

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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THE "MADE IN ITALY" BRAND PUTS ITS SIGNATURE ON THE LUXURY BILLIONAIRE CLUB IN ISTANBUL

(Il Made in Italy firma il lussuoso Club Billionaire di Istanbul)

For the Billionaire Club in Istanbul EN 1.4301 (AISI 304) mirror-finish stainless steel was used: for all the parts which tighten the glass plates both in the mezzanine and in the "Aurora" and "Ninfa" balustrades. In the latter, in particular, the glass plates are tightened to the attic floor by means of a carter lined with stainless steel. The bearing structure of the helical staircase "Titania" is made of AISI 304. The glass steps are supported by cross elements made of EN 1.4401 (AISI 316). The "Yuma" model balustrade of the "Titania" staircase includes a handrail, 8 rows of round bars and oval section uprights, all made of polish finish AISI 304.

Glass and stainless steel parts made by: Faraone - Via Po 12 - I-64018 Tortoreto TE, phone +39 0861 784200, fax +39 0861 781035, segreteria@faraone.it, www.faraone.it / **Working plan:** Matteo Paolini and Gabriele Ciapica / **Project:** Billionaire in Istanbul - Arch. Beppe Riboli

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STAINLESS STEEL PRODUCTION: EUROPE IS STILL ONE OF THE LEADERS IN TERMS OF QUALITY AND QUANTITY

(Produzione di acciaio inossidabile: l'Europa resta fra i leader, per qualità e quantità)

Stainless steel production in Europe represents a considerable share of the overall world production in this area. As a matter of fact, for the first time in its history, in 2010, the total output of world exceeded 30 million tons. Western Europe has been for many years now the undisputed leading region in the world overall stainless steel production, driven by the steel mills of seven countries (Italy, Germany, France, Belgium, Finland, Sweden and Spain), which today are gathering more than 90% European production. Due to its enormous growth in the last few years, China has been, so far, the only country in a position to undermine this leadership. In any case, Europe remains the second region ranked in the world list. In the period ranging from 2001 to 2006, the Compound Annual Growth Rate (CAGR) in Europe totalled +4.6%, while the overall world growth rate reported a +10.3% increase, driven by the ever-growing performances of China, India and South Korea. In the same period, Italy played a primary role in the growth of the European stainless steel production. Focusing on the 7 European leading countries, in 2006-2011, Germany and Italy can be considered the countries which more effectively succeeded in withstanding the economic downturn. If we compare the year 2008 with the year 2010, we can note that stainless steel imports from Europe (sheets, coils, strips, bars, wire rods, wire, and tubes) reported a 7.2% decrease in favour of some leading third countries, such as Japan (+0.9%), South Korea (+4.1%) and the China /India/Taiwan trio (+1.1%). During 2011, the

pressure caused by imports of long products from China and India further grew. The manufacturing companies of these countries - by benefiting from state aid to exports (grants) or by putting into effects unfair trade policies (dumping) - have attained unprecedented export levels in terms of product volumes supplied to Europe, and in particular to Italy. However, the products originating from these countries prove to be not always complying with the European standards, and risk to mar and pollute a market which has always been a byword for quality and competence.

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FROM OUR MEMBERS

PADANA TUBI

MANUFACTURING WELDED TUBES FOR OVER 40 YEARS

(Padana Tubi - da oltre 40 anni produttore di tubi saldati)

Padana Tubi was established in 1970 by the family Alfieri at Guastalla. At the beginning of its activity, the company focusing on the production of carbon steel welded tubes for metal work. Later on, the first production site was further enlarged up and is still devoted to the production of cold-formed carbon steel tubes with a black and pickled surface.

Thanks to its ever-growing successful results and achievements on the market, Padana Tubi was encouraged to start, in 1989, also the production of stainless steel tubes. The yearly total production exceeds 600,000 tons, more than 100,000 of which consisting of stainless steel tubes. A permanent stock of 30,000 tons of stainless steel tubes allows the company to guarantee timely and efficient deliveries for all the products included in its standard production range. Padana Tubi Divisione Inox manufactures and markets the following types of structural stainless steel: 304, 304L, 316, 316L, 316Ti - Low nickel content austenitic steels - 1.4016

(430), 1.4509 (441) and 1.4003 (STR12) ferritic steels. The production range includes the following sizes: round section tubes in diameters ranging from 6 to 168.3 mm, and thicknesses from 1 to 4 mm; square section tubes in sizes ranging from 10x10 to 120x120 mm, and thicknesses from 1 to 5 mm; rectangular tubes in sizes ranging from 20x10 to 180x60 mm, and thicknesses from 1 to 5 mm.

The tubes are welded through HF, TIG and Laser welding technologies. Tubes are produced in 6,000 mm standard length, but it is possible to produce on demand different lengths within the range of 4,000 to 12,000 mm. For the production it is used cold rolled stainless steel with thicknesses up to 1.5 mm included, and of the hot rolled type for thicknesses ranging from 2 to 5 mm. Padana Tubi avails itself of in-house laboratories and it is also equipped with a quantummeter.

PADANA TUBI & PROFILATI ACCIAIO S.P.A. - Divisione inox

Via Portamurata 8/a, I-42016 Guastalla RE, phone +39 0522 836561, fax +39 0522 836576
www.padanatubi.it - sales.inox@padanatubi.it

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ALLOY ELEMENTS IN STAINLESS STEELS. METALLURGICAL ASPECTS AND INFLUENCE ON PERFORMANCES

(Elementi di lega negli acciai inossidabili: aspetti metallurgici e influenza sulle prestazioni)

The performances of all metallic alloys are deeply influenced by the elements that form them. Stainless steels fall into the large family of the Fe-C alloys: according to EN 10020 standard, a steel can be defined "stainless" when its chrome content reaches a minimum 10.5%. The attainment of the final wished chemical composition is the result of several working stages characterizing the production process. In the case of stainless steel, these production stages can be summarized as follows:

Element	Major effects
C	<ul style="list-style-type: none"> Increased mechanical characteristics during hot and cold forming processes Can be combined with Cr to form carbides ("L" - "low carbon" - to reduce this effect) at temperature-raising In ferritic steels, this element worsens cold forming processes, corrosion resistance and toughness Increased hardening tendency during cold-forming processes
Cr	<ul style="list-style-type: none"> The basic element in order to be stainless The greater the Cr content, the greater the corrosion resistance
Ni	<ul style="list-style-type: none"> A basic element to promote and improve the austenitic structure No direct influence on steel resistance to corrosion onset; Ni slows down corrosion propagation by enhancing the repassivation process Improves cold-forming processes A basic element for ensuring the mechanical characteristic of high-temperature alloys
Mo	<ul style="list-style-type: none"> Improved resistance to localized (pitting, crevice) corrosion Improved mechanical resistance at high temperatures
N	<ul style="list-style-type: none"> Improved mechanical characteristics Improved corrosion resistance in austenitic and duplex steels In ferritic steels, this element worsens cold forming processes, corrosion resistance and toughness
Mn	<ul style="list-style-type: none"> Increased mechanical characteristics Tendency to form sulphides (MnS), which make corrosion resistance drop
S	<ul style="list-style-type: none"> Increased workability by chip removal This element affects cold forming processes Affects corrosion resistance (by producing different kinds of sulphides) Responsible for the onset of hot cracking (for example, in welding processes)
Ti	<ul style="list-style-type: none"> Prevents the production of Cr carbides at temperature-raising (stabilization effect) Improved performances at high temperatures Improves the cold-forming process of ferritic steels
Nb	<ul style="list-style-type: none"> Prevents the production of Cr carbides at temperature-raising (stabilization effect) Improves the cold-forming process in ferritic steels
Cu	<ul style="list-style-type: none"> Improves the cold-forming process Ensures greater corrosion resistance in particular environments
Al	<ul style="list-style-type: none"> Improved oxidation resistance at high temperatures
W	<ul style="list-style-type: none"> Improved corrosion resistance in duplex steels and influence on the formation of secondary stages
Si	<ul style="list-style-type: none"> Improved oxidation resistance at high temperatures Ensures greater corrosion resistance in particular environments
V	<ul style="list-style-type: none"> Improved mechanical characteristics in martensitic steels



1) production of primary liquid steel by means of an electric arc or induction furnace; 2) refining through a converter (AOD, VOD) or a ladle; 3) vacuum or electro-slag remelting, if necessary, in the case of stainless steels intended for particular applications (for example, biomedical, aeronautic applications, etc.).

Stainless steels are deeply influenced in their microstructure and in their physical-chemical characteristics by all the elements that take part in their chemical composition.

Thanks to RTM Breda laboratory (www.rtmbreda.it) for the micrographs provided for this article.

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470LI STAINLESS STEEL IN WINE INDUSTRY: HIGH RESISTANCE TO CORROSION AND GUARANTEE OF HYGIENE

(L'inox 470LI nel settore enologico: elevata resistenza alla corrosione e garanzia di igienicità) Wine making machines are usually made of EN 1.4301 (AISI 304) stainless steel, and in case of very heavy working conditions, the choice may fall also on EN 1.4401 (AISI 316) stainless steel.

Today, however, a new tendency is gaining ground in the production of wine-making machines, as 470LI steel is now increasingly used as a replacement for traditional austenitic steels.

The company this article is focusing on has successfully begun a process aimed at replacing AISI 304 stainless steel, traditionally used in the production of its presses, with the new superferritic 470LI steel. This material is used in particular for the "Vacuum System" press, a new extraction system for the must, and for the continuous membrane press. 470LI superferritic stainless steel, due to its superior characteristics of corrosion resistance, which can be compared to and even exceed those provided by AISI 316 austenitic stainless steel - and obviously also those provided by AISI 304 - represent a guarantee of absolute hygiene.

Manufacturing company: Siprem International S.r.l. - Via Lazio 8 - I-61100 Pesaro PU, phone +39 0721 451258, fax +39 0721 451812, acquisti@siprem.it, www.siprem.it / **Stainless steel produced by:** ThyssenKrupp Acciai Speciali Terni S.p.A. - Viale B. Brin 218 - I-05100 Terni TR, phone +39 0744 490822, fax +39 0744 490879, marketing.ast@thyssenkrupp.com, www.acciaiterni.it

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A STAINLESS STEEL EMBROIDERY (Il ricamo inossidabile)

MePa (Metal Panels) are stainless steel panels so finely worked as to seem actually embroidered. These panels can be used in a variety of applications, as partitions for interiors, ornamental panels, curtains and blinds. These panels are put on the market in the usual standard sizes (500x500, 500x2400/2700/3000 mm) in thicknesses ranging from 0.3 to 0.4 mm. The stainless steel grades used for these panels are 2B-finish EN 1.4310 (AISI 301), EN 1.4325 (AISI 302), EN 1.4301 (AISI 304) and EN 1.4401 (AISI 316). Stainless steel sheets are submitted to a photogravure process on large formats and to a high-precision cutting process.

Manufacturing company: Caino Design - STV brand - Corso VerCELLI 16 - I-10078 Venaria Reale TO, info@cainodesign.com, www.cainodesign.com / **Designer:** Takorabo - Matteo D'Agostino and Emanuele Micono

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WHEN TECHNOLOGY COMBINES WITH AESTHETICS: STAINLESS STEEL IN THE KITCHEN (Quando tecnica ed estetica si fondono: l'acciaio

inox nelle cucine)

The company mentioned in this article has been working in the kitchen industry since 1954. Among the most used quality materials we find stainless steel, which due to its intrinsic characteristics, is an ideal material for the production of the furnishing elements and electric appliances of a kitchen: stainless steel is not subject to any attack or stain caused by its coming into contact with food, guarantees hygiene and durability and minimize maintenance interventions. The use of stainless steel (usually austenitic AISI 304 stainless steel) made by this company has been determined by the technical, functional and aesthetical characteristics of this material.

Manufacturing company: Fox S.p.A. di R. Bompani & C. - Via Emilia Est 1465 - I-41122 Modena, phone +39 059 415411, fax +39 059 284731, info@bompani.it, www.bompani.it / **Stainless steel produced by:** ThyssenKrupp Acciai Speciali Terni S.p.A. - Viale B. Brin 218 - I-05100 Terni TR, phone +39 0744 490822, fax +39 0744 490879, marketing.ast@thyssenkrupp.com, www.acciaiterni.it

PERFORATED SHEETS MADE OF DIFFERENT MATERIALS, INCLUDING STAINLESS STEEL

(Lamiere forate di vari materiali ed anche in acciaio inox)

The company described in this article is producing different kinds of perforated sheets made of various materials. Different types of perforations are available, ranging from simple round, square, and slotted holes, to holes made according to the "Creativ Line", a range of design perforated sheets produced in artistic and original patterns. The company is also manufacturing the famous "air curtains" used in shops and factories to convey, depending on needs, heated or refrigerated air through blades and diffusers. Perforated sheets are also used to cool down the handles of the engine guards in particularly hot environments. The stainless steel type used for these perforated sheets is EN 1.4571 (AISI 316 Ti).

Air curtains: Gruppo Frico / **Perforated sheets:** Mevaco s.r.l. - Via Stazione 1 - I-39044 Egna BZ, phone +39 0471 827211, fax +39 0471 827220, egna@mevaco.it, www.mevaco.it

A "STAINLESS" ALLY IN THE PIZZERIA (Un alleato "inossidabile" in pizzeria)

The company mentioned in this article makes use of EN 1.4301 (AISI 304) stainless steel for almost all its products. The peculiarity of the innovative "Girasole" serving dish, consists in its surface with a radial ribbed pattern, which allows the pizza dough limiting its contact with the dish to the bare minimum so as to make its natural evaporation easier. This dish consists of a rotating support in which a stainless steel disk preheated in the oven is fitted. The corrugated surface of the dish allows the heat of the disk to uniformly spread over the whole surface.

Manufacturing company: Zio Pepe Srl - Via del Donatore 10/12 - I-37014 Castelnuovo del Garda VR, phone +39 045 6450844, fax +39 045 6450843, ziopepe@ziopepe.com, www.ziopepe.net

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DUPLEX SEMINAR & SUMMIT 2012

Stainless Steel World will host The Duplex Seminar & Summit 2012 in Stresa (VB) Italy - September 26th & 27th 2012. This event is sponsored by Sandvik, Outokumpu, Wujin Stainless and supported by Centro Inox and AIM.

For further information: www.stainless-steel-world.net/duplex2012

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LATIN AMERICAN STAINLESS & ITS ALLOYS CONFERENCE - Rio de Janeiro (Brazil), June 5-6, 2012

A conference organized by: AMM - American Metal Market and SMR - Steel & Metals Market Research. **For further information:** www.amm.com

7TH ASIAN STAINLESS STEEL - Singapore, June 25-27, 2012

"7th Asian Stainless Steel" will be held in Singapore on June 25-27, 2012. This event is organized by Metal Bulletin Events and SMR - Steel & Metals Market Research.

For additional information: www.metalbulletin.com

EXPO MILANO 2015

NOURISHING THE PLANET, ENERGY FOR LIFE (Expo Milano 2015 - Nutrire il Pianeta, Energia per la Vita)

In view of the international showcase represented by the World Expo of 2015 to be held in Milan, Centro Inox has begun to make contacts with EXPO 2015 S.p.A. a few months ago in order to promote and present during this event all the potentialities of stainless steel. A dedicated website allows all those concerned to have access to the information referring to Expo 2015, and each company wishing to take part in Expo 2015 will have the opportunity to spontaneously propose itself as candidate.

For additional information: www.expo2015.org

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THE FLUID MOVEMENT OF STAINLESS STEEL (Il movimento fluido dell'acciaio inox)

Nino Mustica is one of the great experimenters in contemporary art. *Pittura Solida*: from the canvas changes itself into animated rendering and architectural figurativeness up to its three-dimensional materialization. *Sparkle*: a different way to tell the nature of art. To make these works, the artist chose EN 1.4301 (AISI 304) stainless steel sheets. These sheets were laser-cut and bent. Finally, the parts were assembled by means of TIG welding, and have been polished by hand. The steel seats, which apparently look like unreal shapes, prove to be instead handy and comfortable as soon as they are used. The artist's choice to use stainless steel was motivated, as well as by aesthetical requirements, also by the versatility of this material and by its characteristics of corrosion resistance.

Artist: Nino Mustica - Via Giovenale 7 - I-20136 Milano, info@ninomustica.com, www.ninomustica.com / **Pittura Solida:** exhibited works Piazza del Duomo, Pietrasanta LU, 12. Biennale di Architettura di Venezia, during the exhibition "Culture Nature", Spazio Thetis Arsenale Novissimo / **Sparkle:** exhibited works Triennale di Milano, spazio Material Connexion / **Works made at:** C.M.T. Inox Srl (Sassoli Group S.p.A.) - Viale delle Industrie 9 - I-20040 Cambiago MI

CENTRO INOX

The Italian Stainless Steel Development Association

Piazza Velasca, 10 - 20122 Milano - Italy
Telephone +39 02 86450559 - +39 02 86450569
Fax +39 02 860986

redazione.inossidabile@centroinox.it
www.centroinox.it

