



INDUSTRY INSIGHTS THE EDUCATIONAL SERIES BY HALCOR





Halcor: Evolving Beyond CopperThrough Customer-Centric Innovation

WRITTEN BY: **DR. KOSTAS TSAMOS,**

TECHNOLOGY RESEARCH & DEVELOPMENT SENIOR MANAGER AT HALCOR, COPPER & ALLOYS EXTRUSION DIVISION OF ELVALHALCOR S.A.

Product Innovation Approach

In today's fast-paced market, standing out requires continuous effort. The growing awareness of environmental issues has led to a flurry of new regulations across the globe. Specifically, new regulations are also having an impact on the copper and copper alloys applications, including RACHP sector, automotive, plumbing, gas distribution, medical, machining and industrial. Therefore, to stand out demands a customer-centric product innovation approach.

Customer-centric innovation places customers at the heart of the development process, using their insights and preferences to shape new products and services.

Sustainable Future through Customer-Centric Product Innovation

Rather than designing products based solely on existing manufacturing capabilities, Halcor copper & alloys extrusion division of ElvalHalcor S.A. embraces a customer-focused approach. We actively listen to our customers, gather feedback, and co-develop solutions and products that directly address their specific needs. With this approach, we not only improve satisfaction but also build deeper relationships, ensuring long-term collaboration.

To ensure the success of this approach, an actionable innovation strategy and strong sponsorship from the senior leadership team are essential. This alignment drives the focus, resources, and collaboration needed to turn customer insights into impactful solutions.

In the manufacturing industry, customer-centric product innovation requires not only a great understanding of the product we supply but also requires deep understanding of customers' manufacturing processes. A product leaving our plant will undergo extensive and complex processes before reaching its final user. To achieve this, Halcor's Technology and R&D team brings together people from different disciplines and specialties to provide the best customer solution.

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Customer-centric culture leading to product innovation success

At Halcor, we deeply believe that companies that consistently innovate based on customer feedback can differentiate themselves in the marketplace, offering unique solutions that competitors may overlook.

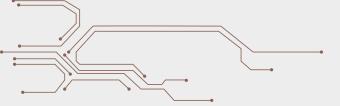
Heat Transfer Laboratory

By leveraging the heat transfer laboratory platform, Halcor has the great privilege to develop high-performance copper tube solutions with enhanced heat transfer. Our product range is designed with a commitment to excellence, delivering unmatched durability and efficiency to meet customers' needs. Engineered for reliability and performance, each product offers exceptional value, ensuring long-lasting solutions that enhance your experience.

TALOS®IGT copper tubes feature inner grooves that enhance the heat transfer by the refrigerant and as a result increase the energy efficiency of the RACHP systems. Applications of TALOS® IGT include heat exchangers for condensation and/or evaporation in A/C and refrigeration systems, as well as heat pumps. HALCOR's production technology for TALOS® IGT copper tubes enables the manufacture of advanced inner-groove designs for a complete range of sizes, starting from 16 mm outside diameter down to the new generation Microgroove tubes with an outside diameter of 4 mm, being one of the few manufacturers worldwide to have this capability.

The Tube Heat Transfer Laboratory gives Halcor the ability to incorporate the test results in a complete framework of technical support to manufacturers of heat exchangers, with the purpose of optimizing their heat exchanger design for any of the following:

- Improved efficiency
- Higher capacity
- Reduction of raw material
- Compact heat-exchanger size
- Reduction of refrigerant charge



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Product with Exceptional Forming Capability

TALOS® FORM is an advanced copper tube with exceptional forming capability. It is characterized by the ability to be formed into shapes that require a high degree of elongation. This advanced forming ability finds application in the manufacturing of critical RACHP elements, such as connection fittings and other intricately formed components.

The use of TALOS® FORM over standard tubing ensures higher productivity, by requiring a smaller number of forming steps to achieve a precise shape. At the same time, components made from TALOS® FORM achieve excellent functional quality.

The enhanced properties of TALOS® FORM are achieved through a highly controlled production process, specifically designed for this particular purpose. The high level of formability of TALOS® FORM is verified through measurement of the tube expansion behavior, following the standardized test method.

At Halcor, innovation goes beyond creating products—it's about working together, listening to our customers, and building a future that balances progress with sustainability. By staying committed to our values and cultivating a culture of collaboration and excellence, we're not just meeting the needs of today but paving the way for solutions that will shape tomorrow

Halcor is Evolving Beyond Copper.

