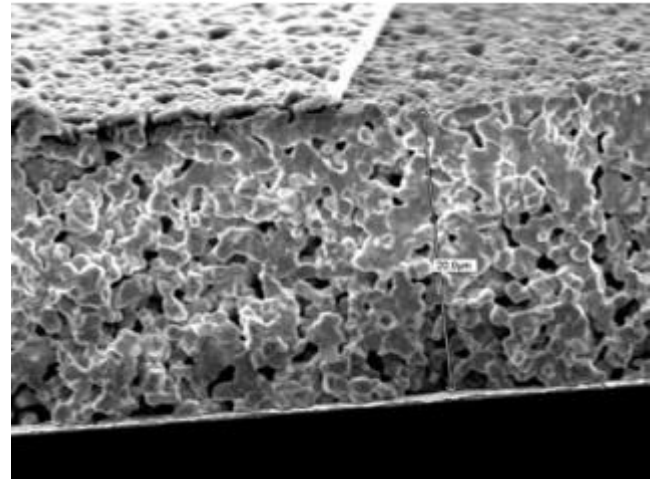


DATA SHEET

TF2100 all-round hard PZT material

TF2100 Thick film



SEM picture of TF2100 microstructure

01 Description

Pz26 is an all-round hard PZT material with good coupling factors, high Curie temperature, high mechanical quality factor, low dielectric loss and very good stability over time. Pz26 can be used as a direct replacement for all other Navy I materials. Benefits include strongly improved ageing rates, and extremely stable performance from orders ranging over several years.

The material is compatible with thick film technology and the properties are almost fully conserved in the change from bulk to thick film. The change in properties is mainly attributed to increased porosity in the thick film compared to the bulk material.

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 $\pm 5\%$ 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.

02 Key features and benefits

- Lowest batch to batch variation in the industry
- Stable material with consistent performance
- Customised or standard designs
- High Curie temperature
- Low dielectric loss
- Good stability over time

03 Applications

- High frequency medical imaging
- Miniaturised accelerometers
- Integrated miniaturised phased array ultrasound scanners

04 Contact

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05 Material properties

Electrical	Symbol	TF2100
Relative dielectric permittivity at 1 kHz	K_{33T}	520
Dielectric dissipation factor at 1 kHz	$\tan\delta$	8×10^{-3}
Electromechanical		
Coupling factors	k_p	29
	k_t	49
Piezoelectric charge coefficient	d_{33}	200 pC/N
	d_{31}	-50
Piezoelectric voltage coefficient	g_{33}	50×10^{-3} Vm/N
	g_{31}	-10
Mechanical		
Acoustic impedance	Z_a	15 MRayl
Mechanical quality factor	$Q_{m_t}^E$	100

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.