

INOSSIDABILE

Edited and published by Centro Inox Servizi S.r.l.

Summary

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STAINLESS STEEL TANKS FOR EVERY NEED

(Serbatoi inox per ogni esigenza)

The article presents two types of tanks offered by a company specialized in the manufacture of stainless steel tanks and systems that can be customised to meet a wide range of requirements.

The first tank is a cylindrical reactor with a vertical axis and rounded bottoms for the pharmaceutical sector. For this component, EN 1.4404 (AISI 316L) stainless steel was used for all parts in contact with the product to be treated, while EN 1.4301 (AISI 304) stainless steel was used for the remaining parts. The double wall tank was built in accordance with the PED directive, as it is designed to work at pressures of up to 6 bar.

For a company operating in the cosmetics sector, two vertical axis mixers with rounded bottoms were manufactured. With a nominal capacity of 100 litres each, these tanks are made entirely of EN 1.4404 stainless steel. The internal surfaces are mechanically polished to obtain a roughness less than 0.8 µm.

The two mixers are intended to operate in contact with solutions characterized by a certain alcoholic fraction, which are required for the production of cosmetic products such as creams and micellar waters.

Manufacturer: M.B. Inox Srl – I-26018 Trigolo CR – Via delle Industrie 23, phone: +39 0374 370895, info@mbinox.com, www.mbinox.com

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PREVENTION AND SOLIDARITY AGAINST INFECTION

(Prevenzione e solidarietà contro il contagio)

Hand sanitisation with proper solutions could also become the norm once we have put the pandemic that devastated the year 2020 behind us. In this sense, the dispenser columns for hand sanitizer showed in the article can surely help. The raw material, EN 1.4301 (AISI 304) stainless steel, is already in itself a guarantee of a high level of hygiene, ease of cleaning, resistance and durability, but the strength of these

columns lies in their aesthetic characteristics and in the properties of the surface finishes: the columns can be produced starting from sheets characterized by two types of patterned, scratchproof finishes (5WL and 13SD), by a “SuperMirror” finish or by a peculiar colour obtained through PVD process (T22 Black Mirror). However, these components can be variously customized to meet a wide range of requirements: for example, other colours are available for the columns or it is possible to apply the company logo on them.

Dispenser columns thus become true furniture complements, as they interact with and enhance the environment in which they are placed. Furthermore, the image and the brand of the company can also be enhanced by these columns.

Inox 5WL, inox 13SD, inox SuperMirror e inox T22 Onyx Black Mirror produced by Rimex Metals Uk and distributed exclusively in Italy by: Steel Service Srl – I-26845 Codogno LO – Via Armando Diaz 80/C, phone: +39 0377 379821, fax: +39 0377 400818, commerciale@steelservicegroup.com, www.inoxcolorato.com

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FROM OUR MEMBERS A WEALTH OF KNOWLEDGE

(Un patrimonio di conoscenza)

Thirty significant technical publications originally produced by INCO and AISI have been refreshed and re-published by Nickel Institute. The digital quality of the guides has been enhanced and all publications are searchable. The guides are useful additions to the bookshelves of materials engineers, architects and structural engineers. They cover the use of nickel and nickel-containing materials, including stainless steels and nickel alloys, in a wide range of applications and they are available for free download from Nickel Institute’s website. “Our objective is to make nickel-containing materials easy to use” says Richard Matheson, Nickel Institute’s Director, Market Development. “We aim to give the end-user confidence to specify and work with nickel-containing materials to help them achieve their ‘quality up’ and ‘cost down’ goals.”.

ABOUT NICKEL INSTITUTE - Nickel Institute (NI) is the global association of leading primary nickel producers. Its mission is to promote and support the proper use of nickel in appropriate applications. NI grows and supports markets for new and existing nickel applications including stainless steel, and promotes sound science, risk management, and socio-economic benefit as the basis for public policy and regulation. Through its science division NiPERA Inc., NI also undertakes leading-edge scientific research relevant to human health and the environment. NI is the centre of excellence for information on nickel and nickel-containing materials.

NICKEL INSTITUTE – communications@nickelinstitute.org, www.nickelinstitute.org

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DEEP DRAWING – A COMPLETE CYCLE FOR THE DRAWING OF A SINK (IMBUTITURA PROFONDA - Ciclo completo per lo stampaggio di un lavello)

A practical application example is given to highlight the cold forming properties of austenitic stainless steels. We took advantage of the experience of a leading company operating in the sector to illustrate, step by step, the main operational phases.

Austenitic stainless steels lend themselves very well to deep drawing; there are different types of drawing depending on the technology used and the geometry of the piece. In the case of the sink considered in the article, although the height is not excessive (200 mm), the company is faced with deep drawing parameters due to the very small radii (15 mm radius). There are many aspects to be considered when carrying out deep drawing, and these are discussed in detail in the article:

- raw material
- preparation of the blank
- lubricant
- deep drawing
- heat treatment
- trimming and grinding
- pickling and passivation
- surface finishing
- washing



15 mm radius sinks were strongly desired by architects and designers to enhance the aesthetics of domestic kitchens. They have been on the market for many years and, together with 'zero' radius sinks (obtained by bending), they have partially replaced traditional sinks with larger radii (60, 80, 90, 120, etc.).

Starting from these premises, the article describes the operational steps taken by this processing company to obtain a domestic sink with a 15 mm radius and dimensions of 500x400x200 mm from a sheet of AISI 304 stainless steel with a high nickel content (9%), dimensions of 810x800 mm, thickness of 1 mm and 2B surface finish.

Article edited by *Alvise Mori – Mori 2A Srl*

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SAFE CUTTING IN THE KITCHEN (La sicurezza nel tagliare in cucina)

The knife is an important tool in the kitchen; however, because of its intrinsic cutting capacity, it must be used properly so as not to become a dangerous object. To solve this problem, an artist from Treviso has designed a special knife that offers total safety thanks to a series of expedients in the handle that prevent the user from injuring himself. This knife, such as all other kitchen utensils sold by this artist, are handcrafted in his workshop.

The knife is characterised by its one-piece construction, being made from a single sheet of EN 1.4028 (AISI 420, commercially defined as AISI 420B) stainless steel: no other materials are used, which are otherwise assembled to the body of the knife. In this sense, martensitic stainless steels offer excellent mechanical properties and a longer service life to the knife edge.
Manufacturer: Venice Gallery Sas di Paulon Tiziano & C. – I-31048 San Biagio di Callalta TV – Via Postumia est 17/A, phone: +39 0422 797109, tiziano@tizianopaulon.it, www.tizianopaulon.it

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STAINLESS STEEL IN THE RENOVATION OF ALBENGA AIRPORT (Inox nel rinnovamento dell'aeroporto di Albenga)

The article reports an example of the use of stainless steel in the renovation of Albenga's Riviera Airport. The project involved the renewal of the central part of the existing terminal, with the aim of enhancing the experience of arriving and departing travellers. The work involved the departures and arrivals areas, the Hadid offices, the service block, the Air Side facade and the Land Side glazing.

Thanks to the new conformation, the project created a visually unique space between departures and arrivals areas: due to the installation

of glazed internal walls and large windows on the Air Side, it allows visual permeability between the Land and Air areas.

For the construction of the double-glazed glass facades, EN 1.4401 (AISI 316) stainless steel profiles were used. This made it possible to create very light structures, enhancing the aesthetic appearance of the areas where these facades were installed.

The renovation of the terminal has made the interior space more comfortable and made the mere passage through the terminal by travellers a ritual of rest and contemplation, in direct contact with the sky.

Client: Riviera Airport SpA – A.V.A. SpA / **Planning coordination, design of the facilities and installations:** Milan Ingegneria Srl / **Architectural project:** OBR Paolo Brescia e Tommaso Principi / **Facade construction and engineering:** Capoferri Serramenti

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STAINLESS STEEL INSULATIONS TO AID WINE PRODUCTION

(Coibentazioni inox in aiuto alla produzione del vino)

The modern wine industry makes frequent use of cold for various purposes. To optimise the costs arising from the cooling of the product to be treated, an aid can certainly come from insulation, which allows low temperatures to be maintained inside the various plants. In this sense, this article shows a recent example.

The tanks used for processing or storing wine are cooled by means of a closed circuit in which glycol at a temperature of -8 °C is circulated. This substance is initially cooled by a refrigeration unit, stored in dedicated tanks and, when required, circulated within the circuit by pumps.

The cooling system has been insulated with expanded elastomers and/or polyurethane foam and an external cover in EN 1.4301 (AISI 304) stainless steel, characterized by a thickness of 0.4/0.5 mm and 2B or 2R (BA) finish. The same austenitic stainless steel is employed for the internal walls of the pipes and for the tanks used for processing or storing wine.

Insulation systems made by: Coifer Srl – I-24043 Caravaggio BG – Via Leonardo da Vinci 47, phone: +39 0363 51597, fax: +39 0363 53011, info@coifer.it, www.coifer.it

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INTERNATIONAL STAINLESS & SPECIAL STEEL CONFERENCE 2021

(International Stainless & Special Steel Conference 2021)

Como – 18 ÷ 20 May 2021

Lake Como will host the International Stainless & Special Steel Conference 2021, a conference organised by SMR EVENTS and it will be held

from 18 to 20 May 2021. The central themes of this event, which will be attended by more than 200 companies from the entire stainless steel production chain, will be sustainability and digitalisation ("Green & Digital"). Centro Inox will support the event.

For information and subscription:

www.stainless-conference.com/stainless-special-steel-conference.html

MADE IN STEEL 2021

(Made in Steel 2021)

Fieramilano Rho, Milan – 26 ÷ 28 May 2021
The 9th edition of Made in Steel, the leading Conference & Exhibition in Southern Europe dedicated to global iron and steel industry, organised by siderweb - the steel community, will be held from Wednesday 26 to Friday 28 May 2021. In pavilions 22 and 24 of the Fieramilano Rho exhibition centre, the main players in the steel supply chain will meet to do business and to discuss the key issues for the future of the steel industry. The main theme of this edition will be the "rebirth" of steel from the crisis caused by the Covid emergency, which also hit the steel sector hard.

Centro Inox, as well as supporting the event, will be present with an exhibition space.

For further information:

Made in Steel Srl – phone: +39 030 2548520 info@madeinsteel.it – www.madeinsteel.it
Centro Inox – tel. +39 02 86450559 eventi@centroinox.it – www.centroinox.it

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STAINLESS STEEL AND PETROL PUMPS: A HISTORIC COMBINATION (Inox e pompe di benzina: un connubio storico)

The history of petrol stations began in 1885 in the United States with the first petrol pump. Since then, there has been a continuous evolution of these pumps, both in terms of technology and aesthetics. In Tradate, Italy, this story is told by a museum that boasts the world's largest collection of antique petrol pumps. The article shows some of the pieces in the collection for which stainless steel was used, as is still the case with modern pumps.

Collection managed by: Museo Fisogni – I-21049 Tradate VA – Via Bianchi 25/b, phone: +39 335 6777118, fisogni@museo-fisogni.org, www.museo-fisogni.org

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