

Generic HDPE, HMW

High Density (HMW) Polyethylene

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.940 - 0.956	g/cm ³	ASTM D792
23°C	0.943 - 0.959	g/cm ³	ISO 1183
--	0.948 - 0.960	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR)			
190°C/2.16 kg	0.027 - 0.28	g/10 min	ASTM D1238
190°C/21.6 kg	5.6 - 11	g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (23°C)			
	15.0 - 1010	hr	ASTM D1693
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			
23°C	61 - 65		ASTM D2240
23°C	60 - 64		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	595 - 1320	MPa	ASTM D638
23°C	900 - 1200	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	22.5 - 30.2	MPa	ASTM D638
Yield, 23°C	21.8 - 27.0	MPa	ISO 527-2
Fracture, 23°C	24.5 - 40.0	MPa	ASTM D638
Tensile Strain			
Yield, 23°C	9.0 - 10	%	ISO 527-2
Fracture, 23°C	480 - 800	%	ASTM D638
Fracture, 23°C	300 - 820	%	ISO 527-2
Flexural Modulus			
23°C	677 - 1530	MPa	ASTM D790
23°C	1040 - 1250	MPa	ISO 178
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	13 - 21	µm	
secant modulus			ASTM D882
MD	517 - 1240	MPa	ASTM D882

TD	800 - 1300	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield	29.6 - 41.0	MPa	ASTM D882
TD: Yield	28.0 - 34.6	MPa	ASTM D882
MD: Fracture	49.0 - 63.7	MPa	ASTM D882
TD: Fracture	28.3 - 67.9	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture	300 - 600	%	ASTM D882
TD: Fracture	390 - 700	%	ASTM D882
Dart Drop Impact (23°C)	6.0 - 380	g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD	0.60 - 15	g	ASTM D1922
TD	9.2 - 87	g	ASTM D1922
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53 - 850	J/m	ASTM D256
Tensile Impact Strength (23°C)	251 - 386	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	67.6 - 78.3	°C	ASTM D648
Brittleness Temperature	-118 - -75.0	°C	ASTM D746
Vicat Softening Temperature			
--	124 - 130	°C	ASTM D1525
--	73.0 - 128	°C	ISO 306
Melting Temperature	127 - 130	°C	
CLTE - Flow	1.2E-4 - 1.4E-4	cm/cm/°C	ASTM D696
Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	156 - 206	°C	
Cylinder Zone 2 Temp.	189 - 205	°C	
Cylinder Zone 3 Temp.	195 - 218	°C	
Cylinder Zone 4 Temp.	199 - 250	°C	
Melt Temperature	199 - 255	°C	
Die Temperature	200 - 254	°C	
Extrusion instructions			

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