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ERAMET Research
Trappes, France



ABOUT

ERAMET group is a world leader in alloying metals, particularly manganese and nickel, and in high-quality metallurgy. The Group employs about 14 000 people in 20 countries.

ERAMET has major research and development projects in new business lines with high growth potential, such as titanium dioxide, zircon, lithium, niobium and the rare earths, as well as recycling. These multi-metal and multi-alloy skills, also covering the whole value chain, contribute to a unique positioning for the ERAMET R&D centre based in Trappes, named ERAMET RESEARCH.

EXPERTISE

One of the strengths of ERAMET Research R&D lies in the close integration of its areas of expertise, which cover the entire metallurgical value chain, an organisation serving performance and innovation.

- Skills over the entire value chain, from mines to finished products, through the use of expertise in ore beneficiation, hydrometallurgy, pyrometallurgy and conversion metallurgy
- Effective industrial application in our expertise in R&D
- Industrial experience in the mines and/or the plants for all the experts that manage our research teams
- Partnerships with the world's best schools and universities as well as with other world-class research centers
- Laboratory and pilot facilities that are regularly updated and renewed in order to assure the use of the latest technology by all departments
- A shared site with ERAMET's engineering teams

FACILITIES & SERVICES

The facilities and equipment of ERAMET RESEARCH include:

Ore beneficiation

- Comminution: crushing, attrition, grinding
- Particle size classification: scrubbing, screening, sieving, cycloning
- Concentration: density separation, flotation, magnetic separation
- Solid/liquid separation: flocculation, settling, filtration
- Process characterisation: sample preparation, mass balance, process simulations and optimisation (5 laboratories, 2 piloting halls)

Hydrometallurgy

- Chemistry of inorganic solutions: leaching, solvent extraction and ion exchange resin, precipitation, cementation, crystallisation
- Solid-liquid separation: flocculation, thickening, centrifuging, filtration
- Electrochemistry: electro-winning, electro-refining, membrane technology,
- Environment: gaseous emissions treatment, wastewater treatment, solid residue neutralisation
- 4 laboratories and 2 piloting halls: continuous pilot facilities with 50 l/h flow rate including 50 types of reactors, pumps, thickeners, belt filters and press filters, mixer-settlers, instrumentation and control systems, electrolysis and electro dialysis cells.

Pyrometallurgy

- Electric furnaces: charge preparation, pelletising, sintering, process simulation, process control
- Refining: MOR, Bessemer, Pierce-Smith, AOD
- Pilot facilities: test stands for electric furnaces ranging from 0.7 to 1.3 MW, rotary kilns between 220 kW and 1 MW, and an induction furnace 150 kW
- 1 fully equipped laboratory
- CHEMICAL ANALYSIS
- Atomic absorption spectrometry
- ICP AES – Atomic emission spectrometry
- ICP MS – Mass spectrometry
- XRF – X-ray fluorescence spectrometry

Mineral characterisation

- X-ray diffraction (XRD)
- Scanning electron microscopy (SEM, SE, BSE)
- Energy dispersive spectroscopy analyses (EDS)
- Energy Back Scattered Diffraction (EBSD)
- Qemscan (Automated statistical analysis)
- Electron Microprobe Analyses (EMPA)
- Environmental SEM
- Laser Particle Sizing



MORE INFORMATION

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