

## Forming- and Welding Technology

FCT Ingenieurkeramik represents more than 30 years experience in ceramic engineering and production of high-performance ceramics and composites.

Material properties for forming and welding technology:

- high hardness
- high bending strength in combination with good fracture toughness
- extremely wear resistant and corrosion stable
- no affinity to cold-welding
- extremely good thermal shock resistance
- very high stiffness
- temperature stability exceeding 1000 °C
- very low CTE
- electrically insulating or conducting properties
- low density
- high and constant surface quality of the welded product

In forming and welding technology our Silicon Nitride materials are already evaluated or state of the art in many applications.

### Rolling Mill Application

- spin rollers for steel wheel production
- cylinder rollers for sheets and foils
- caliber rolls for wire production
- guiding and driving rolls

### Forming Technology

- deep drawing and hydroforming dies
- tools for thixo-forming process
- forging mandrels
- compression plates

### Welding Technology

- welding rolls and positioning pins
- welding and brazing gauges
- nozzles for welding torches



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FCT Ingenieurkeramik with its economical production technology is in the position to manufacture customized components with high complexity and narrow tolerances as prototype or in series production.

Diameters up to 450 mm and lengths up to 1300 mm are state of the art.

Powder compaction takes place via cold isostatic or uniaxial pressing of semi-finished parts and subsequent turning or milling treatment in green state as well as via conventional slip casting. Additionally also extrusion and injection moulding are available.

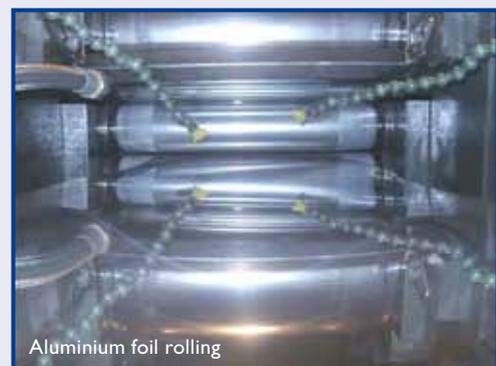
FCT produces ceramic parts based on customer's design particularly with non-oxide ceramics or composites.

Following material qualities are available: dense, gas pressure-sintered or hot-pressed Silicon Nitride materials as well as sintered, fiber-reinforced and reaction-bonded Silicon Carbide grades (SSiC, C/C-SiC, NSiC).

For specific requirements of our customers we also develop custom-made materials.

We understand ourselves likewise as a competent consultant for material selection and component design as well as for connection techniques by shrinking, clamping, gluing or soldering.

Additionally we offer services in sintering, hot pressing and HIPing as well as in ceramic process engineering.



**Ask your questions about ceramics - we find solutions for you!**