Acetal (POM-C & POM-H)

SMITHS

A versatile engineering plastic for many applications

Service. Quality. Value.

	Natural or Black un-modified	Acetal-C +25% Glass	Acetal-C + PTFE	Acetal-C ESD60, conductive	Acetal-C ESD90, dissipative	
Mechanical Properties						
Density at 20°C	1.41	1.58	1.52	1.40	1.34	g/cm^3
Tensile strength @ yield	67	65	50	40	42	MPa
Elongation @ break	30	3.0	16	30	20	%
Tensile modulus of elasticity	2800	4500	2500	1900	1800	MPa
Notched impact strength (Charpy)	6	4	4	5	5	kJ/m^2
Ball indentation hardness	150	195	120	100	90	N/mm^2
Hardness (Shore D)	81	85	80	-	76	Scale D
Electrical Properties						
Volume resistivity	10^{13}	-	-	10^3	$10^9 - 10^{12}$	Ohm cm
Surface resistivity	10^{13}	-	-	10^3	$10^9 - 10^{11}$	Ohm
Dielectric constant, 50 Hz	3.8	-	3.7	-	-	-
Dielectric dissipation factor, 50 Hz	0.002	-	0.002	-	-	-
Dielectric strength	40	-	33	-	-	Kv/mm
Comparative tracking index (CTI) – solution	600	-	600	-	-	-
Thermal Properties						
Melting Temperature	165	165	165	165	165	°C
Heat deflection temperature - method A, 1.8 MPa	110	160	98	89		°C
Coefficient of thermal expansion (Avg between 20 - 60°C)	110	30	120	130	170	$10^{-6}.K^{-1}$
Specific thermal capacity at 100 °C	1.50	-	-	-	-	kJ/(kg - K)
Thermal conductivity at 20 °C	0.31	-	-	0.31	-	W/(m - K)
Service temperature - long term	-50 to +100	-20 to +100	-50 to +100	-20 to +100	-50 to +85	°C
- short term	+140	+140	+140	+140	+140	
Chemical resistance						
Acid resistance	+	+/0		+/0	+	
Alkali resistance	+	+		+	+	
Hydrocarbon resistance	+	+		+	+	
Chlorinated hydrocarbon resistance	0	0		0	0	
Aromatic resistance	+	+		+	+	
Ketone resistance	+	+		+	+	
Resistance to hot water	+	+		+	+	

Key: + = YES 0 = LIMITED - = NO