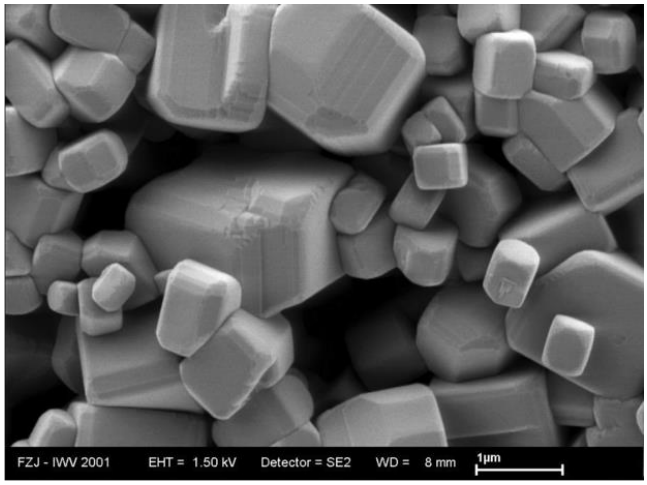
Aerospace
Defence
Energy
Industrial
Medical

Ferroperm™ Piezoelectric

Pz61 Low acoustic impedance, lead free



Microstructure of Pz61 at a magnification of 5000 times

Lead-free alkaliniobate with low acoustic impedance

Pz61 is an entirely lead-free material, with a low density and moderate dielectric constant. Because of its low density it has a low acoustic impedance for improved impedance matching.

Repeatable performance

The main focus through our entire production process is to provide materials and components with the highest possible reproducibility of properties and parameters and to obtain the lowest aging rates in the industry.

Our materials have a variation of ±5% for all parameters. This reduces the requirements for impedance matching, frequency tuning and dimensioning of the housing meaning fewer rejects and lower costs.

Customised solutions

We have more than 60 years of experience in the production of advanced piezoelectric ceramics. Our team has extensive expertise in customising designs to match the customer's needs.

Please contact us to discuss your requirements in further detail.

Key benefits

- Lowest batch to batch variation in the industry
- Stable material with consistent performance
- Customised or standard designs

Key features

- Lead-free
- Low density
- Improved impedance matching

Applications

- Broadband NDT transducers
- Broadband medical transducers

Contact

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Material properties

Electrical	Symbol	Pz61
Relative dielectric permittivity (free, 1 kHz)	K_{33}^{T}	500
Dielectric dissipation factor at 1 kHz	tan δ	40 x 10^{-3}
Curie temperature	T_C>	420 °C
Recommended working range	<	180 °C
Electromechanical		
Coupling factor, planar	k_p	0.30
Coupling factor, thickness	k_t	0.40
Piezoelectric charge coefficient	d_{33}	80 pC/N
Frequency constant, thickness	N_t	2750 Hz m
Mechanical		
Mechanical Quality Factor*	$Q_{m,t}^{E}$	25
Acoustic impedance	Z_a	24.6 Mrayl
Density	ρ	4.25 g/cm³

Note: Due to continuous process improvement, specifications are subject to change without notice.
Please be aware that extreme dimensions and geometries can lead to exaggeration in tolerances in all materials.