SHORT-TIME SINTERING
SPARK PLASMA SINTERING

Fast hot pressing and tailoring of microstructures

Advantages

- High process velocity
- Hot pressing within seconds or minutes
- No need for sintering additives
- No external heaters
- Sinterbodies with nano- and ultrafine microstructures
- Sintering of composites with components that react with each other (metastable microstructures)
- Sintering with thermal gradients
- Sinterbonding

Application potential

- Diamond materials
- Highly wear-resistant composite materials
- Nanostructured materials
- Thermoelectric materials
- Magnetic materials
- High-performance aluminium alloys
- Hard metals
- Friction linings

Typical dimensions of sinterbodies

- Diameter 8 mm – 300 mm
- Height 1 mm – 120 mm

Ranging from the material and process development to small series production, Fraunhofer IFAM Dresden has both the experience and the equipment. We offer specific tool designs for large size sinterbodies as well as the development and the manufacturing of near net shape multipart tools.