

Acetal



Physical Properties	Nominal Value	Test Method
Density / Specific Gravity	1.38 - 1.44 g/cm ³	ASTM D792
Apparent (Bulk) Density	0.84 - 0.85 g/cm ³	ISO 60
Water Absorption		
24 hr	0.20 - 0.25 %	ASTM D570
24 hr, 23°C	0.10 - 0.71 %	ISO 62
Saturation	0.79 - 0.98 %	ASTM D570
Saturation, 23°C	0.60 - 0.84 %	ISO 62
Equilibrium	0.20 - 0.26 %	ASTM D570
Equilibrium, 23°C, 50% RH	0.20 - 0.21 %	ISO 62

Mechanical Properties	Nominal Value	Test Method
Tensile Modulus	2040 - 3470 MPa	ISO 527-1
Tensile Strength		
Yield	54.0 - 64.5 MPa	ASTM D638
Break	33.3 - 38.1 MPa	ASTM D638
Tensile Elongation		
Yield	8.3 - 10 %	ASTM D638
Break	1.0 - 73 %	ASTM D638
Nominal Tensile Strain at Break	14 - 50%	ISO 527-2
Flexural Modulus	3.03 to 4760 MPa	ASTM D790
Flexural Strength		
Yield	1700 - 2730MPa	ASTM D790
Break	58 - 98 MPa	ASTM D790
Compressive Strength	15.9 - 110 MPa	ASTM D695
Poisson's Ratio	0.40 - 0.41	ASTM E132
Coefficient of Friction	0.050 - 0.48	ASTM D1894
Wear Factor	1.0 - 300 10 ⁻⁸ mm ³ /N·m	ASTM D3702

Impact Properties	Nominal Value	Test Method
Charpy Notched Impact Strength	1.5 - 11 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength	34 - 250 kJ/m ²	ISO 179
Notched Izod Impact	38 - 100 J/m	ASTM D256
Unnotched Izod Impact	55 - 1500 J/m	ASTM D256

Hardness Properties	Nominal Value	Test Method
Rockwell Hardness		
--	78 -117	ASTM D785
--	79 - 81	ISO 2039-2
Ball Indentation Hardness	129 - 157 MPa	ISO 2039-1

Thermal Properties	Nominal Value	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed	154 - 163 °C	ASTM D648
0.45 MPa, Unannealed	139 - 160 °C	ISO 75-2/B
1.8 MPa, Unannealed	97.7 - 110 °C	ASTM D648
1.8 MPa, Unannealed	78.4 - 113 °C	ISO 75-2/A
Continuous Use Temperature	65.0 - 100 °C	ASTM D794
Vicat Softening Temperature		
--	150 - 162 °C	ASTM D1525
--	144 - 167 °C	ISO 306
Melting Temperature		
--	165 - 166 °C	DSC
--	165 - 167 °C	ISO 11357-3
--	167 - 168 °C	ASTM D3418
--	165 - 170 °C	ISO 3146
Specific Heat	1650 to 2100 J/kg/°C	ASTM C351
Thermal Conductivity	0.23 W/m/K	ASTM C177
RTI Str	90.0 - 105 °C	UL 746B

Electrical Properties	Nominal Value	Test Method
Surface Resistivity		
--	5.0 to 5.85E+16 ohms	ASTM D257
--	5.5 - 1.1E+16 ohms	IEC 60093
--	1.0E - 7.5E+14 ohms	IEC 62631-3-2
Volume Resistivity		
--	5.0 - 5.5E+15 ohms-cm	ASTM D257
--	5.5 - 2.5E+16 ohms-cm	IEC 60093
--	1.0E+3 - 7.5E+14 ohms-m	IEC 62631-3-1
Dielectric Strength		
--	18 - 24 kV/mm	ASTM D149
--	18 - 37 kV/mm	IEC 60243-1
Dielectric Constant		
--	3.67 - 3.91	ASTM D150
--	3.75 - 4.00	IEC 60250
--	3.75	IEC 60250
Dissipation Factor		
--	3.8E-4 - 9.3E-3	ASTM D150
--	1.0E-3 - 0.014	IEC 60250
Arc Resistance	240 - 250 sec	ASTM D495

The information provided in this datasheet is based upon average values and is intended for guidance purposes only.

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Product samples are available to determine the suitability of the product for any application.