Fused Filament Fabrication of Ceramic Components

Fused Filament Fabrication of ceramic components is a sustainable and mature technology. This article introduces the Fusion Factory, a solution which integrates all the steps of a complete process chain into one machine, and presents a number of application examples of components made of oxide ceramics that can be used at high temperatures in furnace construction.

Ceramic at its Best

Ceramic prototype components can be produced quickly using 3D printing. Where mechanical processing reaches its limits, the laser opens up new processing possibilities, making it possible to produce vertical walls and even undercuts.

Printing Alumina Ceramics: Ultra-Fine in Detail and Cost Effective

XJet announced the commercial availability of alumina, adding to its portfolio of additive manufacturing materials. Aluminum oxide was chosen for development because of its wide use as a technical ceramic and market demand.

3DK Competence Center Explores Potentials of Contour Crafting

The 3DK Competence Center project at the CeraTechCenter in Höhr-Grenzhausen combines the expertise of three project partners to both adapt existing printing processes to ceramic materials and develop new printing technologies. Within this framework, among other things, the adaptation of contour crafting for refractory products is being investigated.

Basic Guidelines for Prospecting and Technological Assessment of Clays for the Ceramic Industry

Clays are irreplaceable raw materials for ceramic processing. The availability of qualitatively and quantitatively suitable clay deposits is an important competitive factor and a key factor for the economic sustainability of ceramic production. The identification of suitable sources of clay materials is an important issue that requires an appropriate methodological approach. This article describes, in the form of a simple guide, how to search for clay deposits and evaluate the technological properties of raw materials. In this first part, the deposits of different types of ceramic clays are described and their origin, composition and geological criteria for prospecting are explained.