

POM (POLYTACETAL)

MATERIAL DATA SHEET

- Permanently static dissipative
- Dissipate static charges (5 kV) in less than 2 seconds
- No metal or graphite powder used
- Depending on the base polymer, thermal performance from 90 to 260°C (continuous use)

POM is an acetal based static dissipative material ideal for material handling applications. It is also an excellent choice for fixturing used in the manufacturing of hard disk drives or for handling in-process silicon wafers.

Applications: Wafer combs, handling trays, inserts, IC device testing fixtures.

PROPERTIES	Test methods	Units	VALUES
Color	-	-	Beige
Density	ISO 1183-1	g/cm ³	1.33
Water absorption:			
- after 24/96 h immersion in water of 23°C	ISO 62	mg	392/705
	ISO 62	%	5/9
- at saturation in air of 23°C / 50% RH	-	%	0.8
- at saturation in water of 23°C	-	%	10
Thermal Properties			
Melting temperature (DSC, 10°C/min)	ISO 11357-1/-3	°C	165
Thermal conductivity at 23°C	-	W/(K.m)	-
Coefficient of linear thermal expansion:			
- average value between 23 and 100°C	-	m/(m.K)	150x 10 ⁻⁶
- average value between 23 and 150°C	-	m/(m.K)	-
- average value above 150°C	-	m/(m.K)	-
Temperature of deflection under load:			
- method A: 1.8 MPa	ISO 75	°C	-
Max. allowable service temperature in air:			
- for short periods	-	°C	140
- continuously : for min. 20,000 h	-	°C	90
Min. service temperature	-	°C	-50
Flammability:			
- "Oxygen Index"	ISO 4589	%	<20
- according to UL 94 (1.5 / 3 mm thickness)	-	-	HB / HB
Mechanical Properties at 23°C			
Tension test:			
- tensile stress at break	ISO 527-1/-2	MPa	38
- tensile strength	ISO 527-1/-2	MPa	38
- tensile strain at break	ISO 527-1/-2	%	15
- tensile modulus of elasticity	ISO 527-1/-2	MPa	1500
Compression test			
- compressive stress at 1 / 2 % nominal strain	ISO 604	MPa	12.5 / 22
Charpy impact strength - unnotched	ISO 179/1eU	kJ/m ²	No break
Charpy impact strength - notched	ISO 179/1eA	kJ/m ²	8
Ball indentation hardness	ISO 2039-1	N/mm ²	70
Rockwell hardness	ISO 2039-2	-	R 106
Electrical Properties at 23 °C			
Electric strength	IEC 60243-1	kV/mm	-
Volume resistivity	IEC 60093	Ohm.cm	10 ⁹ - 10 ¹¹
Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq	10 ⁹ - 10 ¹¹
Relative permittivity εr: - at 100 Hz	IEC 60250	-	-
- at 1 MHz	IEC 60250	-	-
Dielectric dissipation factor tan δ: - at 100 Hz	IEC 60250	-	-
- at 1 MHz	IEC 60250	-	-

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m.

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