

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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A STAINLESS FORM OF ART

(Una forma d'arte inossidabile)

Among its most peculiar characteristics, steel includes the possibility to be shaped in a variety of forms. This characteristic could not leave unresponsive some artists like the sculptor Helidon Xhixha. He creates his works using EN 1.4401 (AISI 316) stainless steel, and succeeds in providing this material with vital energy, through his interventions that model metal rolled sheets with extraordinary concave and convex undulations. In Xhixha's sculptures, a fundamental role is played by the reflections of light that seem to animate the folds and reliefs of the shiny steel surfaces, which are left either in their original conditions, or coloured with industrial paints. Another technique widely used by this artist is welding, through which he is able to skillfully join the quadrangular foils that cover the surfaces of his works, thus forming a sort of metal patchwork or rustication. Each one of the artist's grand and impressive works conveys, in its specificity, an idea of force and dynamism, and these feelings are made possible by the lucky encounter of Xhixha's artistic talent with stainless steel.

Artist: Helidon Xhixha, phone +39 339 4449843, www.xhixha.it

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THE USE OF SIMPLE STAINLESS STEEL TUBES IN MODERN STREET FURNITURE

(L'utilizzo di un semplice tubo in acciaio inossidabile nell'arredo urbano moderno)

"ZEROQUINDICI.015" is a designer line conceived and developed for street furniture and for large areas. The core element of "ZEROQUINDICI.015" is a simple stainless steel tube that can be bent and shaped in a variety of forms, and allows making an endless number of arrangements. Stainless steel is the material that par excellence better meets the requirements set by the urban environment, such as corrosion resistance and durability over time. "ZEROQUINDICI.015" includes several product "families". The seat family includes: a plain bench, a bench with seatback, and a chaise longue, designed both for indoor and outdoor areas. The structure consists of EN 1.4301 (AISI 304) stainless steel calendered tubes (Ø 18 mm). To match the family of seats there is "Table": made of the same stainless steel grade. In addition to the tubes that form the two side elements, a central part consisting of a supporting steel sheet has been provided for. The line includes also waste baskets and barbecues.

Manufacturing Company: Diemmebi Spa – Via dell'industria 14 – I-31029 Vittorio Veneto TV, phone +39 04389 12433, fax +39 0438 500392, info@diemmebi.com, www.diemmebi.com / **Designers:** Alberto Basaglia and Natalia Rota Nodari – www.basagliarotanodari.com

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FROM OUR MEMBERS

NICKEL INSTITUTE

Knowledge for a Brighter Future

(Nickel Institute – Conoscenza per un futuro migliore)

Knowledge for a Brighter Future is the claim placed under the logo of the Nickel Institute. These words reflect the aims of the Institute, established in 2004 through the merger of Nickel Development Institute (NiDI), Nickel Producers Environmental Association (NiPERA) and European Nickel Group (ENiG), which commits itself to spreading knowledge about materials containing nickel, in order to promote their responsible production, and their safe use and re-use.

About two thirds of produced nickel are used in stainless steel manufacturing, and about two thirds of produced stainless steels contain nickel. Nickel provides these stainless steels with specific properties, such as ductility, toughness, and resistance to corrosion. Austenitic stainless steels are used in a wide range of temperatures. Within today's search for innovative solutions which intend to promote and foster sustainability, Nickel Institute pursues a kind of approach based on the complete lifecycle of the materials to select as regards in particular their economic and environmental appraisal. The book lately published by Nickel Institute, "*Nickel in Tomorrow's World – Tackling Global Challenges*" presents a review of nickel contribution in meeting also the future needs expressed by persons and society. The Nickel Institute is one of the promoting partners of Centro Inox and works in close connection with other institutions, particularly those related to the manufacturing and processing industry. Thanks to its global connections, the Institute is in a position to quickly spread information and news concerning new applications all over the world. A growing awareness of the need to know how materials can impact on men's health and on the environment has always driven NiPERA, which has been incorporated as an independent division of the Nickel Institute. *Tackling global challenges (from "Nickel in Tomorrow's World")* By 2050, the world's population will have increased to an estimated 9.6 billion people. Providing enough food, housing, energy and water will require a concerted drive for new and improved technologies. It will be impossible to address these needs without metals such as nickel.

This publication focuses on seven key and interlinked global megatrends, which will have a significant impact on individuals and societies over the coming years: water quality and supply, energy supply, food security, efficient transport and infrastructure, access to quality healthcare, urbanisation and quality of life, innovation and technology. These trends represent some of the greatest challenges of tomorrow that innovative technologies will help to overcome. Nickel is an essential material used in or supportive of all these technologies.

For additional information, please contact: Mr. Nigel Ward, Director Global Market Development

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A NEW STANDARD COMING SOON

(Nuova norma in arrivo)

The new European standard for stainless steel welded tubes for the chemical and food industries will be published soon. The official publication of **EN 10357 – "Austenitic, austenitic-ferritic and ferritic longitudinally welded stainless steel tubes for the food and chemical industry"** is expected in 2014. The "history" of this standard dates back to 2009, the year in which, on the initiative of Centro Inox and some of its member companies, the proposal of a specific European standard was made concerning welded tubes for the food and chemical industries. As a consequence of the favourable acceptance of this proposal, UNSIDER (Ente Italiano di Unificazione Siderurgica) started an action aimed at obtaining the "Work Item" in order to formally launch the project. The food and chemical industries represent a considerable share of stainless steel consumption both at a national and a global level, and therefore, European reference standards are increasingly required. For this reason, it was decided to draw up this standard, the contents of which closely follow those of DIN 11850 German standard, which have represented the reference standard up to now. The result is an extremely linear, consistent, and simple standard. Its contents are well-summarized in its purpose, since the new standard establishes sizes, tolerances, materials, internal and external surface characteristics, and the marking of the longitudinally welded tubes used in the food and chemical industries. In addition, the new standard also provides for the possibility to use austenitic, austenitic-ferritic (duplex), and ferritic stainless steels.

Pict. 1,2,3,4: from Inossidabile 189, 180, 177 and 169.

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THE "SWEET" SIDE OF STAINLESS STEEL

(Il lato dolce dell'acciaio inox)

The favourable results obtained through its 40-year long experience in the production of sugar beet pressing machines, have led this industrial reality to specialize in the production of high-performance screw presses designed for continuous dewatering. These presses are formed by a carbon steel supporting structure, and by a special gearbox, which guarantees torque transmission to two slow axles connected to two counter-rotating press spindles. Due to the severe conditions existing in the environment where the sugar beet pulp is processed, the use of stainless steel for the screw presses is of paramount importance. In most cases, EN 1.4301/1.4307 (AISI 304/304L) stainless steel sheets are used, in thicknesses ranging from 1 to 50 mm and widths from 1,000 to 2,000 mm. These sheets, depending on the performance of the different parts of the machine, are either cold-rolled with 2B finish, or hot-rolled with 1D finish. Some lining parts of the press subject to particular corrosion phenomena, may



be also made of EN 1.4404 (AISI 316L) stainless steel, which ensures maximum durability to the plant. The welding processes used are MIG, TIG and submerged arc welding. The use of stainless steel allows these machines becoming chemically stable to corrosive agents. They can be easily cleaned, resist to the action of detergents, and are capable to cut down the bacterial load.

Manufacturing company: Babbini S.p.a Cangialeoni group – Loc. Belchiaro 135/A – I-47012 Civitella di Romagna FC, phone +39 0543 983400, fax +39 0543 983424, babbipres@tin.it, www.babbiniexpress.com / **Stainless steel produced 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, www.aperam.com

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CUTTING-EDGE DESIGN AND INTELLIGENT ARCHITECTURE LET US DISCOVER THE CITY FROM ANOTHER PERSPECTIVE

(Design all'avanguardia e architettura intelligente per scoprire la città da un'altra prospettiva)

The underground of Brescia connects the northern quarters of the city with the south-east ones, passing through the historic downtown. The stations of the underground line have been carefully designed, paying particular attention to the distribution and functional aspects of the areas. In order to convey the daylight to the platforms and to visually communicate with ground zero, the volume of the stations has been divided into two symmetric parts, one devoted to passengers' access, and the other to housing the plants. These two parts are delimited by a sloping wall, which supports the roof slab and the intermediate floors, thereby allowing to consider the station a single body. Going straight outside in the open, this wall has allowed creating some skylights, which let the daylight enter up to the platforms. This wall is covered with special electro-coloured EN 1.4301 (AISI 304) stainless steel panels, with a polish and bead blasted finish, which are subsequently reworked and micro-punched.

Architectural project: Cremonesi Workshop CREW Brescia – via Cefalonia 70 – I-25124 Brescia, phone +39 030 221166, fax +39 030 220711, info@crew.it, www.cre-w.it / **Civil works contractor:** Astaldi S.p.A. / **Commissioning body:** Brescia Infrastrutture Srl / **Project management, supervision and management of the relations with the involved organizations:** Brescia Mobilità / **Coloured stainless steel:** Steel Color S.P.A. – Via per Pieve Terzagni 15 – I-26033 Pescarolo Ed Uniti CR, phone +39 0372 834311, fax +39 0372 834015, info@steelcolor.it, www.steelcolor.com / **Processes and assembly:** Alpha AS. srl, Avenza MS

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TANKS FOR THE CHEMICAL AND FOOD INDUSTRY: A "SMART" SOLUTION

(Serbatoi per l'industria chimica/alimentare: una soluzione "smart")

The technical solution illustrated in this article stands out due to its remarkable versatility. It refers to a horizontal axis transport tank equipped with a pumping system, which allows to quickly transfer the product through flexible hosepipes. The fluids to be transferred by this plant – namely, glycerin and propylene glycol – are products used in the food industry. The tank has 8,500 l. capacity. The system is completely made of EN 1.4301 (AISI 304) stainless steel. The external parts of the tank (i.e. ferrule and rounded bottoms) are entirely satin-finished (including welds) for aesthetical reasons. In the internal part of the tank, the ferrule has been left in its original supply conditions (2B finish), while the bottoms are satin-finished, and the welds are

ground and polished to avoid any liquid stagnation with a consequent formation of bacteria. The bearing structure, provided with a tunnel that allows the tank lifting through the forks of a forklift, has a sandblasted surface. The whole system, including pipes, valves and connections, is made of EN 1.4301 (AISI 304) austenitic stainless steel, while the centrifugal pump, directly fitted to the plant, is made of EN 1.4401 (AISI 316) stainless steel.

Manufacturing company: Omniplant Srl – *Operating office:* Via Fulcheria 31 – I-26010 Chieve CR, phone +39 0373 236882, fax +39 0373 649719 – *Registered office:* Via Piave 1 – I-24043 Caravaggio BG, omniplant@libero.it, www.omniplant.it – *On behalf of:* Brenntag – *Registered and administrative office:* Via Cusago 150/4 – I-20153 Milano, phone +39 02 483330, fax +39 02 48333201, infobrenntag@brenntag.it, www.brenntag.it

DESIGN AND TECHNICAL EFFICIENCY IN THE NEW DECORATED 470LI STAINLESS STEEL HOOD

(Il design e l'efficienza tecnica della nuova cappa in acciaio inox 470LI decorato)

Stainless steel is one of the most widely used materials in the production of hoods, since it is capable to meet all technical and aesthetical requirements. From a technical point of view, stainless steel ensures mechanical strength, resistance to even extremely high thermal loads, but above all, excellent resistance to corrosion phenomena. Products remain unchanged throughout their life cycle and require only few maintenance operations over time. Among the hoods included in the product range of this company, we find built-in, wall, and island hoods. One of the latest products is the "downdraft", a hood that can be considered both an in-built and an island hood. This product is the result of the combination of two materials - stainless steel and black tempered glass - that add to it a particular touch of modernity and elegance. For this new model of stainless steel hood, the company has chosen an innovative material, the superferritic 470LI (EN 1.4613) stainless steel, with a linen pattern finish, a premium material capable to stand heavy stresses and high temperatures, and to resist to corrosion, as the austenitic AISI 316 stainless steel. In addition, being a material with ferritic structure, it benefits from the advantage of price stability. The decorated linen pattern finish is obtained during the steel sheet cold-rolling process by means of special decorated rollers. The stainless steel sheet is subsequently submitted to a bright-annealing process.

Manufacturing company: Bs Service s.r.l. – NT AIR – Via G. Brodolini 77/a – I-60044 Fabriano AN, phone +39 0732 21008, +39 0732 251083, fax +39 0732 71469, staff@ntair.it, www.ntair.it / **Stainless steel produced by:** Acciai Speciali Terni S.p.A. – Viale B. Brin 218 – I-05100 Terni TR, phone +39 0744 490282, fax +39 0744 490907, marketing.ast@acciaiterni.it, www acciaiterni.it

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STAINLESS STEELS STANDARDS

(Acciai inox e normativa)

A one-day seminar focused on the theme of stainless steel standards will be held in spring 2014. This event is organized by Centro Inox in cooperation with Unisider – Ente Italiano di Unificazione Siderurgica. **Keep informed:** www.centroinox.it

TABLE REFERRING TO THE CHEMICAL ANALYSIS OF THE MAIN STAINLESS STEEL GRADES, AND CORRESPONDENCE OF THEIR DIFFERENT DESIGNATIONS ACCORDING TO EN, AISI AND ASTM

(Tabella dell'analisi chimica dei principali acciai inossidabili e corrispondenza fra le designazioni secondo EN, AISI e ASTM)

This table (available in Italian) has been conceived as a guidance aimed at identifying both the chemical composition of the main stainless steel grades, and the approximate correspondence of their names according to EN European Standards, AISI Manual, and ASTM Standard and Specifications.

For further information and details: Centro Inox Servizi – Piazza Velasca 10 – I-20122 Milan, phone +39 02 86450559/69, fax +39 02 860986, centroinoxservizi@centroinox.it, www.centroinox.it/prodotti

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STAINLESS STEEL AND CORROSION. AN ADVANCED THEORETICAL-PRACTICAL COURSE – Milan, 12-13-19-20 February, 2014

(Acciai inossidabili e corrosione. Corso teorico-pratico avanzato)

Centro Inox, in partnership with PoliLaPP (the Material Corrosion Laboratory of the Department of Chemistry, Material and Chemical Engineering of the Polytechnic of Milan) has organized the second edition of the 4-day course focused on an in-depth study of the theme of corrosion related to stainless steel. This is a unique event in this area, since the theoretical lessons, aimed at closely analyzing these topics, will be supported by practical laboratory activities. The teachers who will alternate during the lessons have a long-lasting academic experience combined with a significant practical ("in the field") experience in several application areas. A complete technical documentation on stainless steels will be given to all participants, as well as a certificate of attendance. **Location:** PoliLaPP - Laboratorio di Corrosione dei Materiali "Pietro Pedeferrri" - Politecnico di Milano - Dipartimento Chimica, Materiali e Ingegneria Chimica "G. Natta" - Via Mancinelli 7 - Milan (Italy). **Timetable:** 08.30 a.m. ÷ 01.00 p.m. / 02.00 p.m. ÷ 05.30 p.m. **Registration Rates per Person:** 1,750 € + VAT 22%. Special 20% discount for Centro Inox Members, Centro Inox Servizi Srl Affiliated and Registered Companies.

Additional information: Centro Inox Servizi Srl, eventi@centroinox.it, www.centroinox.it, phone +39 02 86450559, +39 02 86450569, fax +39 02 860986

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A MULTIPURPOSE MIXER: A "STAINLESS STEEL" HELP IN THE KITCHEN

(Il frullatore tuttotfare: un "inossidabile" aiuto in cucina)

"FaccioIo" (I do all by myself) is a mixer capable to change into a food processor, an immersion blender, and an electric whisk. All the fittings of the mixer are made, whether completely or partially, of EN 1.4301 (AISI 304) stainless steel, a well-known material due to its characteristics of absolute compatibility with food, easy cleaning, and durability over time.

FaccioIo is a product by: Termozeta SpA – Via Magenta 41/43 – I-20100 Bareggio MI, phone +39 02 9036931, www.termozeta.com

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