

Generic Acetal (POM) Copolymer

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Generic

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Technical Data

Product Description

This data represents typical values that have been calculated from all products classified as: Generic Acetal (POM) Copolymer

This information is provided for comparative purposes only.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.39 to 1.44	1.38 to 1.44 g/cm ³	ASTM D792
--	1.40 to 1.41 g/cm ³	1.40 to 1.41 g/cm ³	ISO 1183
Apparent (Bulk) Density	0.84 to 0.85 g/cm ³	0.84 to 0.85 g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			
190°C/2.16 kg	8.5 to 28 g/10 min	8.5 to 28 g/10 min	ASTM D1238
190°C/2.16 kg	1.0 to 28 g/10 min	1.0 to 28 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	0.60 to 26 cm ³ /10min	0.60 to 26 cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow	2.3E-3 to 0.31 in/in	0.23 to 31 %	ASTM D955
Across Flow	0.020 to 0.021 in/in	2.0 to 2.1 %	ASTM D955
--	1.8 to 2.2 %	1.8 to 2.2 %	ISO 294-4
Water Absorption			
24 hr	0.20 to 0.25 %	0.20 to 0.25 %	ASTM D570
24 hr, 73°F (23°C)	0.10 to 0.71 %	0.10 to 0.71 %	ISO 62
Saturation	0.79 to 0.98 %	0.79 to 0.98 %	ASTM D570
Saturation, 73°F (23°C)	0.60 to 0.84 %	0.60 to 0.84 %	ISO 62
Equilibrium	0.20 to 0.26 %	0.20 to 0.26 %	ASTM D570
Equilibrium, 73°F (23°C), 50% RH	0.20 to 0.21 %	0.20 to 0.21 %	ISO 62
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
--	180000 to 467000 psi	1240 to 3220 MPa	ASTM D638
--	297000 to 503000 psi	2040 to 3470 MPa	ISO 527-1
Tensile Strength			
Yield	7830 to 9350 psi	54.0 to 64.5 MPa	ASTM D638
Yield	7970 to 9810 psi	55.0 to 67.7 MPa	ISO 527-2
Break	4830 to 9880 psi	33.3 to 68.1 MPa	ASTM D638
Break	4900 to 9680 psi	33.8 to 66.8 MPa	ISO 527-2
--	5350 to 9590 psi	36.9 to 66.2 MPa	ASTM D638
--	6130 to 9600 psi	42.3 to 66.2 MPa	ISO 527-2
Tensile Elongation			
Yield	8.3 to 10 %	8.3 to 10 %	ASTM D638
Yield	4.0 to 15 %	4.0 to 15 %	ISO 527-2
Break	1.0 to 73 %	1.0 to 73 %	ASTM D638
Break	1.2 to 71 %	1.2 to 71 %	ISO 527-2



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Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Nominal Tensile Strain at Break	14 to 50 %	14 to 50 %	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	348000 psi	2400 MPa	
1000 hr	189000 psi	1300 MPa	
Flexural Modulus			
--	247000 to 396000 psi	1700 to 2730 MPa	ASTM D790
--	288000 to 431000 psi	1990 to 2970 MPa	ISO 178
Flexural Strength			
--	8410 to 14200 psi	58.0 to 98.0 MPa	ASTM D790
--	8370 to 13200 psi	57.7 to 91.3 MPa	ISO 178
Yield	13000 to 14200 psi	89.5 to 98.0 MPa	ASTM D790
Compressive Strength			
--	2310 to 16000 psi	15.9 to 110 MPa	ASTM D695
--	3320 to 13600 psi	22.9 to 94.1 MPa	ISO 604
Poisson's Ratio	0.40 to 0.41	0.40 to 0.41	ASTM E132
Coefficient of Friction	0.050 to 0.48	0.050 to 0.48	ASTM D1894
Taber Abrasion Resistance	14.0 to 16.7 mg	14.0 to 16.7 mg	ASTM D1044
Wear Factor	0.50 to 150 ^{10⁻¹⁰ in³·min/} ft·lb·hr	1.0 to 300 10 ⁻⁸ mm ³ /N·m	ASTM D3702
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength	0.71 to 5.1 ft·lb/in ²	1.5 to 11 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength	16 to 120 ft·lb/in ²	34 to 250 kJ/m ²	ISO 179
Notched Izod Impact			
--	0.71 to 1.9 ft·lb/in	38 to 100 J/m	ASTM D256
--	1.4 to 3.4 ft·lb/in ²	3.0 to 7.1 kJ/m ²	ISO 180
Unnotched Izod Impact			
--	1.0 to 28 ft·lb/in	55 to 1500 J/m	ASTM D4812
--	9.5 to 53 ft·lb/in ²	20 to 110 kJ/m ²	ISO 180
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			
--	78 to 117	78 to 117	ASTM D785
--	79 to 81	79 to 81	ISO 2039-2
Shore Hardness	79 to 81	79 to 81	ISO 868
Ball Indentation Hardness	18800 to 22800 psi	129 to 157 MPa	ISO 2039-1
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	310 to 325 °F	154 to 163 °C	ASTM D648
66 psi (0.45 MPa), Unannealed	283 to 321 °F	139 to 160 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	208 to 230 °F	97.7 to 110 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	173 to 235 °F	78.4 to 113 °C	ISO 75-2/A
Continuous Use Temperature	149 to 212 °F	65.0 to 100 °C	ASTM D794
Vicat Softening Temperature			
--	301 to 324 °F	150 to 162 °C	ASTM D1525
--	291 to 332 °F	144 to 167 °C	ISO 306



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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Melting Temperature			
--	329 to 331 °F	165 to 166 °C	DSC
--	329 to 333 °F	165 to 167 °C	ISO 11357-3
--	333 to 334 °F	167 to 168 °C	ASTM D3418
--	329 to 338 °F	165 to 170 °C	ISO 3146
CLTE			
Flow	1.1E-5 to 7.2E-5 in/in/°F	1.9E-5 to 1.3E-4 cm/cm/°C	ASTM D696
Flow	3.2E-5 to 6.5E-5 in/in/°F	5.8E-5 to 1.2E-4 cm/cm/°C	ASTM E831
Flow	5.3E-5 to 7.5E-5 in/in/°F	9.6E-5 to 1.4E-4 cm/cm/°C	ISO 11359-2
Transverse	6.1E-5 to 6.7E-5 in/in/°F	1.1E-4 to 1.2E-4 cm/cm/°C	ISO 11359-2
Specific Heat	0.350 to 0.359 Btu/lb/°F	1460 to 1500 J/kg/°C	ASTM C351
Thermal Conductivity	1.6 Btu·in/hr/ft²/°F	0.23 W/m/K	ASTM C177
RTI Str	194 to 221 °F	90.0 to 105 °C	UL 746B
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity			
--	5.0 to 5.8E+16 ohms	5.0 to 5.8E+16 ohms	ASTM D257
--	5.5 to 1.1E+16 ohms	5.5 to 1.1E+16 ohms	IEC 60093
--	1.0E+3 to 7.5E+14 ohms	1.0E+3 to 7.5E+14 ohms	IEC 62631-3-2
Volume Resistivity			
--	5.0 to 5.5E+15 ohms·cm	5.0 to 5.5E+15 ohms·cm	ASTM D257
--	5.5 to 2.5E+16 ohms·cm	5.5 to 2.5E+16 ohms·cm	IEC 60093
--	3.0 to 1.0E+12 ohms·m	3.0 to 1.0E+12 ohms·m	IEC 62631-3-1
Dielectric Strength			
--	450 to 610 V/mil	18 to 24 kV/mm	ASTM D149
--	450 to 930 V/mil	18 to 37 kV/mm	IEC 60243-1
Dielectric Constant			
--	3.67 to 3.91	3.67 to 3.91	ASTM D150
--	3.75 to 4.00	3.75 to 4.00	IEC 60250
--	3.75	3.75	IEC 60250
Dissipation Factor			
--	3.8E-4 to 9.3E-3	3.8E-4 to 9.3E-3	ASTM D150
--	1.0E-3 to 0.014	1.0E-3 to 0.014	IEC 60250
Arc Resistance	240 to 250 sec	240 to 250 sec	ASTM D495
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Density	1.20 g/cm³	1.20 g/cm³	
Melt Specific Heat	0.528 Btu/lb/°F	2210 J/kg/°C	ASTM C351
Melt Thermal Conductivity	1.1 Btu·in/hr/ft²/°F	0.16 W/m/K	ASTM C177
Ejection Temperature	285 °F	140 °C	
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	174 to 253 °F	79 to 123 °C	
Drying Time	1.9 to 4.1 hr	1.9 to 4.1 hr	
Suggested Max Moisture	0.096 to 0.20 %	0.096 to 0.20 %	
Hopper Temperature	77 to 392 °F	25 to 200 °C	
Rear Temperature	336 to 347 °F	169 to 175 °C	
Middle Temperature	356 to 366 °F	180 to 185 °C	



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Injection	Nominal Value (English)	Nominal Value (SI)
Front Temperature	364 to 394 °F	185 to 201 °C
Nozzle Temperature	373 to 392 °F	190 to 200 °C
Processing (Melt) Temp	373 to 411 °F	189 to 211 °C
Mold Temperature	157 to 212 °F	69 to 100 °C
Injection Pressure	761 to 12500 psi	5.25 to 86.3 MPa
Holding Pressure	7680 to 7990 psi	52.9 to 55.1 MPa
Back Pressure	25.0 to 593 psi	0.172 to 4.09 MPa
Screw Speed	45 to 175 rpm	45 to 175 rpm

Injection Notes

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Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	365 to 370 °F	185 to 188 °C

Extrusion Notes

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Notes

¹ Typical properties: these are not to be construed as specifications.

