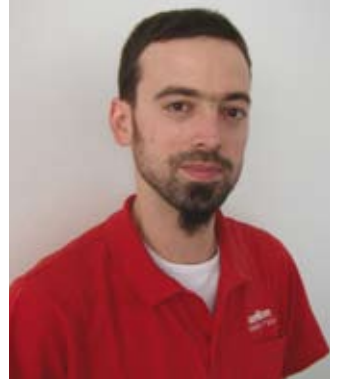


# **Competence in Ceramics since 1983**



# Know How and Flexibility for your Success



Since the development of the first air jets for textile applications in 1983, Heberlein Ceramics, a department of Swiss Oerlikon Heberlein Temco Wattwil Inc. has become a specialist firm in the machining of high grade ceramics.

As a customer you profit from our many years of experience in the fields of appropriate designs and precision machining of hard ceramics. Equally we are at your side ready to advise you when selecting the most suitable ceramics.

The machining of small and miniature parts made from  $Al_2O_3$ ,  $ZrO_2$ ,  $Si_3N_4$  and SiC is one of our core competencies. As a commission fabricator we have available additional capacity for the processing of prototypes right up to medium size production runs.

At the moment our ISO 9001:2000 certification is being extended to ISO 13485, which covers the manufacture of medical products.

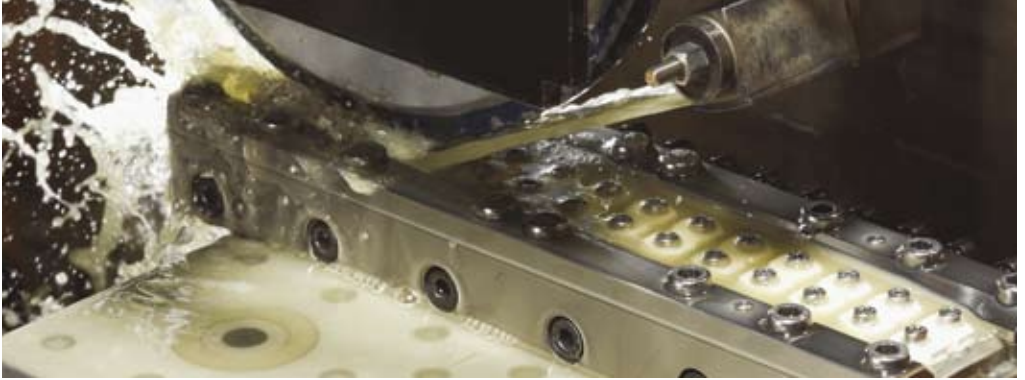
Your Ceramics Team

Nicola Chiusolo  
Product Management

Romy Bachmann  
Procurement/Marketing

Michael Ambühl  
Ceramic Processing

# Our Competencies



Our well founded Know How in consulting, development and processing of ceramic precision parts, enables us to offer you the following :

- Green machining of  $\text{Al}_2\text{O}_3$  and  $\text{ZrO}_2$
- Sintering
- Machining of hard materials:
  - honing
  - fine honing
  - laser cutting
  - lapping
  - grinding
- Laser inscription
- Subassembly work

## Materials

- Aluminum oxide
- Zirconium oxide
- Silicon nitride
- Silicon carbide
- others on request

# Engineering and Consulting



## Advisory services

- Selection of appropriate high grade ceramic
- Design of components appropriate to ceramic materials
- Substitution of metal or plastic wear parts by ceramic execution

## In house design department

The experience of our highly qualified technicians over many years enables us to design parts that conform with customers needs.

We can advise your designers concerning all questions involving the subject of high grade ceramic - [ceramics@heberlein.com](mailto:ceramics@heberlein.com)

# Our Finishing

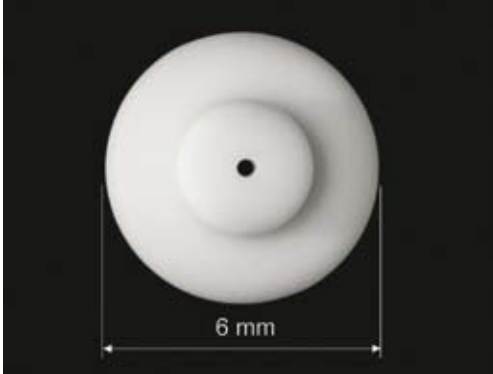


Our technically competent and quality sensitive staffs have at their disposal many years of experience in the processing of high grade ceramics. The high value of prototypes up to medium size production runs in our machine shop with possibilities of automation enables us to achieve flexible production, thanks to our short reaction times. As a result of highest precision we are in the position to achieve the fabrication tolerances required by the watch industry.

## **Quality control**

- Optical measurements
- Tactile 3D measurements
- Surface roughness measurements
- Tear testing
- Grinding patterns

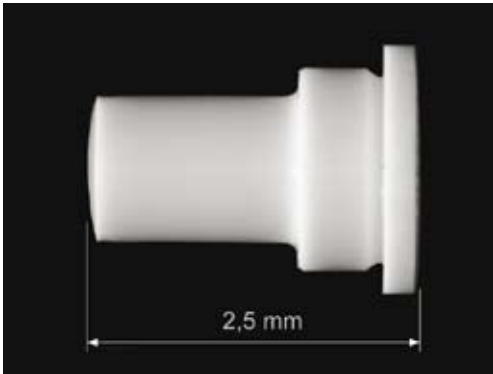
# Selection of Materials



Jets with high precision drilling  $\varnothing$  0,35 mm



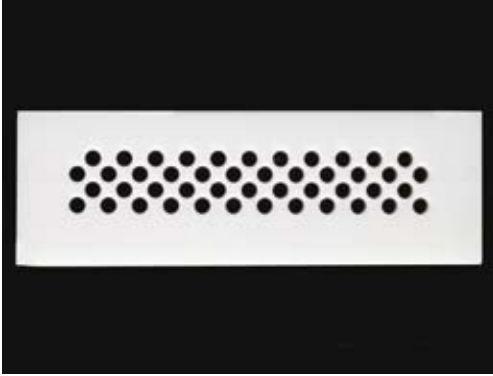
Shafts made from  $ZrO_2$



Bearing spigots made from  $ZrO_2$



Arms made from  $ZrO_2$ , thickness 0,6 mm



Drilled plates with holes  $\varnothing$  0,5 mm



Jets made from  $\text{Al}_2\text{O}_3$



Bearing bushes made from  $\text{SiC}$ ,  $\text{Si}_3\text{N}_4$  and  $\text{ZrO}_2$



Aluminum oxide plates, thickness 5 mm, laser cut

**Oerlikon Heberlein Temco Wattwil AG**

Department Heberlein Ceramics

Bleikenstrasse 11

9630 Wattwil

Switzerland

T +41 71 987 44 94

F +41 71 987 43 52

ceramics@heberlein.com

**[www.heberlein-ceramics.com](http://www.heberlein-ceramics.com)**