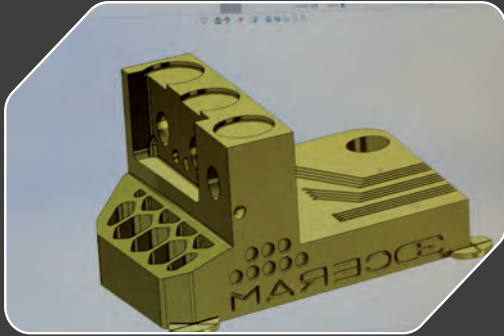


Ceramic Additive Manufacturing

FROM LAB TO MASS PRODUCTION

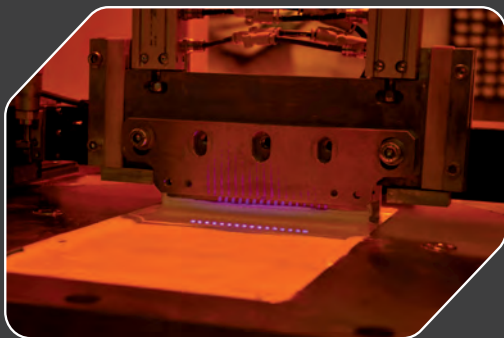
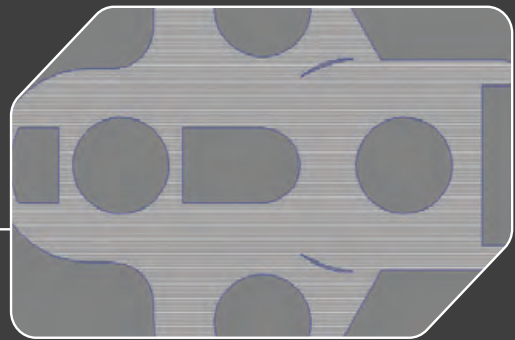


Additive manufacturing of **ceramic**.



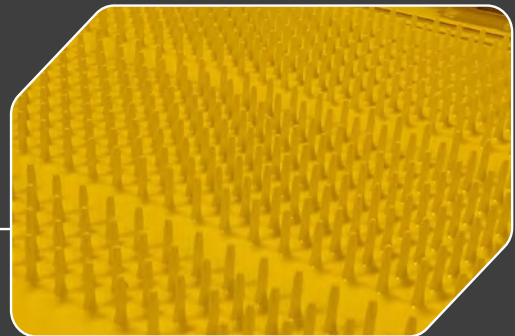
CREATION BY CAD

**SLICING OF THE PARTS
BEFORE PRINTING**



3D PRINTING

RECYCLING



**DEBINDING AND
SINTERING**

FUNCTIONAL PART



Machines

C1000 FLEXMATIC

NEW

An authentic industrial ceramic 3D printing machine



INDUSTRY

- A build platform that meets the needs of versatility: large parts and series of parts - 320*320*200 mm;
 - A removable tank that allows the processing of printed parts in a semi automated line.
 - User-friendly, no engineering skills required to start a printing run.
 - Automation of the recycling process : uncured material and automated cleaning step.
- Easy and fast post-processing: parts printed on the C1000 FLEXMATIC do not require any post-processing action - the surface finish after 3D printing and cleaning meets most specifications thanks to stereolithography technology which requires few or no supports.



Designed to integrate the SMART Ceramic Factory, 3DCeram's factory of the future, the new printer has all the assets to print ceramic parts in a semi-automated line.



C101 EASY

C101 EASY LAB, the freedom to develop your own process.

Dedicated to R&D, the C100 LAB opens up opportunities to :

- Develop materials with a small quantity of substance
- To validate the design
- Print parts to showcase
- Build platform : 100 * 100 * 150 mm
- Lab mode for your developments
- Only 60 ml of ceramic slurry required to start a printing run (cartridges of 180 ml, 360 ml, 600 ml or 920 ml available)
- Option : Smaller build platform

C101 EASY FAB, to develop, produce and scale up to mass customization

- Serial production of small parts
- Accurate slurry flowrate controlled through a peristaltic pump
- A pressurized tank feeding the material to provide only the quantity required for an optimized run (similar feeding process as the C3600 ULTIMATE)
- Build platform : 100 * 100 * 150 mm



RESEARCH



C101 HYBRID

3D PRINTING HYBRID

3DCERAM offers the C100 Hybrid in order to print a second material at the same time.

Multiple advantages to this hybrid system are:

- The deposition of the second material can be adjusted according to your needs and specifications.
- Hybrid functions integrated into the CPS software (only one software to control printer and hybrid)

A version of the C900 HYBRID is available.



RESEARCH



C3600 ULTIMATE

For mass production or big parts. Scale up from the C100 EASY FAB.

- Industrial printer
- Stereolithography laser
- Reduced unit price / parts
- Reduced recycling time
- Well adapted to serial printing and big parts
- Build platform : 600*600*300 mm



INDUSTRY



C900 FLEX

For small series and prototyping.

- The C900 FLEX benefits from 15 years of know-how and optimization
- Print functional parts or small series
- Ceramic printed parts have the same properties as those produced in conventional ways (moulding, machining and injection)
- Lab mode for your developments
- 3 sizes of building platform : 100 x 300 mm, 200 x 300 mm and 300 x 300 mm
- Free link technology
- SAM (Small Amount of Material) option : launch a fast printing run with only 100 mL of slurry



INDUSTRY & RESEARCH



3DMIX

BY 3DCERAM®

We offer a wide range of oxide and non-oxide formulations that meet the high performance properties required by demanding applications.

OXIDE

- **Zirconia 3Y** : excellent mechanical properties and chemical inertness
- **Zirconia 8Y**, a unique conductor used for fuel cells
- **Alumina Toughened Zirconia** : resistant to wear thermal shocks and is biocompatible
- **Silica** : For investment casting use and optical applications
- **Alumina** : good mechanical behavior and thermal conductivity
- **Hydroxyapatite** : Chemical composition close to bone for a good osseointegration in biomedical applications
- **Tricalcium phosphate** : Chemical composition close to bone and resorbable, for biomedical applications
- **Cordierite** : low CTE and thermal conductivity, wear resistant, good for optical parts for aerospace application
- **Silicore (Silica based ceramic)** : high mechanical resistance, porous ceramic, easily dissolvable for investment casting use

NON OXIDE

- **Aluminium Nitride** : thermal conductor, chemical resistant and electrical insulator
- **Silicon nitride** : very resistant, low density, excellent resistance to thermal shocks, wear and corrosion resistance and good electrical insulator

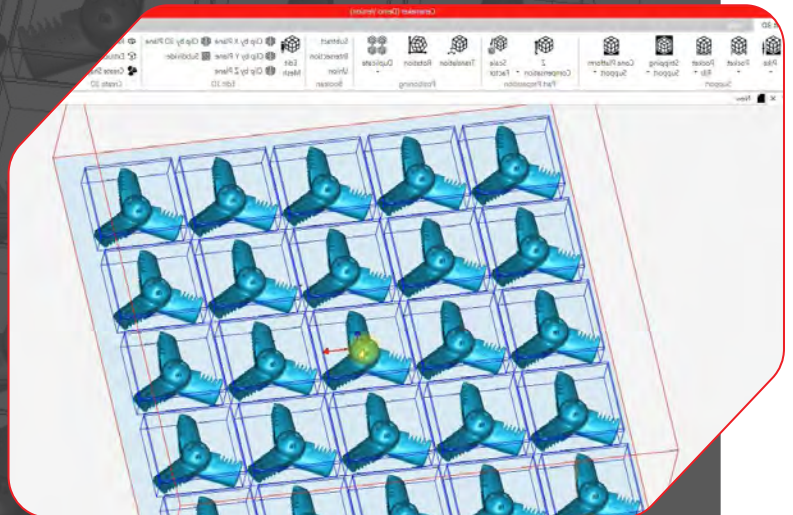


“Industrial quality 3D printing
ceramic material for
3DCeram’s printers.”

Services

BUILD-IT

A versatile software to prepare your files for 3D Printing on Ceramaker printers. It is an integrated plug-in, developed by 3DCeram, to edit your STL file and make the CAD file preparation much easier.



3DCeram provides not only the **machine**, the **slurry** and the **support** to transfer the technology, but also the **software**.

DISTRIBUTOR SUPPORT QUALIFIED

Through our network of DSQ – Distributor Support Qualified – all over the world, we manage installation and support services.

- For universities and the need to develop and to scale-up.
- For industrials who need to think in mass customization terms.
- For manufacturers who are looking to produce in short series.



FFF

THE RAPTOR

FFF (Fused Filament Fabrication) is a 3D printing process that 3DCeram has decided to integrate into its range of the process.

FFF works by extruding a material through a heated nozzle. As most 3D printing technologies, the part is also built layer by layer.

What are the main highlights when it comes to FFF?

The build platform is 200*200 mm and z axis of 200 mm

The build platform is flexible in order to allow the easy removal of the printed part.

This extrusion head was specifically developed to print ceramic parts, for instance to endure its abrasive composition. The cooling system has been designed to get the best result on the printing part.

This machine is equipped with a heating chamber which is an asset in the 3D printing process.

This new machine enters our range of 3D printers to fit the industrial needs and the Smart Ceramic Factory we are heading to.



To technical datas

CERAMIC AND METAL FILAMENTS

Ceramics:

- Silicon Carbide, high performance non oxide for industry such aerospace
- Alumina
- Zirconia

Ceramics:

- Titanium
- Stainless Steel
- Copper



Watch the video

INDUSTRY & RESEARCH



30 PARTNERS WORLDWIDE



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3DCeram Sinto Sintokogio Group

4, rue du Parc Maison Rouge
ZA Maison Rouge

87270 Bonnac-La-Côte

Email : info@3dceram.com

Tel. : +33 (0)5 55 04 10 90

Fax : + 33 (0)5 55 38 11 45