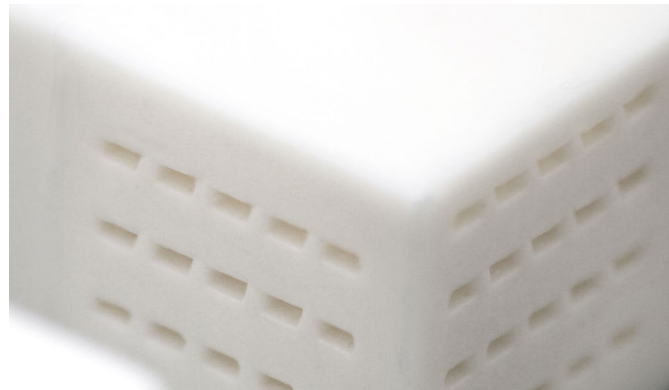


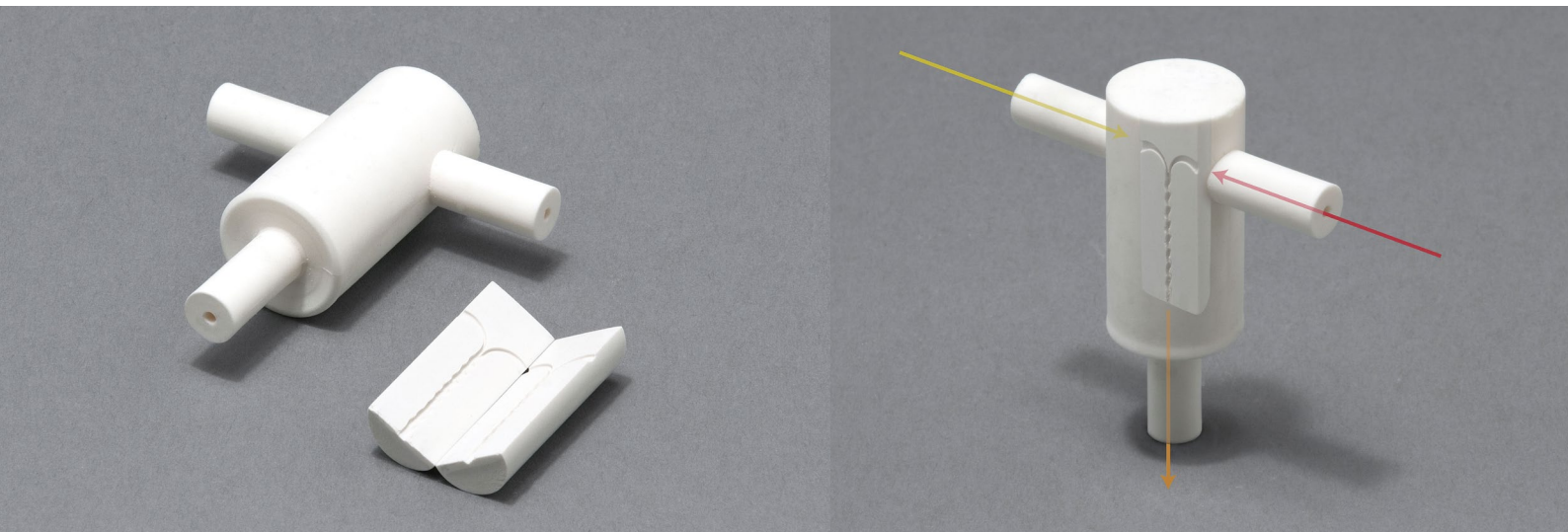
product examples



Fügetechnik Berlin-Brandenburg GmbH offers custom-designed solutions and products made from high-performance ceramics. We are specialized in developing and producing innovative and complex-formed components for industrial applications based on our patented joining technology that allows complex inner structures maintaining the advantages of pure alumina.

all-ceramic **microreactor**

- 99.7% alumina
- body: Ø 20 mm x 40 mm
- connection: Ø 8 mm
- inner structure 600 µm width
- throughput at $\Delta p = 3$ bar ca. 60 l/h
- operating pressure > 100 bar
- integration of heater and thermocouple are possible
- temperatures: mixing path < 1000°C, connectors < 250°C (clamping ring connection)

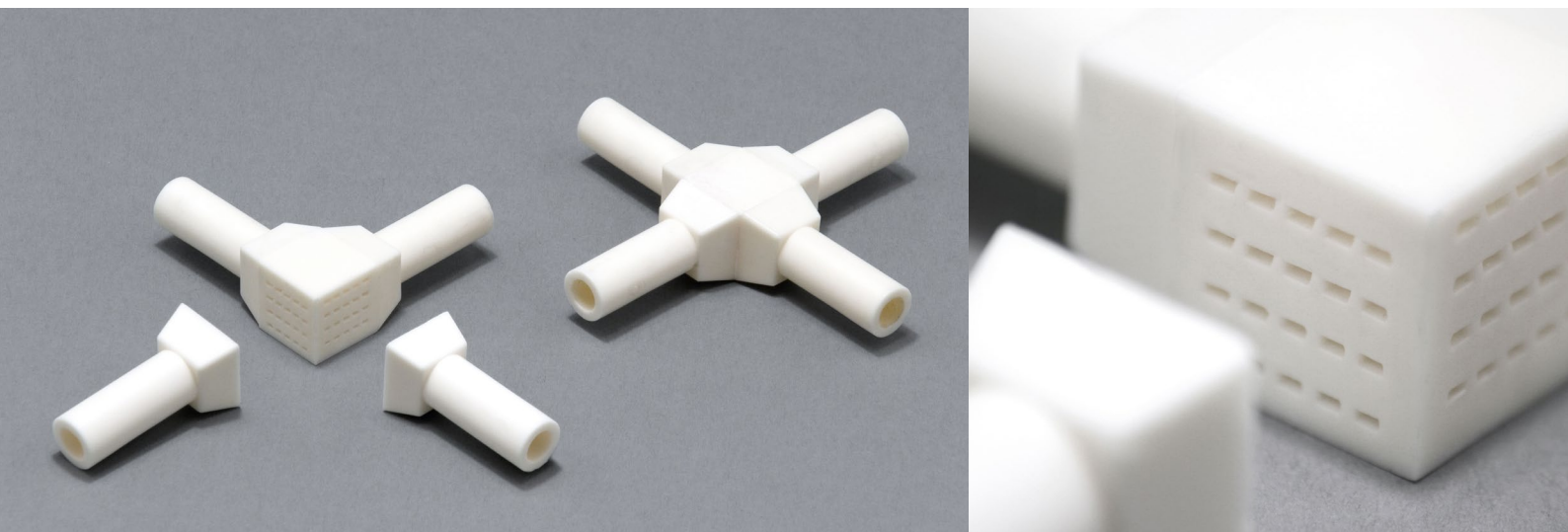


Comparing ceramic with metal constructions it is found that the superior characteristics of ceramics face the weldability of metals. This restriction on the geometric shaping is overcome by our patented joining technology for technical ceramics. With this new technology we are now able to produce undercuts, intricately shaped ducts and flow-breaking elements.

The usage of the LPIM (low pressure injection molding) allows a near-net shape and cost-efficient series production.

all-ceramic cross-flow heat exchanger

- 99.7% alumina
- 2 x 20 channels with 2 mm² cross section each
- connection Ø 10 mm



When is it worthwhile ...

... to use ceramic materials?

You need...

- high corrosion or wear resistance,
- specific electrical properties (insulation, dielectric strength, dielectric constant),
- tightness in connection with high thermal resistance or heat insulation or
- specific other characteristics such as optical reflection behaviour.

... to produce with low pressure injection moulding (LPIM)?

You have...

- quantities > 500 items
- complex structures, aspect ratio $L/d > 10$
- high-purity materials (yield is >95 % whereas yield is 40 % using shape cutting machines)

... to join?

You want...

- undercuts, intricately shaped ducts and/or flow-breaking elements and
- a reduction of tool costs.

You have questions? Contact us!