

Generic PET

Polyethylene Terephthalate

Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.25 - 1.41	g/cm ³	ASTM D792
23°C	1.33 - 1.43	g/cm ³	ISO 1183
--	1.39 - 1.40	g/cm ³	ASTM D1505
Apparent Density	0.84 - 0.88	g/cm ³	ASTM D1895
Bulk Density	817 - 897	kg/m ³	
Melt Mass-Flow Rate (MFR) (265°C/5.0 kg)	14 - 60	g/10 min	ASTM D1238
Molding Shrinkage			
Flow: 23°C	0.26 - 1.2	%	ASTM D955
Transverse flow: 23°C	0.67 - 1.4	%	ASTM D955
23°C	0.40 - 1.9	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.098 - 0.10	%	ASTM D570
23°C, 24 hr	0.28 - 0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20 - 0.31	%	ISO 62
Viscosity Number (Reduced Viscosity) (23°C)	78.0 - 86.5	ml/g	ISO 1628
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	109 - 123		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	1970 - 3820	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	39.3 - 147	MPa	ASTM D638
Yield, 23°C	55.0 - 90.0	MPa	ISO 527-2
Fracture, 23°C	24.0 - 77.0	MPa	ISO 527-2
Tensile Strain			
Yield, 23°C	2.8 - 4.0	%	ISO 527-2
Fracture, 23°C	2.0 - 13	%	ASTM D638
Fracture, 23°C	1.2 - 250	%	ISO 527-2
Flexural Modulus			
23°C	1860 - 9810	MPa	ASTM D790
23°C	2060 - 2330	MPa	ISO 178

Flexural Strength			ASTM D790
23°C	73.1 - 164	MPa	ASTM D790
Yield, 23°C	68.7 - 177	MPa	ASTM D790
Compressive Stress (23°C)	24.0 - 103	MPa	ISO 604
Coefficient of Friction	0.30 - 0.50		ASTM D1894
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	5.1 - 57	µm	
secant modulus			ASTM D882
MD	1650 - 3360	MPa	ASTM D882
TD	1450 - 2180	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield	173 - 207	MPa	ASTM D882
TD: Yield	46.6 - 257	MPa	ASTM D882
MD: Fracture	165 - 207	MPa	ASTM D882
TD: Fracture	186 - 220	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture	90 - 170	%	ASTM D882
TD: Fracture	81 - 140	%	ASTM D882
Oxygen Permeability (23°C)	0.700 - 0.920	cm ³ /m ² /24 hr	ASTM D1434
Oxygen Permeability (23°C)	3.8 - 4.9	cm ³ ·mm/m ² /atm/24 hr	ASTM D3985
Water Vapor Transmission	0.40 - 47	g/m ² /24 hr	ASTM E96
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	2.0 - 7.8	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	14 - 100	J/m	ASTM D256
23°C	2.0 - 4.6	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	63.9 - 250	°C	ASTM D648
1.8 MPa, not annealed	57.8 - 230	°C	ASTM D648
1.8 MPa, not annealed	74.8 - 80.0	°C	ISO 75-2/A
Continuous Use Temperature	95.3 - 164	°C	ASTM D794
Glass Transition Temperature	70.0 - 79.0	°C	ASTM E1356
Melting Temperature			
--	115 - 261	°C	
--	245 - 258	°C	DSC
--	245 - 255	°C	ASTM D3418
CLTE - Flow			
--	3.0E-5 - 3.1E-5	cm/cm/°C	ASTM D696
--	6.0E-5 - 8.3E-5	cm/cm/°C	ISO 11359-2
RTI Elec	105 - 150	°C	UL 746
RTI Imp	105 - 150	°C	UL 746

RTI	103 - 154	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+12 - 2.5E+14	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+14 - 2.5E+16	ohms·cm	ASTM D257
Dielectric Strength (23°C)	12 - 25	kV/mm	ASTM D149
Dielectric Constant			
23°C	3.41 - 3.83		ASTM D150
23°C	3.30		IEC 60250
Dissipation Factor			
23°C	2.0E-3 - 0.017		ASTM D150
23°C	1.0E-3 - 0.014		IEC 60250
Arc Resistance	80.0 - 125	sec	ASTM D495
Optical	Nominal Value	Unit	Test Method
Gardner Gloss	148 - 193		ASTM D523
Gloss	48 - 101		ASTM D2457
Opacity	85 - 90	%	ASTM D589
Transmittance	87.0 - 92.1	%	ASTM D1003
Haze	0.20 - 5.1	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	119 - 162	°C	
Drying Time	4.9 - 6.0	hr	
Dew Point	-36.7 - -36.5	°C	
Rear Temperature	246 - 290	°C	
Middle Temperature	251 - 280	°C	
Front Temperature	256 - 280	°C	
Nozzle Temperature	250 - 280	°C	
Processing (Melt) Temp	277 - 280	°C	
Mold Temperature	29.6 - 135	°C	
Injection instructions			
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Extrusion	Nominal Value	Unit	
Drying Temperature	127 - 170	°C	
Drying Time	5.4 - 7.0	hr	
Melt Temperature	270 - 281	°C	
Extrusion instructions			
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