

VIOHALCO





Cost optimisation solutions

A wide range of products and solutions





facilities & 4 ports in 8 countries

responsible operation

Viohalco companies serve a range of markets as diverse as their product portfolios.

They are committed to the sustainable manufacture of quality, innovative and value added products and solutions and meeting the demands of markets across the globe.

Highly diversified

Extensive experience

Building and construction



Energy and power networks



Transportation



Industrial applications



Other markets



Packaging Lithography Technology industry industry and R&D



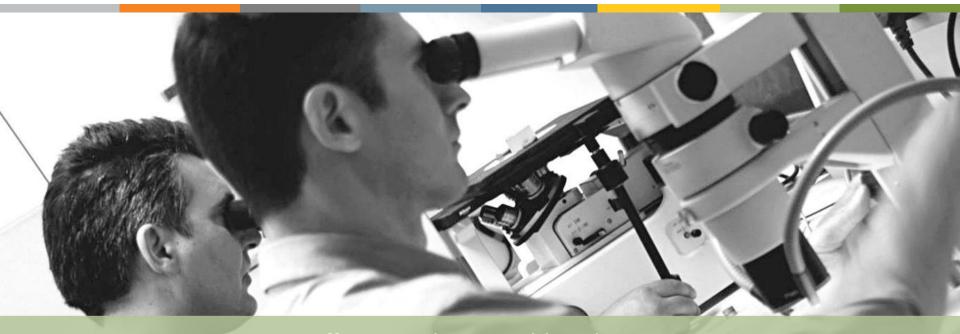
Heating, ventilation and air conditioning market

Real estate Recycling

VIOHALCO







Efficient and Sustainable Solutions for the Development & Optimization of Products and Industrial Processes

Viohalco's R&D work is focused on developing new, innovative and high value added products, and efficient and sustainable solutions to optimise existing products and industrial and business processes.

Viohalco companies invest in cutting edge factory lines and constantly upgrade existing lines to remain competitive in the global market. Experienced engineers enhance the performance, effectiveness and capabilities of the lines beyond manufacturers' expectations.

Through on-going research and industrial processes technology optimization, Viohalco companies' engineers strengthen their product portfolios with innovative solutions.



Elkeme's main focus is applied industrial research and technological development & analysis of four major metals sectors (aluminium, copper, steel and zinc). The Centre provides value added R&D services and technical solutions for new products and the optimization of existing business and plant production processes

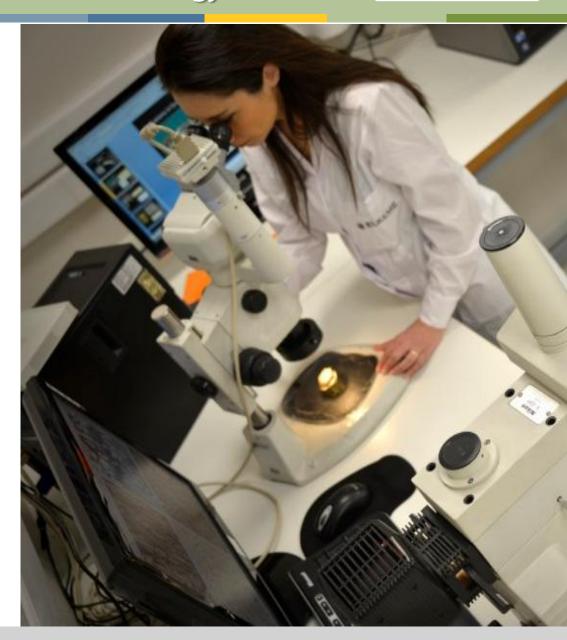
Main departments/laboratories

Process Metallurgy
Physical Metallurgy and Forming
Metallography and Electron Optics
Mechanical Testing & Manufacturing Technology
Surface Science and Coatings
Environmental & Recycling
Corrosion
Analytical Chemistry
Numerical Modeling

Key Activities

Alloy & process development & optimization
Industrial trials with scientific monitoring
Simulation of thermal, casting and forming processes
for process optimization
Microstructure characterization
Failure analysis
Studies of surfaces & coatings development and
optimization
Characterization and study of sandwich composite
materials

Chemical, mineralogical and texture analysis Environmental & waste management /recycling





At the forefront of technological developments, Viohalco companies promote on-going R&D, develop innovative solutions, and maintain strategic partnerships with scientific bodies, international research centres, academia and other pioneering companies around the world.

Continuous scientific research, combined with Viohalco's experience and innovation culture have resulted in significant in-house knowledge and expertise in metallurgy.



Customer Driven Approach / Global Markets

















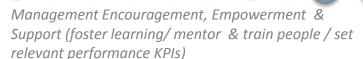
Listen carefully to customer current and potential requirements worldwide in order to explore and efficiently cope with the future challenges and thus grasp faster the business opportunities.

Innovation Culture & Creativity



Cultivate & Stimulate

Flexibility for Change & Continuous Improvement



Smart Use of Resources

Establish & Promote Knowledge Networks, Cross-disciplinary Cooperation & Utilization of existing Expertise, Transfer of Technology across Business Units

Collaboration with Academia

Strengthen Relationships & Build Partnerships, Direct Research towards Industry Focus Areas

Internal

Research

Innovati<u>on</u>

Scientific Competence Knowledge & Expertise

Company Progress

New Products & Improvement / Optimization of Existing

Technological Advancement