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Stainless Steel Focus

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Cover story:
Acciaierie Valbruna SpA With a global distribution network for stainless steel long products p.30

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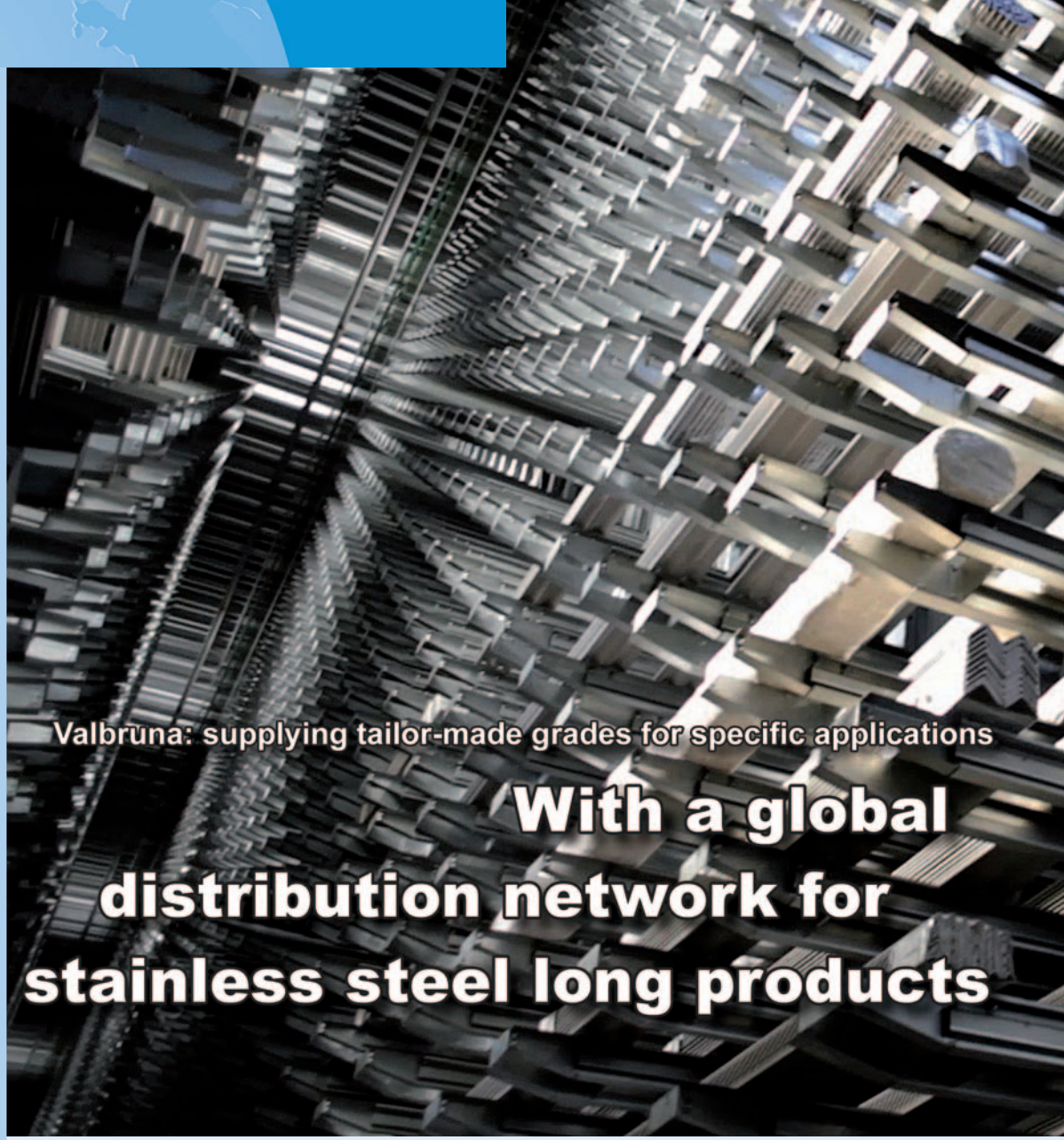
THE journal for the stainless steel specialist



Valbruna: supplying tailor-made grades for specific applications

With a global distribution network for stainless steel long products

Acciaierie Valbruna is a private company with 2,500 employees and an annual output of approximately 200,000 tonnes of specialty steels. The company is a fully-integrated producer of stainless steel, high nickel and titanium alloy long products with mills in Vicenza and Bolzano in Italy, as well as in Fort Wayne in the USA. Its products meet the highest technical requirements for the most demanding of applications, and it has an extensive global distribution network ensuring constant direct contact with customers wherever they may be located around the world.

Acciaierie Valbruna has come a very long way since its founding in 1925 as a small company specialising in forged equipment for use in agriculture, and after experiencing total devastation from allied bombing during the second world war. Following a rebuild and enlargement of the company's works in the immediate postwar period, at the end of the 1950s there was a focusing of the company away from the production of specialty low alloyed steels to the production of high alloy steels, stainless steels, high speed steels and specialty alloys.

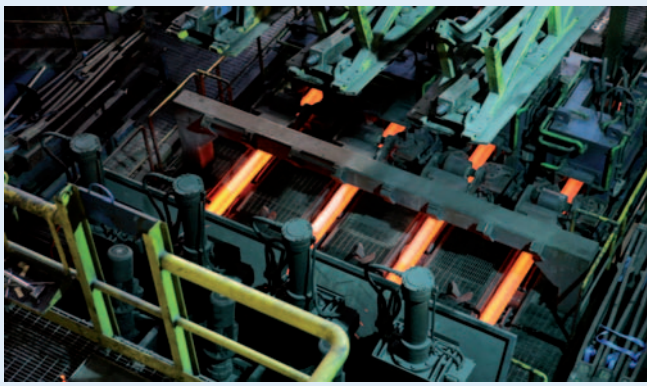
Today, thanks to a strong commitment to continuous improvement in efficiency through optimization of the production cycle, investments in automation, research and development of new products, and expansion of the distribution network, Valbruna's production is utilized in varied industrial sectors such as food and pharmaceutical, aerospace, automotive, chemical and petrochemical industries, construction, energy, mechanical, medical, naval, and many others.

From ingots, blooms and billets to bars and drawn wire

The Valbruna product range covers all long product categories including:

- hot rolled and forged blooms and billets
- continuously cast blooms and billets
- square, 8-sided, 16-sided and round ingots
- ESR and VAR ingots

- rounds (hot rolled, cold drawn, peeled, centerless ground, forged etc)
- stainless reinforcing bars (cold drawn, hot rolled)
- hexagons (hot rolled, cold drawn)
- flats (cold drawn, hot rolled, forged)
- squares (cold drawn, hot rolled, forged)
- angles (hot rolled)
- hot rolled wire rod
- cold drawn wire



It also offers:

- Chromium plated stainless steel bars with enhanced surface hardness and increased resistance to corrosion provided by the chrome plating, that are the ideal solution for various applications in marine environments, extreme atmospheric conditions, mining industry, road transport, chemical plants, civil engineering, farming machinery, off-shore industry, hydraulic and oleo dynamic, aeronautical, aerospace and nuclear.
- Threaded rods type A2 and A4, with metric threading according to ISO 3506 - 1, coarse thread, Form A - DIN 976, suitable for use in environments where corrosion resistance is a decisive factor for the end-use of the product.

The range of material grades is also very extensive, and includes:

- Austenitic stainless steels (including special grades for welding and cold heading)
- Martensitic stainless steels
- Precipitation hardening steels
- Ferritic stainless steels
- Duplex stainless steels
- Superduplex stainless steels
- Stainless steels specifically for hot and cold working
- Nickel alloys including corrosion resistant

alloys, high temperature alloys, welding alloys, and electrical resistance and electronic instrument alloys
- Commercially pure titanium (Ti-Gr.1, Ti-Gr.2, Ti-Gr.4)
- Titanium alloys (Ti-Gr.5, Ti-Gr.5 eli - Ti6Al4V)
- Silicon-Iron alloys

Whatever the specific application, Valbruna will almost certainly have a grade tailored to its customers' precise requirement.

Grades and products for all applications

For example, for the Automotive industry it supplies a range of ferritic, martensitic, austenitic, PH and duplex stainless steel, as well as nickel and silicon iron alloys for fuel injection systems, engine valves, fasteners, exhaust and brake systems, and other components and structural parts.
Specifically for fuel injection systems, Valbruna produces high quality steels used for the manufacture of safety components in contact with the propellant of the engine (be it petrol, diesel, LPG or other) that must comply with the high standards that only cutting edge processes can satisfy. Thus, the important and continued investments in recent years allow Valbruna to satisfy the most stringent requirements for many ranges of product, as for example in the field of non-destructive testing where it is able to guarantee the control of 100% of the cross section of the bar by ultrasonic testing.

For Marine applications, where corrosive environments are always present, Marinox® and Aquashaft® identify a series of austenitic, PH and duplex stainless steels intended for the manufacture of propeller shafts in the shipbuilding industry.

By using these types of steel, the designer can reduce the shaft dimensions and therefore use smaller supports and seals. The simultaneous reduction of weight and hydrodynamic resistance permits better performance and greater efficiency.

For the Building sector, Valbruna offers a

wide range of products that are suitable for the construction industry among which is the stainless steel reinforcement Reval® that is available in a range of stainless steel grades including austenitic, superaustenitic and duplex.

The benefits of using Reval in roads, bridges and buildings, Valbruna says, include:

- excellent corrosion resistance to chlorides
- more than 100 years expected service life in concrete
- higher strength levels
- better self healing when subjected to damage and abrasion compared to galvanized or epoxy coated steel
- low life cycle cost
- high ductility
- longer storage and service life
- better resistance to localized corrosion mechanisms
- low magnetic permeability
- better fire and heat resistance compared to black bar
- resistance to seismic loading
- easy use with carbon steel by lapping or coupling

For Aerospace applications, like aeronautical engines, structural components, fasteners & rivets, fittings & sensors and many others, Valbruna offers a range of highly specialised Aeroval® grades, able to offer the greatest performance in environments subject to great fluctuations of temperature and extended cycle fatigue while guaranteeing absolute reliability, operational safety and efficiency.

For the Energy sector, the special and stainless steels can be considered indispensable materials for technological development.
In fact, they are authorised for the construction of systems capable of taking advantage of the different sources of energy: from hydro to thermal, from nuclear to so-called alternative energy, such as solar, wind and geothermic.
Valbruna produces several products in different grades of stainless steel, nickel and titanium alloys that find applications in turbine hardware as well as turbine blading and vanes for the power generation market, and from the system and circuits subjugated to

the reactor for the steam generators, through guide-tubes, up to turbines linked to the generators for the nuclear sector.

In Chemical and Petrochemical plants, the conditions of the use of steel are particularly critical due to the aggressiveness of treated fluids and elevated temperatures at which they operate.

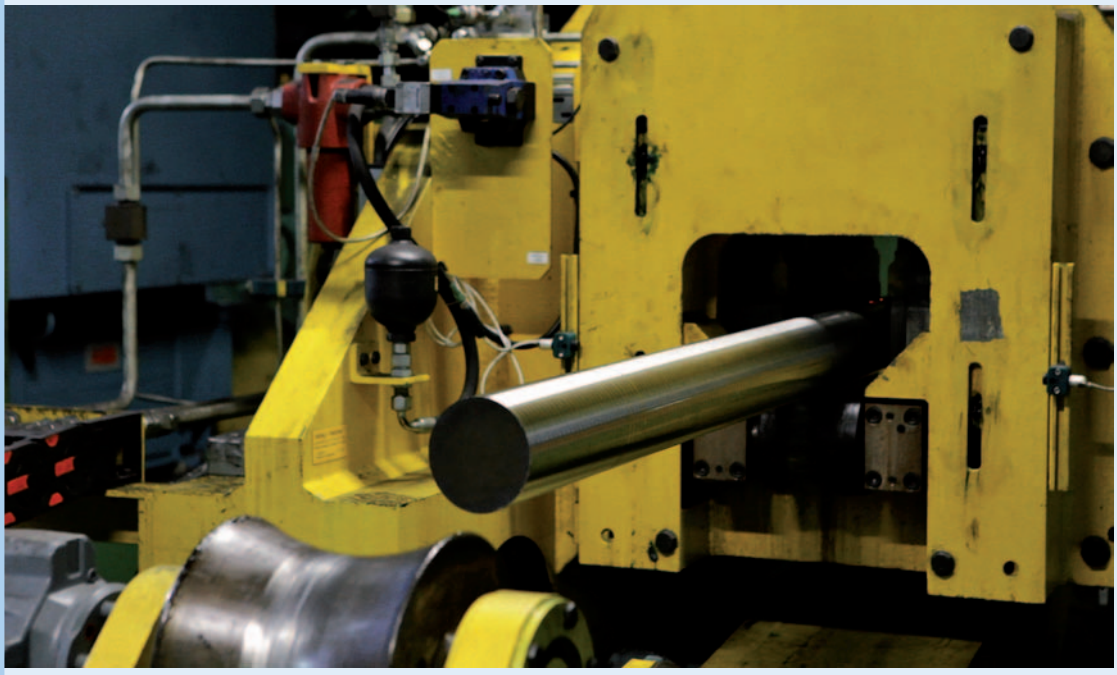
For this reason, many grades of stainless steel and nickel alloys produced by Valbruna, are used in these sectors due to their unique combination of high strength and excellent resistance to corrosion in chlor-

ide environments and environments where induced cracking is a problem.
On the basis of the customer's requirements, the material can be supplied heat treated in dedicated furnaces in accordance with most international standards, including API6A Appendix M defining the heat treatment process.

Valbruna's production of stainless steel, duplex and superduplex, is certified according to Norsok/Statoil M650.

The Medical applications are regulated by rules and technical requirements that call for precision, hygiene and operative reliability.
Bioval® is the registered trademark for the special steels characterized by high biocompatibility, corrosion resistance, and excellent standards of micro-cleanliness necessary for the safe manufacture of orthopaedic, spinal and dental implants as well as osteosynthesis, and for stainless steel capable of satisfying all the typical clinical requirements of medical devices and surgical instruments.

The Maxival® range of stainless steel grades, which has been produced by Acciaierie Valbruna since the early 1980s, and which has been constantly improved, offers machine shops a material grade which has the same corrosion resistance and mechanical properties as standard stainless steel grades but with enhanced machinability. For the customer this means higher feed speeds, longer tool life, less machine down-



time and fewer rejections. It is available across the grade range 304/304L, 304Cu, 321, 316/316L, 303, 420, 329 (EN 1.4460), etc, but can be supplied in other grades on request.

Valbruna's ferritic Magival® series is dedicated to solenoid technology applications providing improved machinability and outstanding magnetic properties (high permeability and low coercive force).
The carefully controlled chemical analysis and sophisticated working processes create a ferritic structure which is highly sensitive to variations in a magnetic field. This avoids the need for expensive heat treatment by the user after machining. Due to their extreme ease of magnetization and demagnetization, Magival grades are ideally suited for use in the manufacture of magnetic cores, solenoid valves, electromagnetic devices, flow regulators, injector components etc.

Valbruna also offers a range of Silicon-Iron alloys that are generally used in applications requiring higher electrical resistivity, higher permeability, and lower coercive force than provided by either carbon steels or soft magnetic stainless steels such as the Magival series.

Providing high quality products around the globe

Valbruna's quality systems - the company is certified to ISO 9001, AS 9100 and ISO/TS 16949 - coupled with its philosophy and expertise throughout the whole production chain mean that the company can guarantee that its products are of the highest quality and able to meet the increasing demands of the high tech markets with improved performance, reliability and machining consistency.

Valbruna has always been committed to respecting environmental guidelines and the health and safety rights of employees: the Vicenza and Bolzano plants are certified to ISO 14001.

The company has an extensive and strategic distribution network which is its cornerstone in a global market, providing not only a commercial presence around the world, but also ensuring continuous feedback from customers. It has locations throughout Italy and the rest of Europe, as well as in Canada, the USA, Mexico, Hong Kong, Australia, Malaysia, the UAE, India and South Africa.

Visit our new Website:

www.valbruna-stainless-steel.com

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