Piezoelectric Ceramics Market 2023: Set to Reach USD 10120 Million by 2030 with a Striking 2.9% CAGR

According to the Piezoelectric Ceramics Market Analysis Report from 2023 to 2030, there is an expected CAGR of 2.9%.

PUNE, MAHARASHTRA, INDIA, July 25, 2023 /EINPresswire.com/ -- □□□ □□□□□□□ □□□□□□□□□□□ □□□□ □□□□□□□□□□ □□□□ □□□□□□□□□□□:

- Global Piezoelectric Ceramics market is projected to experience a CAGR (Compound Annual Growth Rate) of 2.9% until 2026.

- The Global Piezoelectric Ceramics Market Size Reached USD 8265.6 Million in 2021-2022.

- The Global Piezoelectric Ceramics Market to Reach the Value of USD 10120 Million by the End of 2026.

- Geographical Analysis Covered are: North America, Europe, Asia-Pacific (China, Japan, South Korea, Rest of Asia-Pacific), South America, Middle East & Africa

- 186 Pages Report

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Advanced Abrasives
Annon Piezo Technology Co. Limited.

APC International Ltd.
Bhalla Chemical Works Pvt. Ltd.
Central Electronics Limited
Ceradyne Inc.
Ceramic Magnetics Inc.
Ceramtec
Coorstek Inc.
CTS Corporation
Electro Ceramics (Thailand) Co. Ltd.
Friatec AG
GCI Electro-Ceramics Co.
Harris Corporation
Huntsman Corporation
Keltron Electro Ceramics Ltd.
Kyocera Corporation
Maruwa Co. Ltd.
Meggitt Sensing Systems
Morgan Advanced Materials
Rubicon Technology
Swiss Jewel Company
Taiyo Yuden
TCI Ceramics Inc.
Teledyne Reynolds Inc.
TRS Technologies Inc.

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The piezoelectric ceramic is a kind of functional ceramic materials which can create electricity when subjected to a mechanical stress. They will also work in reverse, generating a strain by the application of an electric field. In sensors they make it possible to convert forces, pressures and accelerations into electrical signals, and in sonic and ultrasonic transducers and actuators they convert electric voltages into vibrations or deformations.

The Science

Piezoelectric ceramic materials are ionically bonded and consist of atoms with positive and negative charges, called ions. These ions occupy positions in specific repeating units (called unit cells). If a unit cell is non-centro symmetric, i.e. lacking a centre of symmetry, then the application of a stress produces a net movement of the positive and negative ions with respect to each other and results in an electric dipole or polarisation.

The degree of polarisation is dependent upon the stress and whether tensile or compressive

stresses are applied affects the charge produced. The dipoles, which are present due to the non-centro symmetric structure, form domains that are regions where neighbouring dipoles have the same alignment.

Initially the domains are randomly oriented (see figure on the left) and there is no overall polarisation of the ceramic and therefore it exhibits I no piezoelectric effect. By applying heat and a strong DC field the domains are subjected to 'poling', causing the domains that are nearly aligned to the field to grow at the expense of those at differing alignments. After cooling to room temperature and removing the DC field, the domains are 'locked' resulting in an overall alignment and the material is now piezoelectric.

The market for Lead Magnesium Niobate (PMN) held the largest share of the piezoelectric materials market owing to their high piezoelectric sensitivity and ability to acquire desired shapes and sizes. Currently, the most widely used piezoelectric ceramic material is PMN. It is used in a variety of applications, including medical, industrial, and automotive.

The Piezoelectric Ceramics Market Report offers a comprehensive analysis of the global market size, regional and country-level market size, segmentation market growth, market share, competitive landscape, impact of domestic and global market players, optimization of the value chain, trade regulations, recent developments, analysis of opportunities, strategic market growth analysis, product launches, expansion of the marketplace, and technological innovations.

The global Piezoelectric Ceramics market is valued at USD 8265.6 million in 2019. The market size will reach USD 10120 million by the end of 2026, growing at a CAGR of 2.9%.

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Based on TYPE, the Piezoelectric Ceramics market from 2023 to 2030 is primarily split into:

Titanate
Zirconia
Alumina
Others

Based on applications, the Piezoelectric Ceramics market from 2023 to 2030 covers:

High Dielectric Capacitors
Volatile Memories
Data and Information Storage
Energy Storage and Conversion

Environmental Monitoring
Others

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1. How big is the global Piezoelectric Ceramics market?
2. What is the demand of the global Piezoelectric Ceramics market?
3. What is the year over year growth of the global Piezoelectric Ceramics market?
4. What is the production and production value of the global Piezoelectric Ceramics market?
5. Who are the key producers in the global Piezoelectric Ceramics market?
6. What are the growth factors driving the market demand?

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The Piezoelectric Ceramics market is undergoing significant growth, propelled by several key factors. These dynamics are shaping the industry and creating opportunities for innovation and expansion:

Technological Advancements: Rapid progress in technologies such as artificial intelligence, machine learning, Internet of Things, and blockchain is revolutionizing the market. Piezoelectric Ceramicss can leverage these technologies to enhance operational efficiency, optimize supply chain processes, and deliver exceptional customer experiences.

Evolving Customer Expectations: Customers now expect transparency, real-time tracking, and streamlined logistics operations. Piezoelectric Ceramicss are using technology to offer end-to-end visibility, efficient operations, and seamless integration, meeting the ever-changing demands of customers.

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Historical Years: 2018-2022

Base Year: 2023

Estimated Year: 2023

Forecast Period: 2023-2030

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