

## Piezo Kinetics 906 Lead Nickel Niobate Piezoelectric

Category : Ceramic , Oxide , Piezoelectric

### Material Notes:

PKI 906 is slightly different in composition than the "general" PZT formulations. Its PZT-doped Lead Nickel Niobate composition was developed to enhance the d33 and dielectric properties of Navy Type VI materials. These enhanced properties make it the optimum choice for ultrasound or actuator applications. The increased dielectric constant allows engineers to use the material in smaller (higher frequency) applications while still maintaining the desired or necessary capacitance. The increased d33 allows for higher displacement applications. Elastic Compliance s11E (x 10<sup>-12</sup> m<sup>2</sup>/n): 15.4. Elastic Compliance s33E (x 10<sup>-12</sup> m<sup>2</sup>/n): 18.2. Property data at 25°C. Information supplied by Piezo Kinetics, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Piezo-Kinetics-906-Lead-Nickel-Niobate-Piezoelectric.php](http://www.lookpolymers.com/polymer_Piezo-Kinetics-906-Lead-Nickel-Niobate-Piezoelectric.php)

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	55.0 GPa	7980 ksi	
Poissons Ratio	0.22	0.22	
Shear Modulus	23.0 GPa	3340 ksi	calculated

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	100 °C	212 °F	Maximum Operating Temperature

Electrical Properties	Metric	English	Comments
Curie Temperature	150 °C	302 °F	
Dielectric Constant	5500	5500	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.023	0.023	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Piezoelectric Longitudinal Coupling Factor, k33	0.70	0.70	
Piezoelectric Transverse Voltage Coefficient, d31, 10 <sup>-12</sup> m/V	-310	-310	
Piezoelectric Shear Charge Coefficient, d15, 10 <sup>-12</sup> m/V	700	700	
Piezoelectric Longitudinal Voltage	13.6	13.6	

<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Piezoelectric Planar Coupling Factor, $k_p$	0.60	0.60	
Piezoelectric Mechanical Q	55	55	
Piezoelectric Longitudinal Charge Coefficient, $d_{33}$ , $10^{-12}$ m/V	660	660	
Piezoelectric Transverse Voltage Coefficient, $g_{31}$ , $10^{-3}$ V-m/N	-6.40	-6.40	
Piezoelectric Shear Voltage Coefficient, $g_{15}$ , $10^{-3}$ V-m/N	14.4	14.4	
Piezoelectric Transverse Coupling Factor, $k_{31}$	0.35	0.35	

## Contact Songhan Plastic Technology Co.,Ltd.

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