

Generic Acetal (POM) Copolymer

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Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.38 - 1.44	g/cm³	ASTM D792
23°C	1.35 - 1.44	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)			
190°C/2.16 kg	7.8 - 28	g/10 min	ASTM D1238
190°C/2.16 kg	2.3 - 27	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	0.500 - 13.2	cm³/10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	1.8 - 2.2	%	ASTM D955
Transverse flow: 23°C	1.8	%	ASTM D955
23°C	1.8 - 2.1	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.11 - 0.27	%	ASTM D570
23°C, 24 hr	0.10 - 0.69	%	ISO 62
Saturated, 23°C	0.20 - 0.81	%	ASTM D570
Saturated, 23°C	0.62 - 0.82	%	ISO 62
Equilibrium, 23°C	0.20 - 0.23	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.14 - 0.24	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	80 - 83		ASTM D785
23°C	79 - 115		ISO 2039-2
Durometer Hardness (23°C)	76 - 81		ISO 868
Ball Indentation Hardness	118 - 146	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	1420 - 3080	MPa	ASTM D638
23°C	1870 - 3090	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	44.0 - 65.3	MPa	ASTM D638
Yield, 23°C	44.7 - 68.1	MPa	ISO 527-2

Fracture, 23°C	31.0 - 66.8	MPa	ASTM D638
Fracture, 23°C	34.1 - 66.2	MPa	ISO 527-2
23°C	40.6 - 66.3	MPa	ASTM D638
23°C	53.5 - 66.0	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	8.4 - 12	%	ASTM D638
Yield, 23°C	7.2 - 13	%	ISO 527-2
Fracture, 23°C	1.0 - 76	%	ASTM D638
Fracture, 23°C	2.3 - 50	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	8.0 - 51	%	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	2270	MPa	ISO 899-1
1000 hr	714	MPa	ISO 899-1
Flexural Modulus			
23°C	1820 - 2990	MPa	ASTM D790
23°C	1900 - 2820	MPa	ISO 178
Flexural Strength			
23°C	57.4 - 97.0	MPa	ASTM D790
23°C	49.2 - 90.1	MPa	ISO 178
Yield, 23°C	46.2 - 98.0	MPa	ASTM D790
Compressive Strength			
23°C	30.3 - 110	MPa	ASTM D695
23°C	19.0 - 67.3	MPa	ISO 604
Shear Strength (23°C)	54.6 - 56.0	MPa	ASTM D732
Coefficient of Friction	0.050 - 0.46		ASTM D1894
Taber Abrasion Resistance (23°C)	13.8 - 14.0	mg	ASTM D1044
Wear Factor	1.0 - 250	10 ⁻⁸ mm ³ /N·m	ASTM D3702
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	3.4 - 8.3	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	32 - 250	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	37 - 85	J/m	ASTM D256
23°C	2.0 - 8.6	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	41 - 1500	J/m	ASTM D256
23°C	28 - 80	kJ/m ²	ISO 180
Instrumented Dart Impact			
23°C	4.53 - 29.0	J	ASTM D3763
23°C	0.770 - 1.58	J	ISO 6603-2
Tensile Impact Strength (23°C)	48.3 - 800	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			

0.45 MPa, not annealed	156 - 161	°C	ASTM D648
0.45 MPa, not annealed	109 - 161	°C	ISO 75-2/B
1.8 MPa, not annealed	97.7 - 110	°C	ASTM D648
1.8 MPa, not annealed	72.8 - 116	°C	ISO 75-2/A
Continuous Use Temperature	97.1 - 100	°C	ASTM D794
Vicat Softening Temperature			
--	150 - 162	°C	ASTM D1525
--	139 - 151	°C	ISO 306
Melting Temperature			
--	165 - 166	°C	DSC
--	165 - 167	°C	ISO 11357-3, ISO 3146
--	165	°C	ASTM D3418
Linear thermal expansion coefficient			
Flow	1.3E-5 - 1.3E-4	cm/cm/°C	ASTM D696
Flow	6.0E-5 - 1.3E-4	cm/cm/°C	ASTM E831
Flow	1.1E-4 - 1.2E-4	cm/cm/°C	ISO 11359-2
Lateral	8.5E-5 - 1.3E-4	cm/cm/°C	ASTM E831
Lateral	9.0E-5 - 1.2E-4	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1460 - 1470	J/kg/°C	ASTM C351
Thermal Conductivity			
23°C	0.23	W/m/K	ASTM C177
23°C	0.20 - 0.31	W/m/K	ISO 8302
RTI Elec	50.0 - 110	°C	UL 746
RTI Imp	79.3 - 95.0	°C	UL 746
RTI	50.0 - 90.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	5.0 - 1.1E+16	ohms	ASTM D257
--	2.0E+2 - 1.1E+16	ohms	IEC 60093
Volume Resistivity			
23°C	5.0 - 2.5E+14	ohms·cm	ASTM D257
23°C	39 - 2.5E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	19	kV/mm	ASTM D149
23°C	18 - 37	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.69 - 3.72		ASTM D150
23°C	3.78 - 3.80		IEC 60250
23°C	3.89		IEC 60250
Dissipation Factor			
23°C	4.9E-3 - 0.060		ASTM D150
23°C	1.6E-3 - 8.2E-3		IEC 60250

Arc Resistance	240 - 250	sec	ASTM D495
Comparative Tracking Index	593 - 600	V	IEC 60112
Insulation Resistance (23°C)	1.0E+3 - 1.3E+12	ohms	IEC 60167
Flammability	Nominal Value	Unit	Test Method
Burning Rate	43 - 100	mm/min	ISO 3795
Glow Wire Flammability Index	625 - 650	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	550 - 675	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Drying Temperature	73.5 - 131	°C	
Drying Time	1.9 - 3.5	hr	
Suggested Max Moisture	0.096 - 0.20	%	
Suggested Max Regrind	20	%	
Hopper Temperature	25.0 - 200	°C	
Rear Temperature	169 - 189	°C	
Middle Temperature	179 - 200	°C	
Front Temperature	184 - 216	°C	
Nozzle Temperature	187 - 201	°C	
Processing (Melt) Temp	190 - 211	°C	
Mold Temperature	69.8 - 104	°C	
Injection Pressure	70.7 - 92.6	MPa	
Holding Pressure	36.4 - 92.6	MPa	
Back Pressure	0.151 - 2.11	MPa	
Screw Speed	45 - 125	rpm	
Clamp Tonnage	4.5 - 5.6	kN/cm ²	
Cushion	4.76 - 9.53	mm	

Injection instructions

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Extrusion	Nominal Value	Unit
Melt Temperature	185 - 190	°C

Extrusion instructions

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