

Elkem

Elkem Technology, R&D Technical Centre
Kristiansand, Norway



ABOUT

Elkem Technology R&D Technical Centre's 50 dedicated staff have a core competence in metallurgical high temperature processes and interdisciplinary expertise.

We offer customers and collaborating partners more than 10 000 m² of advanced pilot testing facilities, laboratories and workshops. The R&D Technical Centre comprises 3 sections: Pilot Services, Technical Services and Lab Services.

EXPERTISE

The Pilot Services section has its core competence in metallurgical high temperature processes. Even though most of what we do involves smelting, some assignments just involve research on material properties or process technology.

The Technical Services section employs designers, mechanics, machine workers, electricians and instrument engineers. Our designers and constructors work in close conjunction with our workshops and are able to design and build equipment tailor-made to suit experimental work for pilot testing.

The Lab Services section is made up of 3 groups: Material Characterisation, Chemical Lab and Lab Projects, and has a core competence in analysis of raw materials, environmental analysis, trace elements in silicon and quartz and materials characterisation.

FACILITIES & SERVICES

Pilot Services

- Arc furnaces and induction furnaces from 16 kW to 1 MW
- Raw material handling equipment such as crushers, screeners, pelletiser and briquette machine, separator, and drying cabinets
- We design and build new equipment in collaboration with the customer if requested



Projects and assignments generally include:

- Process development and verification
- Waste to resources
- Raw materials testing and qualification
- Equipment testing and verification
- Hydro-metallurgical treatment and processes
- Product testing
- Material processing

Technical Services

- Design group: 3D modelling in Solidworks and Risk evaluation and CE-conformity
- Mechanical workshop: the machine park includes lathes, milling machines, multiple welders, plasma burner, plate shears, folding machine etc.
- Machine shop: highly skilled machine workers create complex constructions in graphite using lathes and milling machines
- Instrumentation and electrical workshop: core competence includes high temperature measurements, using traditional and experimental techniques
- Provision of instruments, equipment and knowhow to collect essential data during run-time, and a comprehensive data-set for post-processing

Lab Services

Our lab offers a wide range of analytical techniques, laboratory instrumentation and testing methods, providing the critical analysis information clients need for troubleshooting, research and quality control. We also collaborate with our pilot services to provide analysis during experimental test runs.

Lab Projects

- Methodology development: consulting in sampling, handling and preparation of samples
- Chemical lab: analysis of raw materials, alloys, slag and gases according to ISO standardised methods
- Materials characterisation: core competence includes aluminium, cast irons, silicon, steels, ferro-alloys, raw materials (coal, coke), plus ceramics and microsilica
- Equipment: «state-of-the-art» Field Emission Gun Electron Microscope (FEG-SEM), several optical microscopes and sample preparation tools



MORE INFORMATION

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