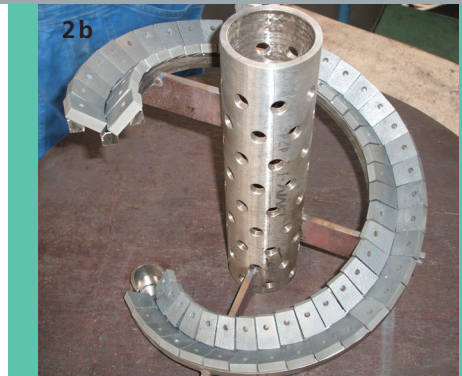
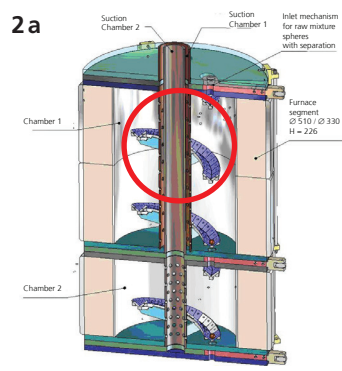
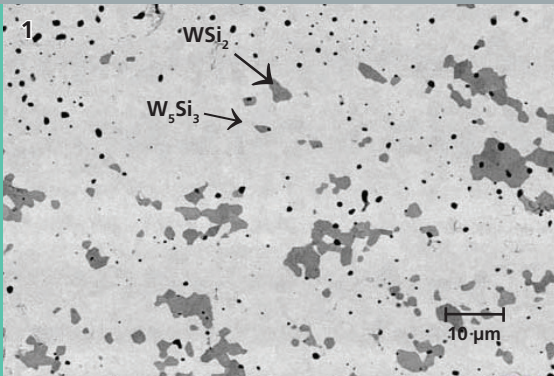




FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY
AND ADVANCED MATERIALS IFAM, BRANCH LAB DRESDEN



- 1 *W-10Si alloy, produced by high-energy milling and subsequent hot pressing*
- 2 *MoSi₂ as structural element of a high-temperature furnace (production of ultramarine pigment)*

REFRACTORY SILICIDES – MATERIALS FOR HIGHEST TEMPERATURES

Manufacturing

Powder-metallurgical production of refractory silicides (Mo-, W-, Nb-based) and silicide composites (SiC-, Al₂O₃-additives) via:

- High-energy milling
- Conventional densification
- Reaction sintering, hot pressing
- Spark plasma sintering

Properties

- Excellent high-temperature strength
- High thermal conductivity
- Excellent oxidation and corrosion resistance
- Application temperature up to 1.800 °C

Applications

Components for power and environmental engineering:

- Heat shields
- Slag filter
- Linings
- Burner nozzles
- Heat exchangers

High-temperature applications

- Heaters
- Nozzles and pipes
- Mechanical testing

Coatings

- Powder for thermal spraying

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