

INOSSIDABILE

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

Summary

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

COVER/PAGES 3/4

STRUCTURAL STAINLESS STEEL TUBES: AN EXAMPLE OF AESTHETIC AND FUNCTIONAL PROPERTIES

(Tubo inox strutturale: esempio di estetica e funzionalità)

A company based in Buccinasco, in the outskirts of Milan, succeeded in combining stainless steel with transparent compact polycarbonate for the purpose of producing an efficient, strong and attractive structure from an architectural point of view. As shown in the pictures, EN 1.4307 (AISI 304 L) stainless steel tubes were used to create a supporting lattice on which a polycarbonate roofing rests. The welded tubes used for the structures are produced in 80/60/48 mm diameters, and are all 3 mm thick. The tubes have a brushed finish and an overall weight of about 1,200 Kg.

Different kinds of welding technologies were used for the production of this supporting structure: TIG, MIG, and electrode welding, and the weld material is 308 L Si.

Project and production: SVM di Spaziani Massimo – Via della Resistenza 37 – I-20090 Buccinasco MI, phone +39 02 45700241, fax +39 02 48844164, svmdispaziani@tiscali.it

PAGE 5

THE NEW 35CC STAINLESS STEEL KITCHEN HOOD: A NEW COMPLEMENTARY DESIGN ELEMENT WITH A TECHNOLOGICAL HEART IN THE KITCHEN

(La nuova cappa 35CC in acciaio inox: in cucina un elemento di design dal cuore tecnologico)

The 35CC kitchen hood distinguishes itself by its technology, its small size, and its compact shape. All the charm of a line that draws from the past and reinterprets it with an eye to high-tech, is concentrated on a cube that measures only 35 cm on each side. The shape of the hood originates from the intersection of two “C”-shaped shells. The attractive and coloured outer shell combines with a functional inner shell made of smooth or punched stainless steel, thus forming an original cube. To guarantee long durability and correct performance over time, it is necessary to use for the hood particularly strong and resistant materials, such as stainless steel. The 35CC kitchen hood is made of Scotch-Brite finish EN 1.4016 (AISI 430) stainless steel. Due to its excellent corrosion resistance properties, stainless steel effectively protects against the corrosion attacks produced by the smoke and the steam that form in the kitchen during cooking operations. These characteristics result in long durability over time, since they keep the hood healthy and efficient, and allow the filtering system to correctly operate. The technical functionality of stainless steel thus perfectly combines with a strong aesthetic appeal.

Production: ELICA S.p.a. – Via Ermanno Casoli 2 – I-60044 Fabriano AN, phone +39 0732 6101, www.elica.com

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@acciaiarni.it, www.acciaiarni.it

PAGES 6-7

FROM OUR MEMBERS

MARCEGAGLIA: STAINLESS STEEL QUALITY FROM THE WORLD LEADING MANUFACTURER

(Marcegaglia: qualità inossidabile dal leader mondiale)

The major world manufacturer of stainless steel welded tubes confirms and strengthens its leadership with two new important quality certificates Marcegaglia was the first company in Italy to achieve: the certification on welding process management ISO 3834-2:2006, and the compliance certification to the European Regulation EC 1935/2004 issued by TIFQ, which specifically refers to products designed and developed for the food industry. The production of stainless steel semi-finished products represents one of the most important business lines for Marcegaglia, with a 22% share on the overall sales of the Group, and avails itself of a consolidated worldwide network of 8 specialized state-of-the-art production units in terms of technology and achieved certifications. The plant of Forlì is today the major production pole of stainless steel welded tubes in the world. The plant works in strict compliance with the most important international certifications. At the same time, this strategy has led today Marcegaglia not only to work at full speed in the processing of stainless steel flat products, but also to make investments aimed at strengthening and upgrading the first pickling line of the plant based in Mantua, in order to increase and enhance the company's quality and production levels, focusing in particular on the area of ferritic steels. The lines of the plant of Gazoldo produce today coils and ID hot-rolled steel sheets (in thicknesses ranging from 2.00 to 6.00 mm) and cold-rolled 2B sheets (in thicknesses ranging from 0.6 to 3.00 mm) in standard widths of 1000/1250/1500 mm, as well as steel strips and sheared plates.

Head Office: MARCEGAGLIA inox division – Via Bresciani 16 – I-46040 Gazoldo degli Ippoliti, Mantova, phone +39 0376 685367, fax +39 0376 685625, inox@marcegaglia.com

PAGES 8-9

USE OF A PROBABILISTIC MODEL TO PREDICT THE RESISTANCE OF STAINLESS STEELS TO PITTING CORROSION

(Uso di un modello probabilistico per la previsione della resistenza a corrosione per pitting degli acciai inossidabili)

Pitting corrosion is a form of localized and penetrating corrosion capable to affect stainless steels in oxidizing environments containing chlorides. Pitting corrosion occurs when the thin oxide layer, called “passivation film”, which naturally covers these materials, which are called “passive”, breaks. The dangerousness of pitting corrosion consists in that the pit depth can entirely damage in a short time the thickness of the metal sides, thus involving the perforation of the part. On these grounds, the proposal of a model capable to predict the probabilities to activate a pitting corrosion process is being developed. This model takes into account and summarizes the effects related to the characteristics of the steel and

of the operating environment. Thanks to the use of simple mathematical algorithms, this model is able to schematize the pitting corrosion process by assuming that the metal coming into contact with the environment erodes or, instead, remains in a condition of passivity through the evolution of possible states which are logically interconnected. The mathematical approach that was followed is based on Markov's chains. A stochastic process is defined “Markovian” when the probability that determines the transition from a state to the subsequent state exclusively depends on the immediately preceding state and not on the “history” of the material. Experimental tests are being performed at the university PoliLApp Corrosion Laboratory of the Polytechnic of Milan, aimed at validating this probabilistic model, the mathematical relations of which need to be confirmed by practical tests.

Thanks to: A. Brenna, M. Ormellesse, L. Lazzari – Politecnico di Milano, Dipartimento di Chimica, Materiali e Ingegneria Chimica “Giulio Natta”

PAGES 10 – 11

OENOLOGY GETS DRESSED IN STAINLESS STEEL

(L'enologia si veste di inox)

The company this article is focused on designs and produces grapes processing machines, from grapes reception to de-stemming, from pressing to filtration. Due to its hygienic characteristics, ease of cleaning, and aesthetic properties, stainless steel plays a leading role in the production of these machines. The stainless steel grades used for these machines are X5CrNi18 10 or EN 1.4301 (AISI 304). In the de-stemming machines, that is to say, the machines that detach the grape from the stalk, or clear the machine-harvested product from leaves and woody parts, the beater shaft is made of EN 1.4301 (AISI 204) stainless steel. The rotating destemming cage is made of EN 1.4301 (AISI 304) semi-drawn and calendered stainless steel sheet, which is subsequently welded.

Project design and production: DIEMME Enologia – Via Bedazzo 19 – I-48022 Lugo RA, phone +39 0545 219911, fax +39 0545 33002, info@diemme-enologia.com, www.diemme-enologia.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

FLOOR HEATING SYSTEM WITH FERRITIC STAINLESS STEEL TUBES

(Impianto termico a pavimento con tubi in acciaio inossidabile ferritico)

This article is focused on one of our member companies, which is one of the leading manufacturers specialized in the production of austenitic and ferritic stainless steels, on the occasion of the construction of its new production plant. The company successfully tested the use of the tubes produced by it for the floor heating system of the building. As a result of the studies carried out in cooperation with qualified external laboratories, the decision fell on tubes made of EN 1.4521 (AISI 444) ferritic alloy, produced in 22 mm

outer diameter and 0.8 mm thickness. The choice to use the tubes produced by the company itself proved particularly interesting due to two main reasons: simple and fast installation, and considerable savings in terms of costs in comparison with the plastic tubes that are commonly used for this purpose. With this new and versatile product, which ensures high quality and durability over time, the company celebrates its 40th anniversary.

Stainless steel produced by: Tecnofar S.p.a – Via della Battaglia 17/20 – I-23014 Delebio SO, phone +39 0342 684115, fax +39 0342 684500, info@tecnofar.it, www.tecnofar.it

PAGES 12-13

CENTRO INOX SERVIZI AND ITS AFFILIATED COMPANIES

(Centro Inox Servizi S.r.l. e i suoi affiliati)

Centro Inox was established in 1962 as a non-profit association devised by some Italian steel mills for the main purpose of creating a link between material producers and end users. Later on, to better meet the increasing number of different and specific requirements expressed by end users, the company Centro Inox Servizi S.r.l. was established in 1995 as a separate section of the association, which allows member companies to benefit from “dedicated” services at different levels. In particular, affiliation does not only allow a company to obtain specific technical services (advice, training courses, etc.) but also promotional services on the occasion of the events organized by the association. Further information and details on the services offered to the affiliated companies can be found at: www.centroinox.it/affiliazione.

A “MAGNETIC” DESIGN

(Un design...magnetico)

Stainless steel can become a design element also in home environments, as the new furnishing line produced by an Italian company proves. This company finds its origins in an almost fifty-year long expertise in stainless steel processing for the furniture of bars, coffee shops, and professional kitchens. The company patented a system of magnetic shelves made of stainless steel and other materials, which allow end users to avail themselves of a considerable creative freedom in the arrangement of these elements. This system allows numberless changes in the positioning of shelves and magnetic elements, thus avoiding the need to drill every time the supporting walls. Some of the products of this furnishing line make use of Scotch-Brite, anti-fingerprint treated EN 1.4301 (AISI 304) stainless steel, for practical and aesthetic reasons, while other products, such as, for example, the panels and the supports under the kitchen cabinets on which the magnetic accessories are hanged, are made of EN 1.4016 (AISI 430) ferritic stainless steel. Usually, the production makes use of 6/10 and 10/10 thick steel sheets.

Project design and production: Ronda Design – Via Vegri 83 – I-36010 Zanè VI, phone +39 0445 385600, fax +39 0445 385700, www.rondadesign.it, sales@rondadesign.it

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

PAGE 14

STAINLESS STEEL SURFACE FINISHING. AESTHETIC PROPERTIES AND FUNCTIONALITY

Università degli Studi di Milano – Palazzo Greppi – Sala Napoleonica
Via Sant’Antonio 10, Milan – October 29, 2014 – from 9.00 a.m. to 5.30 p.m.

(Le finiture superficiali degli inox. Estetica e funzionalità – Università degli Studi di Milano – Palazzo Greppi – Sala Napoleonica, Via

Sant’Antonio 10, Milan – **29 ottobre 2014** – orario: 9.00 ÷ 17.30)

In the multi-faceted application field of stainless steels, which covers now a variety of industrial sectors (food industry, architecture and infrastructures, transport, etc.), an essential role is played by the parameters related to surface finishing. Among the most important aspects of these materials, it is necessary to mention not only their resistance to corrosion and durability, as well as their physical and mechanical characteristics and workability, but also their aesthetic properties and values, which succeed in “expressing” themselves especially in some specific areas, such as architecture and design. However, concerning some particular applications, we can note that more and more frequently, surface finishing becomes an essential parameter also from a functional point of view. Surface finishing has, actually, a considerable influence, in particular environments and climates, on triggering and bringing about localized or general corrosion phenomena. In order to outline a complete picture capable to provide up-to-date technical and scientific information on these two apparently different but closely related aspects, the seminar intends to consider the most typical technical aspects related to the performance of these materials once they are installed, starting from an overview of some architectural applications, which show the great versatility of stainless steels from an aesthetic point of view.

The seminar is focused both on the different kinds of standards finishing options complying with the European regulations, and non-standard ones, which are increasingly used in the areas of design and building industry. Great attention will be paid to the post-processing and machining treatments (i.e. pickling, passivation, and electro-polishing) that are necessary to install stainless steel elements in the best conditions.

During the event there will be some exhibition stands of companies in the sector which wish to take advantage of this important showcase.

For information about the modality of participation to the exhibition area, please contact:

Centro Inox – Giovanna Ferrario, Phone +39 02 86450559 – Fax +39 02 860986 – eventi@centroinox.it

APCE

(APCE – Associazione per la Protezione dalle Corrosioni Elettrolitiche)

We wish to communicate the next events organized by APCE.

For additional information: APCE, phone +39 049 8209111, info@apce.it, www.apce.it

PAGE 15

STAINLESS STEEL WELDING

Università degli Studi di Milano – Palazzo Greppi – Sala Napoleonica
Via Sant’Antonio 10, Milan – November 12, 2014 – from 9.00 a.m. to 5.30 p.m.

BASICALLY...WELDING – Genova – November 19, 2014

(La saldatura degli acciai inossidabili – Università degli Studi di Milano – Palazzo Greppi – Sala Napoleonica, Via Sant’Antonio 10, Milano – **12 novembre 2014** – orario: 9.00 ÷ 17.30

In pratica...la saldatura – Genova – **19 novembre 2014**)

This technical seminar is organized by Centro Inox in partnership with Istituto Italiano della Saldatura (IIS), based in Genoa. The positive experience of the seminar organized last year in the month of November, in partnership with IIS too, revealed the need to create, once again, a general “culture” on this subject, which takes on great importance in any application area, and especially in the light of the new materials that are currently used regarding some specific and innovative market niches and welding technologies. Focusing on this subject, the seminar

has been conceived placing side by side a theoretical part and an experimental practical part, basing on the “formula” successfully tested in the recent past on the subject of “corrosion”. The seminar is therefore divided into a theoretical session that will be held in Milan, and a practical session that will take place at IIS laboratories in Genoa. During the theoretical session, an exhibition area will be prepared, where the companies operating in this area will have the opportunity to show products, technologies, etc.

The main welding technologies used today, with and without consumables, as well as defects, problems and control techniques will be illustrated in the practical session.

For additional information: Segreteria Organizzativa Manifestazioni Tecniche IIS, phone +39 010 8341373 / +39 335 7416424 (Ivana Limardo)

THE START OF AN ANTI-DUMPING INQUIRY VS. CHINA AND TAIWAN FOCUSED ON COLD-ROLLED STAINLESS STEEL FLAT PRODUCTS

(Avvio indagine antidumping sui piani inox a freddo contro Cina e Taiwan)

The European Commission notified on June 26, 2014 the start of an anti-dumping inquiry concerning imports of cold-rolled flat products from China and Taiwan. This inquiry is the result of a request lodged by Eurofer in May 2014, aimed at trying to protect European producers from a large-scale entry in our market of products sold at dumped prices by China and Taiwan. Despite the efforts made by all European producers in terms of reorganization and improved performances, these imports have caused them heavy economic damages. Within this inquiry, the preliminary appraisal made by the EU Commission on the existence of dumping prerequisites and damage brought to the European industry, if confirmed, could lead to enforcement of duties on imports of products originating from the two investigated countries to the European Union.

PAGE 16

THE SEA WORLD COMES TO LIFE THANKS TO STAINLESS STEEL

(Il mondo marino prende vita dall'acciaio)

A few months ago, at the Municipal Aquarium of Milan, some unusual stainless steel sculptures were exhibited. These sculptures inspire to the creatures that inhabit the sea world. These creatures are actually microscopic beings that the sculptor reproduced through the reflective surfaces of stainless steel up to make them live again in enormous sizes. The artist made use of EN 1.4301 (AISI 304) and EN 1.4401 (AISI 316) stainless steel grades, not only because of their resistance to atmospheric agents, but also because of their capability to reflect light, to such an extent that these sea creatures seem to move in the space.

Sculptor: Arch. Andrea Forges Davanzati – Via Carlo Buragna 22 – I-09124 Cagliari, andreaforges@tiscali.it, www.andreaforgesdavanzati.com

Photos by: Daniela Zedda

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

The subscription to the quarterly *INOSSIDABILE*, outside Italy, is free of charge.

