

Channel Industries 5400 Lead Zirconate Titanate Piezoelectric

Category : Ceramic , Oxide , Zirconium Oxide , Piezoelectric

Material Notes:

Navy Type I 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; Depth Sounders; 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-5400-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	41.0 MPa	5950 psi	Dynamic tensile strength
	76.0 MPa	11000 psi	Static

Electrical Properties	Metric	English	Comments
Curie Temperature	>= 300 °C	>= 572 °F	
Dielectric Constant	1300	1300	Free dielectric constant $K^{T/3}$
	1475	1475	$K^{T/1}$
Dissipation Factor	0.0040	0.0040	Low Field
Piezoelectric Longitudinal Coupling Factor, k_{33}	0.71	0.71	
Piezoelectric Transverse Voltage Coefficient, d_{31} , 10 ⁻¹² m/V	-135	-135	
Piezoelectric Shear Charge Coefficient, d_{15} , 10 ⁻¹² m/V	525	525	
Piezoelectric Longitudinal Voltage Coefficient, g_{33} , 10 ⁻³ V-m/N	26.1	26.1	
Piezoelectric Planar Coupling Factor, k_p	-0.600	-0.600	
Piezoelectric Mechanical Q	500	500	
Piezoelectric Shear Coupling Factor, k_{15}	0.72	0.72	

Electrical Properties Piezoelectric Longitudinal Charge Coefficient, g ₃₁ , 10 ⁻³ V-m/N	Metric	English	Comments
Piezoelectric Transverse Voltage Coefficient, g ₃₁ , 10 ⁻³ V-m/N	-11.7	-11.7	
Piezoelectric Shear Voltage Coefficient, g ₁₅ , 10 ⁻³ V-m/N	40.5	40.5	
Piezoelectric Transverse Coupling Factor, k ₃₁	-0.360	-0.360	

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