

Generic TPE

Thermoplastic Elastomer

Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.863 - 1.26	g/cm ³	ASTM D792
23°C	0.828 - 1.21	g/cm ³	ISO 1183
--	0.866 - 0.903	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR)			
230°C/2.16 kg	0.010 - 13	g/10 min	ASTM D1238
230°C/2.16 kg	0.20 - 18	g/10 min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.86 - 2.9	%	ASTM D955
Transverse flow: 23°C	1.1 - 2.6	%	ASTM D955
23°C	0.45 - 2.4	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.050 - 0.50	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (23°C)	29 - 92		ASTM D2240, ISO 868
IRHD Hardness	59 - 85		ISO 48
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	0.667 - 176	MPa	ASTM D638
23°C	5.20 - 319	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	2.07 - 19.1	MPa	ASTM D638
Yield, 23°C	4.50 - 21.0	MPa	ISO 527-2
Fracture, 23°C	1.71 - 48.3	MPa	ASTM D638
Fracture, 23°C	2.50 - 13.9	MPa	ISO 527-2
23°C	0.0414 - 14.5	MPa	ASTM D638
23°C	2.10 - 16.4	MPa	ISO 527-2
Tensile Elongation			
Fracture, 23°C	10 - 830	%	ASTM D638
Fracture, 23°C	390 - 900	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	200 - 1000	%	ISO 527-2
Flexural Modulus			

23°C	5.36 - 390	MPa	ASTM D790
23°C	50.0 - 630	MPa	ISO 178
Flexural Stress (23°C)	3.00 - 37.0	MPa	ISO 178
Taber Abrasion Resistance (23°C)	1.18 - 374	mg	ASTM D1044
Elastomers	Nominal Value	Unit	Test Method
Tensile Set (23°C)	3 - 19	%	ASTM D412
Tensile Stress			
20% strain, 23°C	0.500 - 3.10	MPa	ISO 37
50% strain, 23°C	1.17 - 3.18	MPa	ASTM D412
100% strain, 23°C	0.0193 - 5.05	MPa	ASTM D412
100% strain, 23°C	0.940 - 4.15	MPa	ISO 37
200% strain, 23°C	0.276 - 5.34	MPa	ASTM D412
300% strain, 23°C	0.0429 - 7.11	MPa	ASTM D412
300% strain, 23°C	1.47 - 9.46	MPa	ISO 37
Tensile Strength			
Yield, 23°C	1.33 - 11.5	MPa	ASTM D412
Yield, 23°C	1.73 - 11.5	MPa	ISO 37
Fracture, 23°C	2.32 - 14.0	MPa	ASTM D412
Fracture, 23°C	2.40 - 18.5	MPa	ISO 37
23°C	2.79 - 7.90	MPa	ASTM D412
Tensile Elongation			
Yield	16 - 1100	%	ASTM D412
Fracture, 23°C	350 - 900	%	ASTM D412
Fracture, 23°C	280 - 850	%	ISO 37
Tear Strength			
23°C	5.25 - 50.1	kN/m	ASTM D624
23°C	2.5 - 42	kN/m	ISO 34-1
Compression Set			
--	11 - 75	%	ASTM D395
23°C	8.7 - 47	%	ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Volume (23°C)	-9.0 - 87	%	ASTM D471, ISO 1817
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	40.6 - 135	°C	ASTM D648
Continuous Use Temperature	105 - 135	°C	ASTM D794
Brittleness Temperature			
--	-60.6 - -59.0	°C	ASTM D746
--	-67.8 - -50.0	°C	ISO 812
Vicat Softening Temperature	40.0 - 207	°C	ASTM D1525
RTI Elec	50.0 - 90.0	°C	UL 746
RTI	50.0 - 90.0	°C	UL 746

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	3.0 - 8.8E+14	ohms	ASTM D257
--	1.0E+2 - 1.3E+12	ohms	IEC 60093
Volume Resistivity (23°C)	80 - 1.9E+17	ohms·cm	ASTM D257
Dielectric Strength (23°C)	24 - 51	kV/mm	ASTM D149
Dielectric Constant (23°C)	2.06 - 2.41		ASTM D150
Dissipation Factor (23°C)	1.0E-4 - 0.020		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Burning Rate	25 - 51	mm/min	ISO 3795
Glow Wire Flammability Index	650 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	650 - 850	°C	IEC 60695-2-13
Oxygen Index			
--	18 - 30	%	ASTM D2863
--	25 - 40	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Transmittance	89.8 - 94.0	%	ASTM D1003
Clarity	93.0 - 95.1		ASTM D1746
Haze	1.0 - 14	%	ASTM D1003
Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity	0.116 - 193	Pa·s	ASTM D3835
Melt Viscosity	100 - 363	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	59.4 - 80.6	°C	
Drying Time	3.0 - 3.1	hr	
Dew Point	-40.0 - -17.8	°C	
Suggested Max Moisture	0.019 - 0.10	%	
Suggested Max Regrind	20	%	
Rear Temperature	156 - 210	°C	
Middle Temperature	179 - 216	°C	
Front Temperature	193 - 223	°C	
Nozzle Temperature	179 - 226	°C	
Processing (Melt) Temp	199 - 227	°C	
Mold Temperature	19.7 - 50.6	°C	
Injection Pressure	2.24 - 25.9	MPa	
Holding Pressure	2.10 - 56.1	MPa	
Back Pressure	0.234 - 3.50	MPa	
Screw Speed	72 - 75	rpm	
Clamp Tonnage	3.8 - 3.9	kN/cm ²	
Cushion	14.3 - 14.6	mm	
Injection instructions			

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Extrusion	Nominal Value	Unit
Drying Temperature	68.3 - 80.3	°C
Drying Time	2.4 - 3.1	hr
Hopper Temperature	79.0 - 170	°C
Cylinder Zone 1 Temp.	142 - 208	°C
Cylinder Zone 2 Temp.	179 - 216	°C
Cylinder Zone 3 Temp.	170 - 219	°C
Cylinder Zone 4 Temp.	160 - 215	°C
Cylinder Zone 5 Temp.	180 - 226	°C
Adapter Temperature	200 - 205	°C
Melt Temperature	193 - 208	°C
Die Temperature	183 - 226	°C
Extrusion instructions		

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