

E 85115 A

Ceramic paste for Robocasting



This ready-to-use alumina paste has been developed for Robocasting 3D printing.

This paste is suitable for screw micro-extrusion systems.

The main benefits of this technique are:

- Ease of manufacturing complex shapes.
- Low-cost technology.

This aqueous-based ceramic paste comprises 80 – 85wt% of alumina raw powder. It has been developed for systems using nozzles with aperture from 0.8 to 2mm in diameter.

The debinding of the printed part is realized with a slow heating rate, up to 800°C. The recommended sintering temperature is 1650°C.

Typical Paste properties

Solvent	water
Type of material	Alumina
Solid load (wt%)	80-85
PSD - D ₉₀ (µm)	3
PSD - D ₅₀ (µm)	0.8
Densification rate @1650°C (%)	>92
Working pressure for printing (bars)	6-8

Recommended processing

Printing conditions

A minimum pressure of 6 bar is required to extrude through the paste tank, while pressure of up to 8 bar is appreciable.

Drying & Densification

Printed parts should be dried in a climatic chamber before heat treatments. Debinding should be run up to 800°C and recommended sintering temperature is 1650°C.

Extrusion head

Recommended nozzles aperture size: 0.8 - 2mm. A printing head with a screw is also recommended.

Cleaning

Cleaning of printing parts can be carried out using water.

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Other information

Storage conditions

- Store the paste @ 4°C
- Best before date: 3 months

Security & Manipulation

For appropriate use, please refer to the Material Safety Data Sheet.

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