

INOSSIDABILE

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Summary

For more detailed information please contact directly the names indicated at the end of each notification

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WITH STAINLESS STEEL WISHES COME TRUE

(Con l'inox si realizzano i desideri)

The company in question introduced its "Inox" line, made entirely of EN 1.4404 (AISI 316L) stainless steel, to the world of bathroom taps and fittings. Stainless steel is an ecological choice – it is a material that lasts forever and is 100 per cent recyclable. It offers numerous health and environmental benefits; it is highly hygienic and easy to clean.

The new business unit uses the "INOX" trademark issued by Centro Inox. Choosing a stainless steel tap means selecting an exclusive design and exceptional quality. The "iX", "RX", "Unix" and "Pix" lines have a unique, minimalist and contemporary design. Accessories too, are made of EN 1.4404 (AISI 316L) stainless steel. Each product can be customised by size, finishes and placements.

Manufacturing company: CRS Engineering, cristinarubinetterie.it, [facebook.com/CristinaRubinetterie/](https://www.facebook.com/CristinaRubinetterie/), [instagram.com/cristina_rubinetterie/](https://www.instagram.com/cristina_rubinetterie/), [pin-terest.com/CRS_spa/](https://www.pinterest.com/CRS_spa/)

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NEW HANDLING SYSTEM FOR COFFEE POWDER

(Nuova soluzione impiantistica per la movimentazione di caffè in polvere)

Ground coffee production resulted in a new coffee powder handling system – a ground coffee storage and degassing system, with 9 m³ total capacity, made entirely of EN 1.4301 (AISI 304) stainless steel.

An AISI 304 frame made from stainless steel tubes with a satin finish, which encloses the grinder and a stainless steel feed hopper. The frame's upper part is of palletised PVC in which coffee beans are placed so that they can fall in the grinder. The system has a second frame, made from satin tubular stainless steel, which supports three AISI 304 stainless steel tanks, complete with an anchor mixer, with a storage capacity of 3 m³. The process is fully automated and takes place in three phases. The coffee powder is stored in the reservoir tank and then passes into the second tank, which acts as a degasser. The third tank sends the product to the packaging phase by conveying the coffee powder to the filling machine which packs the coffee pods or capsules.

System study and design: Soimar Group S.p.A. – Via Montello 23 – I-10014 Caluso TO, phone +39 011 9891738, info@soimar.it, www.soimar.com / **System construction by:** Euro Inox S.r.l. – Via dell'Industria 10 – I-26020 Cappella Cantone CR, phone +39 0374 344227, info@euroinox.net, www.euroinox.net

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FROM OUR MEMBERS

ILTA INOX AND A NEW SIZE RANGE OF WELDED TUBES

(Ilta inox e la nuova gamma dimensionale di tubi saldati da profilo)

The first and most important company belonging to the Arvedi Group, Ilta Inox is considered today one

of the leading manufacturers of welded round-section stainless steel tubes. Along with the traditional austenitic stainless steel grades 304, 304L, 316L, 316Ti, 321, 310S and duplex S31803 the company recently introduced in its production range also the 309 grade and 444 grade (**table A**). The tubes are Laser-welded complying with (ISO 9001:2008) quality procedures and are certified by the most important international testing organisations. The entire Ilta inox production uses the ISO 14001 environmental certification and the work safety management system is certified under the OHSAS 18001 standard.

Laser welding technology - The largest welding systems investments are focused on Laser technology. Today, there are 22 operating Laser plants in operation, which represent almost entirely the production flow. Ilta inox has developed its expertise in the rolling and monitoring of the roughness of the Laser weld seam.

Extension of the range of thermally treated tubes - In February 2016 an innovative continuous welding line for tubes, ranging from 273 to 609.6, came into operation. The line is equipped with annealing and pickling systems. To complete the range, Ilta inox offers calendared and press welded tubes up to 1000 mm diameter. (**Table B**).

Ilta inox, a strategic partner - To meet increasingly stringent customers service demands, the range of tubes available in our warehouse has been increased and the internal logistics service significantly improved to ensure customer deliveries within 24/72 hours.

Ilta inox: the Pressfitting production system and the Steckdrain drainage system - In May 2013 Ilta inox acquired the Chibro production unit in Montano Lucino (CO). This is a historic company specialised in Pressfitting AISI 316L stainless steel and the Steckdrain gravity drainage system in AISI 316L and AISI 304 stainless steel.

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OPTIMISING WELDED JOINTS' CORROSION RESISTANCE USING NANOTECHNOLOGY

(Ottimizzare la resistenza alla corrosione dei giunti saldati: le nanotecnologie ci aiutano)

Introduction - When the corrosion of a stainless steel system and/or component starts, the most sensitive areas are those connected to the welded joints. It is necessary to pay attention to the welding technique choice, depending on the components to be joined, and the "post-weld" treatments. Normally treatments used to "clean" and prepare a welded joint, so that its anti-corrosive properties are optimised, are: the mechanical finishing, followed by a passivation with pastes, or the chemical pickling and passivation using, for example, gel pastes. Alongside with these "classical" methods there are innovative techniques such as those providing portable units that use "anodic pickling".

Among the systems that provide a coating, the one based on the use of nanotechnology is the most interesting. Let's look more closely at one of these

procedures demonstrating specific testing results. This trial was carried out analytically on flat samples with various types of stainless steel and different surface finishes, and qualitatively on tubes with orbital welds.

Testing - We wanted to test how a surface protection system that uses nanotechnology (150 nanometres) can produce beneficial effects to prevent corrosion triggers. The system in question was referred to as "P-TEK" which was designed precisely to protect the more "sensitive" areas, such as welded joints. For the first trial on flat samples, three types of stainless steel have been chosen, two from the austenitic series (AISI 304/316) and one from a ferritic series (AISI 430), with surface finishes of different roughness that have created different "substrates" on which the protection was applied. Some specimens were untreated and no coating was applied, while others were covered with a traditional solvent based coating. In **table 1** the materials, the approximate chemical analysis and the various finishes are listed.

Then, there was a comparison between the following specimens: uncoated / with a P-TEK dip / with P-TEK applied with spray / coated with transparent commercial product. The corrosion tests were conducted in a salt spray chamber with a 500 - 1000-hour exposure. All samples were cleaned with demineralised water after 1000 hours of exposure. The tabulated results are based on average values obtained from three samples.

Some of the most significant results can be seen in **tables 2, 3, 4 and in figures 1, 2 and 3**.

In **table 2** are the results for an AISI 316 with Scotch-Brite finish and in **figure 1** it is possible to see the various morphologies of behaviour.

In **table 3** and in **figure 2** the behaviour of an AISI 430 with a 2B finish can be seen.

Table 4 and figure 3 show the performance of an AISI 304 satin finish, which has the highest value of roughness among the selected samples, as shown in **table 1**.

The second test was obtained using welded joints. Orbital technology, with backing gas, was used on AISI 304 stainless steel welded tubes (**figures 4, 5, 6 and 7**). The samples which were uncoated / treated with "classic" gel / pickled with electrochemical system and coated with P-TEK have been highlighted. In **figure 8** the various behaviours are summarised.

Conclusive remarks - In the tests made on flat samples and on the weld seams, the P-TEK nanotechnological coating treatment increased the resistance to localised corrosion, compared to more traditional methods. Another beneficial effect of the nanotechnological treatment is the improvement of the resistance to superficial scratches. Specific tests demonstrate that, by merging with the base metal, the coating application guarantees a significant "scratch resistance" increase compared to uncoated samples with traditional coatings.

Taken from the "Corrosion test on orbital welding" report - M. Rigatti, M. Casavecchia DELMET / F. Capelli CENTRO INOX / M. De Marco IIS PROGRESS, presented at the NACE Milano Italia Section - Conference & Expo "A European event for the Corrosion Prevention of Oil&Gas industry" - Genoa, May 29 ÷ 31, 2016



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NOT ALL IS GOLD...

(Non è tutto oro...)

The company was born more than 50 years ago, starting its own path in the field of industrial mechanics and subsequently specialised in the jewellery field.

Stainless steel is widely used in many of the company's systems and equipment. It is used for workbenches, machinery bodies and some internal parts. Stainless steel used includes EN 1.4016 (AISI 430) and EN 1.4301 (AISI 304), with 2R finish (Bright Annealed), in various thicknesses: 0.8 / 1.5 and 1.2 mm. For cylindrical parts, 3 mm thick stainless steel tubes were used.

The stainless steel choice was for several reasons – for example, contact with aggressive substances, better heat transmission, aesthetic reasons and also for its non-magnetic property (AISI 304) in order to not create interference with the other metals used.

Company: Atoom sas – Via B. Buozzi 21 – I-20090 Fizzonasco di Pieve E. MI, phone/fax +39 02 904262166, info@atoom.it, www.atoom.it / **Stainless steel manufactured by:** Aperam Stainless Services & Solutions Italy S.r.l. – Divisione Massalengo – Loc. Priora – I-26815 Massalengo LO, phone +39 0371 49041, fax +39 0371 490475, leonardo.frosali@aperam.com, www.aperam.com

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THE ART OF STAINLESS STEEL IN ARCHITECTURE

(L'arte dell'acciaio inox nell'architettura)

The building housing the new Rome office of a leading private Italian company in the design and development of high-tech electronic systems is located within the Tecnopolo Tiburtino. It is an important area, located in the eastern part of Rome and aimed at advanced research. The building has a light compact volume, but has an interesting relationship with its location. Thanks to a façade consisting of alternating panels made from EN 1.4301 (AISI 304) stainless steel, with polished finish 2R (Bright Annealed), 1.5 mm thick, and glass panels, the building seems to dematerialise and camouflage itself with the surrounding environment.

The stainless steel panels have different depths, depending on their position, which always ensures different visual effects. The different angles and proportions help to increase the façade's dynamic appearance.

Client: Intecs spa / **Design team:** Modostudio + Studio Cattinari / **Structural engineer consultant:** Ing. Gilberto Sarti / **Mechanical engineer and CasaClima consultant:** Ing. Michele De Beni / **Fire consultant:** Ing. Fernando Orlandi / **Site manager:** Arch. Gaia Grossi / **Contractor:** Cogei Costruzioni S.p.a., Cami srl / **Photos 1-2-3:** Julien Lanoo / **Photo 4:** Solange Souza

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STAINLESS STEEL SOLENOID VALVES AND FOOD: RENEWING THE PARTNERSHIP

(Elettrovalvole inox e settore alimentare: si rinnova la "partnership")

The well-known Bione (BS) multinational specialising in components for fluid control has chosen to provide its already extensive product range with a line of solenoid valves specifically designed for food and chemical sectors.

Three types of valves are available: direct acting, membrane and indirect acting. The maximum allowable pressure, related to the solenoid valve orifice diameter's size, varies from a few bar to 40 bar. The solenoid body, the welded armature tube along with a fixed and mobile core and special springs are made from stainless steel. The stainless steel solenoid is laser welded so that the solenoid valve can reach the maximum pressures and approach various demanding applications controlling any type

of fluid (gas, water, oils, aggressive products, etc.). Depending on the type of component, the materials used are: EN 1.4305 (AISI 303), EN 1.4301 (AISI 304) and EN 1.4401 (AISI 316). These stainless steel grades are mentioned in the so-called "positive list" of Ministerial Decree of March 21, 1973 and its subsequent amendments, which means they are suitable for the contact with food. Thanks to the high ductility at low temperatures of the austenitic stainless steels, these solenoid valves can be used without problems even at low temperatures (-10 °C). In addition to solenoid valves for fluids, the company also produces fittings in AISI 316 / AISI 316L, cylinders and cylindrical piston rods in AISI 303 and 316 which are also intended for the food and chemical sectors.

Producer: Aignep Spa – Via Don G. Bazzoli 34 – I-25070 Bione BS, phone +39 0365 896626, fax +39 0365 896561, aignep.it@aignep.com, www.aignep.com

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MADE IN STEEL

Fieramilano Rho, Milan, May 17 ÷ 19, 2017

From 17 ÷ 19 May 2017 Fiera Milano (Rho, Halls 22-24) will host southern Europe's main steel supply chain conference & exhibition. The event is organised by Siderweb. Centro Inox will participate at the event at booth S10-Hall 24.

On May 19, 2017, the conference "L'acciaio inossidabile in edilizia e architettura" (Stainless Steel in Construction and Architecture), organized by Centro Inox, will be held from 11.00 a.m. to 1.00 p.m. Sala Gamma - Hall 22, 2nd floor.

PROGRAMME:

Participants welcome and introduction

- **Stainless Steel and Architecture**
Mario Antonio Arnaboldi - Studio Architetti Associati Arnaboldi & Partners, Milan
- **Stainless Steel versatility in construction, infrastructure and urban design**
Benoit Van Hecke - Aperam Stainless Europe
- **Structural Profiles in construction. Curtain walls: stainless steel and glass**
Ernesto Riva - Siderval, Talamona SO
- **Use of rebar in structures**
Joe Formaggio - Acciaierie Valbruna, Vicenza

Debate - Closing remarks

Free participation (*) until all available seats in the hall are taken.

(*) After the purchase of MADE IN STEEL ticket

For information: CENTRO INOX – phone +39 02.86450559 – eventi@centroinox.it – www.centroinox.it / MADE IN STEEL Srl – phone +39 030.2548520 – info@madeinsteel.it – www.madeinsteel.it

ESSC & DUPLEX 2017

9th European Stainless Steel Conference - Science and Market &

5th European Duplex Stainless Steel Conference & Exhibition

Bergamo, May 25 ÷ 27, 2017

From 25 ÷ 27 May 2017 in Bergamo, at Centro Congressi Giovanni XXIII, the AIM - Associazione Italiana di Metallurgia (the Italian Society for Metallurgy) will organise the following events:

"9th European Stainless Steel Conference - Science and Market" and "5th European Duplex Stainless Steel Conference & Exhibition". Our Association patronized the conference.

During this event, the "Stainless Steel" Medal established in memory of Prof. Eng. Gabriele Di Caprio will be awarded.

Stainless steel material, either as a flat or long product, will be extensively discussed during the "Stainless Steel: Market & Outlook" session where Centro Inox will present: "Distribution in the Italian stainless steel market" - F. Capelli, P. Viganò. The conference language will be English.

For information:

http://www.aimnet.it/essc2017.htm

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12TH ASIAN STAINLESS STEEL CONFERENCE

Hong Kong, June 14 ÷ 15, 2017

The "12th Asian Stainless Steel Conference" will take place in Hong Kong on 14 and 15 June. The event is organised by Metal Bulletin Events and SMR Events.

For further information:

http://www.metalbulletin.com/events/asian-stainless-steel-conference/details.html

NATIONAL CORROSION AND PROTECTION DAYS

Milan, June 28 ÷ 30, 2017

(Giornate Nazionali Sulla Corrosione e Protezione)

The National Corrosion and Protection Days will take place 28 ÷ 30 June 2017 at the Politecnico di Milano headquarters. The event is organised by Associazione Italiana di Metallurgia, Politecnico di Milano, Associazione per la Protezione dalle Corrosioni Elettrolitiche (APCE), Associazione Italiana Tecnici Industrie Vernici ed Affini (AITIVA), Centro Inox and NACE Milano Italia Section.

Centro Inox, will participate with the workshop: "STAINLESS STEELS AND CORROSION". The meeting will be held on 29 June 2017 at 11.20 am in Hall IV. The official language will be Italian.

Chairing the session: Fausto Capelli (Centro Inox)

- **Statistical overview of stainless steel corrosion**
P. Viganò - Centro Inox, Milan
- **Methods and processes for the prevention of stainless steel corrosion**
M. Casavecchia - Delmet, Gorgonzola
- **Welding parameters effects on the corrosion resistance of duplex stainless steel SAF 2205 welded joints with laser-GMAW hybrid process**
M. De Marco, G. Garbarino, M. Pedemonte, E. Adile, M. Zabbia - Istituto Italiano della Saldatura (Italian Welding Institute), Genoa
- **Reducing leakages due to corrosion, in drinking water distribution networks with the use of corrugated stainless steel tubes**
N. Kinsman, G. Ronchi - IMO, London UK
- **Effect of cold drawing starting from strip satin finish on the corrosion resistance in the atmosphere of the AISI 316 L**
J. Brambilla - Terenzi, San Giuliano Milanese

For information: www.aimnet.it/gncorr2017.htm

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Please visit: www.centroinox.it

Visit our Facebook page:

www.facebook.com/centroinox.associazione/

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