTM D1922
MD : 3.9 mil	270	--	g	ASTM D1922
TD	--	39 to 280	g	ASTM D1922
TD : 3.9 mil	480	--	g	ASTM D1922
--	--	0.13 to 450	lbf	ISO 6383-2
Trouser Tear Resistance				
	--	297 to 628	lbf/in	ISO 6383-1
Seal Initiation Temperature				
	--	221	°F	
Oxygen Permeability				
	--	510 to 15000	cm ³ ·mil/ 100in ² /atm/24 hr	ASTM D3985
Oxygen Transmission Rate				
	--	310 to 610	cm ³ /100 in ² /24 hr	ASTM D3985
Water Vapor Transmission Rate				
	--	0.67 to 1.6	g/100 in ² /24 hr	ASTM F1249
Water Vapor Transmission				
	--	0.77 to 17	g/100 in ² /24 hr	ASTM E96
Impact	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Notched Izod Impact				
--	--	6.3 to 12	ft·lb/in	ASTM D256
--	--	2.4 to 24	ft·lb/in ²	ISO 180
Instrumented Dart Impact				
	--	12.0 to 196	in·lb	ASTM D3763
Tensile Impact Strength				
	--	35.0 to 224	ft·lb/in ²	ASTM D1822



Hardness	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Durometer Hardness				
--	--	41 to 95		ASTM D2240
--	--	42 to 52		ISO 868
Thermal	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Deflection Temperature Under Load				
66 psi, Unannealed	--	102 to 187	°F	ASTM D648
66 psi, Unannealed	--	108 to 124	°F	ISO 75-2/B
Brittleness Temperature	--	-110 to -89.0	°F	ASTM D746
Vicat Softening Temperature				
--	205	181 to 216	°F	ASTM D1525
--	--	190 to 210	°F	ISO 306
Melting Temperature				
--	--	215 to 238	°F	
--	--	223 to 235	°F	DSC
--	--	219 to 238	°F	ISO 11357-3
--	--	219 to 235	°F	ASTM D3418
--	--	220 to 237	°F	ISO 3146
Peak Crystallization Temperature (DSC)				
--	--	204 to 234	°F	ASTM D3418
--	--	165 to 228	°F	ISO 3146
Electrical	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Surface Resistivity	--	1.0E+5 to 2.5E+12	ohms	ASTM D257
Volume Resistivity				
--	--	1.0E+3 to 1.0E+17	ohms·cm	ASTM D257
--	--	10 to 1.3E+16	ohms·cm	IEC 60093
Dielectric Strength				
--	--	510 to 770	V/mil	ASTM D149
--	--	510 to 560	V/mil	IEC 60243-1
Dielectric Constant				
--	--	2.28 to 2.30		ASTM D150
--	--	2.25 to 2.28		ASTM D1531
--	--	2.28 to 2.50		IEC 60250
Dissipation Factor				
--	--	4.0E-5 to 1.0E-3		ASTM D150
--	--	1.4E-4 to 3.0E-4		ASTM D1531
--	--	4.0E-5 to 6.4E-4		IEC 60250
Optical	DOW™ LDPE 150E	Generic LDPE	Unit	Test Method
Gloss	--	38 to 101		ASTM D2457
Clarity	--	22.0 to 86.6		ASTM D1746
Haze	--	4.77 to 12.1	%	ASTM D1003
Yellowness Index	--	1 to 4	YI	ASTM E313



Injection	DOW™ LDPE 150E	Generic LDPE	Unit
Drying Temperature	--	173 to 175	°F
Drying Time	--	2.0 to 3.0	hr
Rear Temperature	--	325 to 376	°F
Middle Temperature	--	349 to 393	°F
Front Temperature	--	350 to 419	°F
Nozzle Temperature	--	350 to 428	°F
Processing (Melt) Temp	--	315 to 430	°F
Mold Temperature	--	68 to 110	°F
Injection Pressure	--	925 to 12500	psi

Injection Notes

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Extrusion	DOW™ LDPE 150E	Generic LDPE	Unit
Drying Temperature	--	131 to 177	°F
Drying Time	--	2.0 to 4.0	hr
Hopper Temperature	--	122 to 135	°F
Cylinder Zone 1 Temp.	--	242 to 502	°F
Cylinder Zone 2 Temp.	--	286 to 554	°F
Cylinder Zone 3 Temp.	--	310 to 503	°F
Cylinder Zone 4 Temp.	--	301 to 626	°F
Cylinder Zone 5 Temp.	--	301 to 506	°F
Adapter Temperature	--	409 to 609	°F
Melt Temperature	--	316 to 625	°F
Die Temperature	--	318 to 626	°F

Extrusion Notes

DOW™ LDPE 150E

Blow-up ratio 1:2.5

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Notes

¹ Typical properties: these are not to be construed as specifications.

