

## Small-scale production of your metals

OCAS has vast experience in metals and their metallurgy as well as the necessary equipment for small-scale production:

- Large variety of alloy chemistries
- Casting, hot and cold rolling, thermal treatment

Our mission is laboratory design and production of metals with a tailored chemistry and microstructure.

## Our casting services

### From steels to non-ferrous alloys

- C-steels
- Stainless steels
- Specialty steels
- Zr- and Fe-based alloys and bulk metallic glasses
- Cu-, Co-, Ni-alloys

### Obtaining the chemistry you need

- Tailor-made alloys
- High-purity materials
- Multiple element systems, from binary to complex alloys
- Model alloy series with one-element-variations

### Casting of the desired amount and geometry

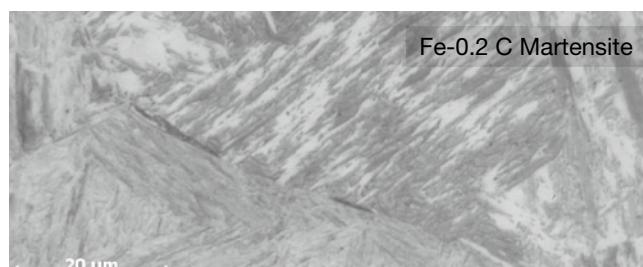
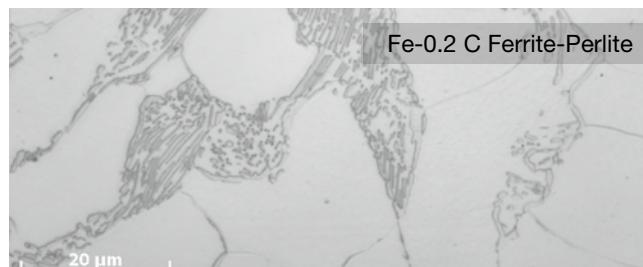
- From 20 g to 100 kg
- Thickness from 2 to 250 mm
- Blocks, sheets and bars

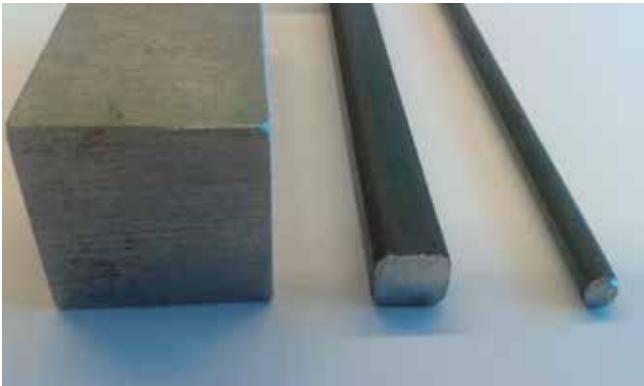
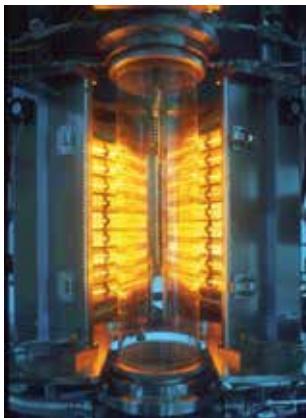
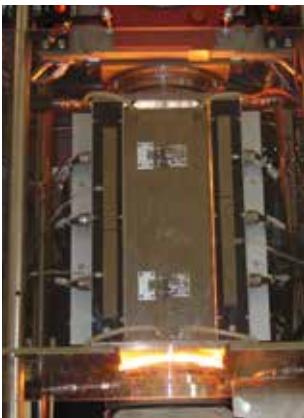
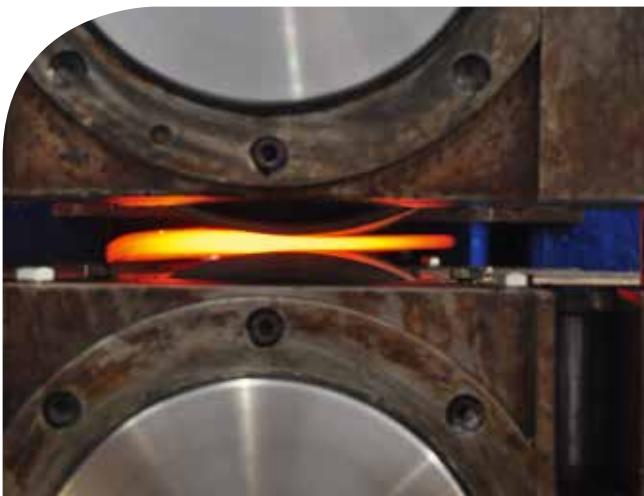
### Using the appropriate technique

- Vacuum or protective gas induction melting
- Air induction melting
- Cold crucible casting

### Supported by

- Sampling, chemical analysis and data logging during casting
- Thermodynamic modelling
- High-throughput methodologies





## R&D partnerships

There is more to creating a metallic microstructure than casting, shaping and annealing. To achieve the correct final microstructure, a good understanding of the metallurgical transformations is essential. Therefore, in addition to lab production, we have a variety of modelling and characterisation techniques allowing us to define how your requested material could be made.

OCAS has a long history of successful R&D partnerships with companies and research institutes. We are open to any kind of collaboration, and are interested to hear about original ideas or exciting running projects where we could provide materials and metallurgical know-how.

## Our shaping operations

**Cast blocks or bars can be shaped to sheets or thin bars by hot and cold rolling to final thicknesses below 1 mm**

- Various reversible mill stands
- Thin and heavy gauge
- Temperature monitoring and cooling control
- Thermo-mechanically controlled processing
- Registration and calculation of mean flow stresses

**Pickling and cold rolling to final thickness**

## Thermal treatments

**We obtain your desired microstructure using the appropriate heat treatment**

- Annealing cycles
- Simulation of batch and continuous annealing processes
- Atmospheres depending on the needed coating application or the reactive annealing required
- A huge window of available temperatures, duration, heating and cooling rates
- Quenching and tempering facilities

**Various techniques are available**

- Dilatometry
- GLEEBLE resistance heating
- Infrared reactive annealing
- Induction heating
- Salt bath treatments

## Contact Us

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