Generic LLDPE

Linear Low Density Polyethylene

Generic

Message:

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General Information			
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	0.905 - 0.932	g/cm³	ASTM D792
23°C	0.900 - 0.931	g/cm³	ISO 1183
--	0.910 - 0.940	g/cm³	ASTM D1505
--	0.916 - 0.937	g/cm³	ASTM D4883
Apparent Density	0.13 - 0.56	g/cm³	ASTM D1895
Melt Mass-Flow Rate (MFR)			
190°C/2.16 kg	0.10 - 4.0	g/10 min	ASTM D1238
190°C/2.16 kg	0.20 - 6.3	g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (23°C)	0.317 - 1000	hr	ASTM D1693
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (23°C)	49 - 62		ASTM D2240, ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
23°C	244 - 422	MPa	ASTM D638
23°C	178 - 494	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	7.42 - 21.4	MPa	ASTM D638
Yield, 23°C	7.69 - 17.3	MPa	ISO 527-2
Fracture, 23°C	6.96 - 31.4	MPa	ASTM D638
Fracture, 23°C	9.45 - 32.7	MPa	ISO 527-2
23°C	8.27 - 36.1	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	2.0 - 23	%	ASTM D638
Yield, 23°C	14 - 22	%	ISO 527-2
Fracture, 23°C	47 - 1000	%	ASTM D638
Fracture, 23°C	290 - 940	%	ISO 527-2
Apparent Bending Modulus (23°C)	260 - 271	MPa	ASTM D747
Flexural Modulus			
23°C	209 - 771	MPa	ASTM D790
23°C	110 - 653	MPa	ISO 178

Flexural Strength			ASTM D790
23°C	7.75 - 13.0	MPa	ASTM D790
Yield, 23°C	176 - 281	MPa	ASTM D790
Coefficient of Friction	0.086 - 0.52		ASTM D1894
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	24 - 54	µm	
Film Puncture Energy	4.44	J	
Film Puncture Force	30.7 - 62.8	N	
Film Puncture Resistance	14.6	J/cm³	
Film strength			ASTM D882
MD	209	J/cm³	ASTM D882
TD	222	J/cm³	ASTM D882
secant modulus			
MD	108 - 230	MPa	ASTM D882
TD	116 - 291	MPa	ASTM D882
23°C	90.0 - 272	MPa	ISO 527-3
Tensile Strength			
MD: Yield	7.98 - 13.2	MPa	ASTM D882
TD: Yield	8.81 - 13.3	MPa	ASTM D882
Yield, 23°C	5.20 - 16.9	MPa	ISO 527-3
MD: Fracture	30.0 - 57.3	MPa	ASTM D882
TD: Fracture	19.0 - 45.2	MPa	ASTM D882
Fracture, 23°C	24.0 - 50.0	MPa	ISO 527-3
23°C	21.6 - 56.8	MPa	ISO 527-3
Tensile Elongation			
MD: Yield	12 - 530	%	ASTM D882
TD: Yield	4.0 - 760	%	ASTM D882
MD: Fracture	350 - 910	%	ASTM D882
TD: Fracture	660 - 920	%	ASTM D882
Fracture, 23°C	520 - 920	%	ISO 527-3
Flexural Modulus			ASTM D790
MD	180	MPa	ASTM D790
TD	200	MPa	ASTM D790
Dart Drop Impact			
23°C	45 - 210	g	ASTM D1709
23°C	35 - 270	g	ISO 7765-1
Elmendorf Tear Strength			
MD	0.0 - 490	g	ASTM D1922
TD	8.0 - 810	g	ASTM D1922
--	1.8 - 6.0	N	ISO 6383-2
Seal Initiation Temperature	99.4 - 130	°C	
Elastomers	**Nominal Value**	**Unit**	**Test Method**

Tear Strength (23°C)	78.0 - 186	kN/m	ASTM D624
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
23°C	240 - 550	J/m	ASTM D256
23°C	23 - 50	kJ/m²	ISO 180
Multi-Axial Instrumented Impact Energy (23°C)	15.0 - 63.0	J	ISO 6603-2
Tensile Impact Strength			
23°C	56.7 - 1710	kJ/m²	ASTM D1822
23°C	265	kJ/m²	ISO 8256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	41.9 - 74.1	°C	ASTM D648
1.8 MPa, not annealed	34.0 - 70.9	°C	ASTM D648
Brittleness Temperature			
--	-76.4 - -69.0	°C	ASTM D746
--	-70.4 - -70.0	°C	ISO 974
Vicat Softening Temperature			
--	86.4 - 121	°C	ASTM D1525
--	92.0 - 118	°C	ISO 306
Melting Temperature			
--	119 - 126	°C	
--	120 - 127	°C	DSC
--	114 - 127	°C	ISO 11357-3
--	121 - 127	°C	ASTM D3418
--	119 - 127	°C	ISO 3146
Peak Crystallization Temperature (DSC)			
--	103 - 127	°C	ASTM D3418
--	105 - 127	°C	ISO 3146
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity (23°C)	1.0E+5 - 1.7E+16	ohms·cm	ASTM D257
Dielectric Strength (23°C)	20 - 30	kV/mm	ASTM D149
Dielectric Constant (23°C)	2.10 - 2.55		ASTM D150
Dissipation Factor (23°C)	1.0E-4 - 3.0E-3		ASTM D150
Optical	**Nominal Value**	**Unit**	**Test Method**
Gardner Gloss	35 - 82		ASTM D523
Gloss	30 - 95		ASTM D2457
Transmittance	68.0 - 92.3	%	ASTM D1003
Clarity	26.9 - 95.3		ASTM D1746
Haze	0.40 - 21	%	ASTM D1003
Injection	**Nominal Value**	**Unit**	
Rear Temperature	176 - 200	°C	

Middle Temperature	184 - 200	°C
Front Temperature	184 - 205	°C
Nozzle Temperature	204 - 205	°C
Processing (Melt) Temp	180 - 285	°C
Mold Temperature	17.5 - 30.0	°C

Injection instructions

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Extrusion	Nominal Value	Unit
Hopper Temperature	185 - 188	°C
Cylinder Zone 1 Temp.	159 - 201	°C
Cylinder Zone 2 Temp.	178 - 196	°C
Cylinder Zone 3 Temp.	178 - 250	°C
Cylinder Zone 4 Temp.	177 - 261	°C
Cylinder Zone 5 Temp.	179 - 236	°C
Adapter Temperature	210 - 282	°C
Melt Temperature	166 - 277	°C
Melt Temperature (Aim)	190	°C
Die Temperature	170 - 271	°C

Extrusion instructions

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Recommended distributors for this material

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