

## Specialty alloys at FONDERIE VALDELSANE enhance production performance



### **H**IGH-QUALITY GLASS MOULDS DRIVE EFFICIENCY GAINS

Fonderie Valdelsane Sales Manager Manuel Papi outlines how the company's cast iron and bronze alloys for glass moulds are enabling

improved performance and higher efficiency in glass production. The company produces specialised cast irons and bronze alloys tailored specifically for this demanding application. Founded in Tuscany, Italy, back in 1961, Fonderie Valdelsane

has developed advanced technical expertise and technologies dedicated to the needs of the glass industry. Growing global demand has driven its international expansion, resulting in a wide network of glass industry partners.

High-performance mould solutions from FONDERIE VALDELSANE combine specialised alloys, advanced manufacturing and continuous innovation to improve efficiency in glass production. Ongoing developments in cast iron and bronze, alongside sustainability investments, enable the company to meet evolving industry demands whilst maintaining consistent quality and reliability.

#### **FOCUSED EXPERTISE AND CONSISTENT QUALITY**

A key strength lies in the company's singular focus on castings for glass moulds, allowing it to build deep expertise in this niche. Rigorous quality control processes,

combined with carefully selected raw materials, ensure products meet the strictest international standards. These characteristics directly contribute to improved mould performance and production efficiency. Flexibility is another defining factor. The company

responds to specific customer requirements by producing dedicated alloys and patterns in less than a calendar week. Continuous investment in research and development supports the adoption of advanced technologies, helping optimise production processes and maintain consistent product quality. In addition to manufacturing, Fonderie Valdelsane provides technical assistance, consultancy and after-sales support, reinforcing long-term customer relationships.

#### **EXPANDING APPLICATIONS AND ALLOY DEVELOPMENT**

The company's castings have long been recognised internationally for their quality. Since 2018, Fonderie Valdelsane has registered trademarks for its alloys to prevent imitations and safeguard glass-makers requiring high standards. Ongoing investment has focused on developing specialty alloys for specific applications and production sectors. The 2025 catalogue includes solutions designed for high-speed production, such as beer and soft drink containers, alongside products prioritising glass brilliance and surface quality. Specialised solutions are also available for high-end spirits packaging, where heavier



glass weights must be combined with effective thermal conductivity and mould cavity polishability. Recent technological advancements have enabled the development of materials suitable for more demanding applications, including moulds for borosilicate (Type I) and opal glass. Testing has shown that certain specialty cast irons can withstand not only thermal stress but also high chemical and mechanical stress, reducing the need for costly reinforcement in vulnerable mould areas.

### BRONZE ALLOYS AND PERFORMANCE ADVANTAGES

Significant resources have also been invested in bronze casting, with dedicated furnaces and production lines separate from those used for cast iron. Growth in copper alloy production has exceeded expectations, supported by positive feedback from mould makers and glassworks. These materials offer advantages in machining operations such as turning, grinding and drilling, improving efficiency and processing speed. Ease of welding further enhances workshop operations and contributes to improved mould performance during bottle production. Glassmakers report strong results in terms of service life and heat dissipation, as well as the resolution of per-



sistent issues such as pitting, cracks and detachment at joints between base and metallised materials. The company now supplies bronze alloys suited to a range of applications and processes, with particular growth seen in B210 bronze castings for neck rings in 2025.

from glassworks, contributing to the circular economy while maintaining strict alloy tolerances. Progress in environmental and social responsibility is documented in the company's Annual Sustainability Report, published each year and shared with partners. ■

### SUSTAINABILITY AND ENERGY RESILIENCE

Energy security remains a critical priority for an energy-intensive manufacturer. In line with its environmental commitments, Fonderie Valdelsane installed an autonomous electricity generation system. Its photovoltaic installation, comprising more than 3,000 solar panels and producing 1.6 MWh, was inaugurated back in 2024 and supports CO<sub>2</sub> reduction efforts. Another ongoing objective is the effective use of scrap and recycled materials





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