

## Themenvorschau INTERCERAM 02.2022

### TRADE FAIR PREVIEW

**What Moves the Ceramics Industry?**  
ceramitec 2022 is once again bringing all the areas of the industry together. In addition to innovations for reducing energy consumption and emissions in the production process, the trade fair will also demonstrate how ceramic material can be a lever for resource efficiency. In the run-up to the fair, Interceram asked experts from various sectors of the industry about the trends they consider to be the most important. This is accompanied by a round-up of trade fair highlights from the most important industry representatives.

### MATERIAL DEVELOPMENT

#### **Metal-Like Ceramic: Ceramic Material with Innovative Properties**

The best of both worlds: for the first time an innovative material combines the advantages of ceramics and steel. The patented material MLC has been developed by a German start-up and opens up new prospects for a range of applications, such as use in rolling elements or linear systems.

### INTERVIEW

#### **"Thanks to two ceramic materials we can offer solutions for temperatures from -200 °C to +450 °C"**

At its factory in Mannheim, Germany, Kyocera Fin ceramics Solutions manufactures the containment shells used in magnetic drive pumps. It uses its FZM and FZM+ zirconia-based materials and, in addition to numerous technical advantages, ceramic containment shells enable energy-efficient operation and a consequent reduction in electricity costs and CO<sub>2</sub> emissions. Interceram contributor Charlie Wallin interviewed Bartosz Krawczyk, Sales Manager (Mechanical & Plant Engineering) to get a better understanding of the material, the product, and current trends and developments.

### SILICON CARBIDE

#### **Developing Intrinsically Heatable SiC Tools**

The aim of the project was to develop a variothermal tool technology using innovative SiC ceramics in order to optimize the production of thermoplastic fiber composites. The development focused on a new, innovative tool design, the production of the ceramics with integrated cooling channels and intrinsic heating by means of ceramic heating elements, and the use of the tools for processing fiber composites. By the end of the project, it should be possible to produce thermoplastically reinforced fiber composite components that cannot be manufactured more cost-effectively using any other process because of their complex structure and geometry.

### ADDITIVE MANUFACTURING

#### **Individualized Production of Ceramic Components Using Fused Layer Modelling**

Additive manufacturing processes offer a high degree of design freedom and efficient production down to batch size one. On the basis of newly developed filament feedstocks, it is now also possible to expand the fused layer modelling process to include ceramic materials (e.g. Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, SiC, etc.) and to ensure a reproducible process for the production of green bodies. In addition, it is possible to rework them in the green as well as in the hard state and to debind/sinter them without defects.

### Termine

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