

Channel Industries 5804 Lead Zirconate Titanate Piezoelectric

Category : Ceramic , Oxide , Zirconium Oxide , Piezoelectric

Material Notes:

Navy Type III Characterized by high coupling factors and high piezoelectric and dielectric constants over extended temperature ranges and stress amplitudes, lead zirconate titanates are the most extensively used material for electro-mechanical and electro-acoustic transducers. Uses of this grade include: Low Power Sonar; High Power Sonar; Ultrasonic Cleaners; Ultrasonic Welders; Hydrophones; Deep; High Dynamic Motion Transducers; Non-Destructive Testing; High-Voltage Generators Data provided by Channel Industries, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Channel-Industries-5804-Lead-Zirconate-Titanate-Piezoelectric.php

Physical Properties	Metric	English	Comments
Density	>= 7.55 g/cc	>= 0.273 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	48.0 MPa	6960 psi	Dynamic tensile strength
	83.0 MPa	12000 psi	Static

Electrical Properties	Metric	English	Comments
Curie Temperature	>= 300 °C	>= 572 °F	
Dielectric Constant	1050	1050	Free dielectric constant K_{T3}
	1340	1340	K_{T1}
Dissipation Factor	0.0040	0.0040	Low Field
Piezoelectric Longitudinal Coupling Factor, k_{33}	0.66	0.66	
Piezoelectric Transverse Voltage Coefficient, d_{31} , 10 ⁻¹² m/V	-105	-105	
Piezoelectric Shear Charge Coefficient, d_{15} , 10 ⁻¹² m/V	382	382	
Piezoelectric Longitudinal Voltage Coefficient, g_{33} , 10 ⁻³ V-m/N	25.8	25.8	
Piezoelectric Planar Coupling Factor, k_p	-0.540	-0.540	
Piezoelectric Mechanical Q	1050	1050	
Piezoelectric Shear Coupling Factor, k_{15}	0.59	0.59	
Piezoelectric Longitudinal Charge	240	240	

Electrical Properties	Metric	English	Comments
Piezoelectric Transverse Voltage Coefficient, d_{33} , 10^{-12} m/V	-11.3	-11.3	
Piezoelectric Shear Voltage Coefficient, g_{31} , 10^{-3} V-m/N	32.2	32.2	
Piezoelectric Transverse Coupling Factor, k_{31}	-0.320	-0.320	

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