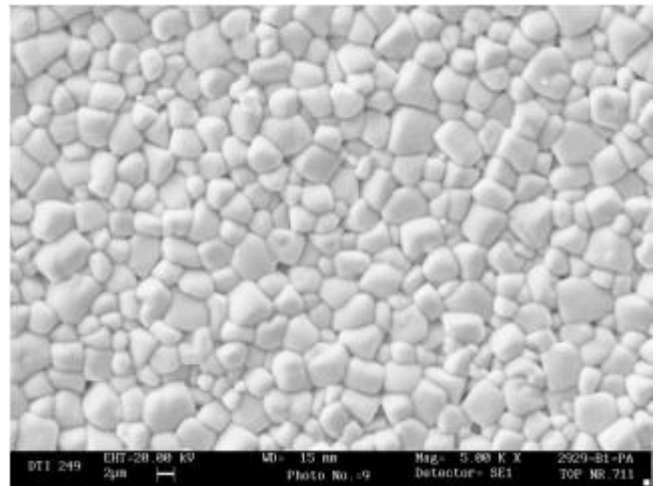


## DATA SHEET

# Soft PZT

## Type Pz29



Microstructure of Pz29 at a magnification of 5000 times

### 01 Description

Pz29 is a very soft piezoceramic material with very high coupling factors and piezoelectric charge coefficients. It is specially optimised for applications where high sensitivity or high displacements are required.

#### 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 coupling factors
- High piezoelectric charge coefficients

### 03 Applications

- 1D and 2D medical arrays for imaging systems
- Inkjet printheads
- Actuators for medical, electronic or optical control systems
- NDT sensors with high sensitivity

### 04 Contact

Meggitt A/S

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E-mail: [pz@meggitt.com](mailto:pz@meggitt.com)

[www.meggittferroperm.com](http://www.meggittferroperm.com)

DATA SHEET

Very soft relaxor type PZT, Type Pz29

05 Material properties

Electrical

Relative dielectric permittivity at 1 kHz  
Dielectric dissipation factor at 1 kHz  
Curie temperature  
Recommended working range

Symbol

$K_{33T}$   
 $\tan\delta$   
 $T_C >$   
<

Pz29

2820  
 $19 \times 10^{-3}$   
235 °C  
150 °C

Electromechanical

Coupling factors

$K_p$   
 $K_t$

0.62  
0.51

Piezoelectric charge coefficient

$K_{33}$   
 $d_{33}$

0.75  
575 pC/N

Mechanical

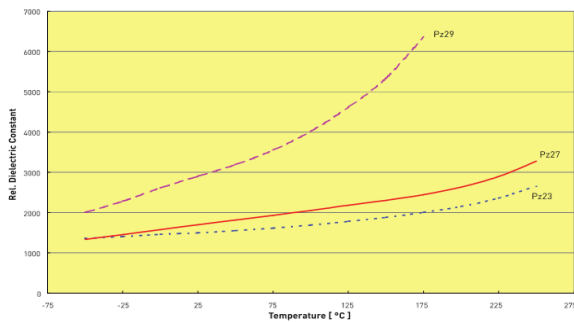
Mechanical Quality Factor  
Density

$Q_{m,t}$   
 $\rho$

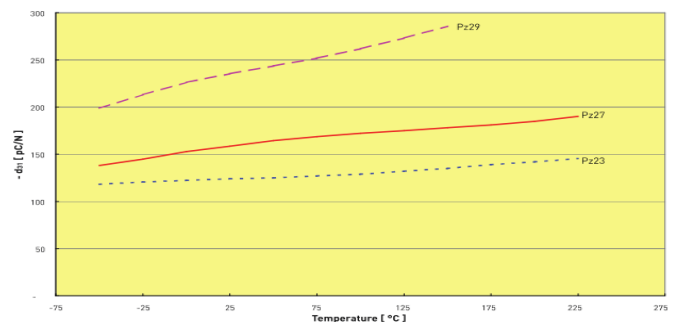
90  
7.45 g/cm<sup>3</sup>

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.

06 Technical performance



Temperature dependence of the free dielectric constant of Pz29 in comparison with other soft PZT materials from Ferroperm.



Temperature dependence of the piezoelectric charge coefficient, d<sub>31</sub>, for Pz29 in comparison with other soft PZT materials from Ferroperm.