

# INOSSIDABILE

Edited and published by Centro Inox



## Summary

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

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#### “MARANELLO”: A NEW 4-WHEEL MOTORCYCLE FOR CHALLENGING THE TRAFFIC OF THE CITY

(La “Maranello”: un nuovo quadriciclo per vincere le sfide della città)

After “Isigò”, “Town Life” and “Nido”, the 4-wheel motorcycles already described in the previous issues of “Inossidabile”, we wish to present now the latest creation which, as the aforementioned models, combines all the advantages of this kind of vehicles with paramount safety characteristics, thanks to a frame totally made of EN 1.4301 (AISI 304) stainless steel tubes. Indeed, this kind of steel, like others belonging to the family of austenitic steels, combines resistance against corrosion with high mechanical properties, energy absorption capacity, ductility, good workability and fatigue resistance. Moreover, the work-hardening produced by the cold forming process increases the yield strength, depending on sustained cold work, and results only in a moderate decrease in ductility. While an increased speed in applying loads increases the fatigue rate depending on cold work speed, with only a moderate decrease in ductility.

Due to its extremely reduced external size, this vehicle is an ideal city-car, available in the versions with petrol, diesel and electric engine, with the possibility to mount a “range-extender”, an additional petrol engine, which allows obtaining an endurance of 360 km + 40 with the electric engine.

**Project and production:** Effedi Srl – SS 113 Km 281,900 – I-90040 Carini PA, phone +39 091 8633511, fax +39 091 8633518, www.affedi.it – www.maranello4cycle.com

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#### THE DRINKING WATER PLANT OF PEDRA MAJORE (SASSARI)

(L’impianto di potabilizzazione di Pedra Maggiore, Sassari)

The new drinking water plant of Pedra Maggiore (Sedini), in the province of Sassari (Sardinia), was opened on July 7, 2007.

This is one of the most advanced plants of this kind in Italy from the viewpoint of water treatment process complexity and water quality guarantee, with a potential capacity of 23 million m<sup>3</sup>/year, and processes the raw waters of the river Coghinas.

These waters, to be transformed into drinking water, require several complex stages of chemical-physical treatments, which take place on three identical parallel process lines. In addition, the plant includes two treatment lines for the resulting mud.

Stainless steel has been extensively used in this plant, particularly in pipe manufacturing. About 110 tons of EN 1.4404 (AISI 316L) stainless steel have been used for the pipes, with diameters ranging from DN 50 to DN 1000, and another 20 tons of the same kind of steel have been used for manufacturing the underwater electro-mechanical equipment.

**Client:** Regione Sardegna / **Design and construction:** Acciona Agua S.A. – Via Coni Zugna 71 – I-20144 Milano, phone +39 02 8312111, fax +39 02 83121137, segreteria@pridesa.it, www.acciona-agua.es / **Tube supplier:** Rivit SpA – Via Palladio 129 – I-26030 Caltrano VI, phone +39 0445 359311, fax +39 0445 359300, info@rivit.com, www.rivit.com

#### STAINLESS STEEL JEWELS: WHEN STEEL BENDS TO CREATIVITY

(Gioielli inox: quando l’acciaio si piega alla creatività)

Barbara Claren, a jewel designer, describes the emotion she felt when she used stainless steel for the first time after having learned the working secrets of this material from the Milanese architect-sculptor Andrea Forges Davanzati: “Fantastic, I had succeeded in bending at my own will a steel tube with my hands: I couldn’t even believe it!! The stainless steel tube had

behaved just as I wanted, and had bent without breaking. It was elastic at the right point”.

It was a small EN 1.4301 (AISI 304) solubilized stainless steel tube, with 4 mm external diameter and 0.5 mm thickness. The final result is a snake (see picture on the left), a symbol of snare and unpredictability, welded around a 925 silver tube. On the right, a silver pendant with a little tube, similar to the aforementioned one, embedded in resin.

**Design and manufacture:** Barbara Claren – I-20154 Milano – Via Melzi d’Erlil 32, phone +39 333 9267768, baclaren@virgilio.it / **Tube supplier:** Tecnofar SpA – I-23014 Delebio SO – Via della battaglia 17/20, phone +39 0342 684115, fax +39 0342 684500 – info@tecnofar.it – www.tecnofar.it

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#### FROM OUR MEMBERS

##### ACRONI ITALIA S.r.l. – YOUR PARTNER ON THE ITALIAN MARKET

(Dalle Associate: Acroni Italia S.r.l. – Il vostro partner sul mercato italiano)

**History of the Company** – The steelworks Acroni Jesenice are based in Slovenia, in the outskirts of the ancient town of Jesenice, where steel began to be worked since the Middle Ages.

In the late 1980s, a new steel plant and a rolling mill began to operate, thus starting the production of the modern steel mill of Jesenice, which in 1992 took the name of Acroni Jesenice, and is considered today a major European manufacturer of flat products in steel. In 2007, the Russian company IMH acquired the majority share of the SIJ group of Ljubljana, and privatized also Acroni Jesenice, which belonged to the Slovenian group.

**Production** – Acroni Jesenice has currently a large production range, which comprises rolled stainless steel plates – quarto plates included; magnetic sheets (particularly important is the non-orientated grain type), either processed or semi-processed; alloyed construction steel.

The overall production of steel and iron products totals about 350,000 tons, sold both in Europe and overseas. In the last few years the company has further increased its production capacity, thanks to new important investments made in the field of high-technology instruments and environmental protection.

**Environmental Policies** – Environmental protection, along with workers’ security and health, are priority issues for Acroni: in 2001, the company introduced the ISO 14001 environmental management system, and in 2002 achieved the international environmental certification.

Energy saving and introduction of modern technologies result not only in a reduction of the environmental impact, but also in lower prices and greater competitiveness.

**Acroni Italia S.r.l.** – Acroni Italia S.r.l., based in Gorizia, whose majority shareholder is Acroni Jesenice, commits itself to increase steel product sales on the Italian market. In addition, the company aims at continuously improving the services provided to customers. A great challenge of Acroni Italia in the near future consists in becoming the major distributor of quarto plates on the Italian market.

Acroni Italia S.r.l. – I-34170 Gorizia – Via del San Michele 334 – phone +39 0481 520.015 / 096/ 394, fax +39 0481 520.222, info@acroni.it, www.acroni.it

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#### RUST-PROOF AND RECYCLABLE: STAINLESS STEEL RESPECTS THE ENVIRONMENT

(Inossidabile e riciclabile: l’acciaio inox rispetta l’ambiente)

Environmental impact is an element that weighs very much on the choice of materials.

Among the different features that make stainless steel an environment-friendly material, the most outstanding element

is undoubtedly its complete recyclability. Moreover, stainless steel does not produce any waste, and its scraps do neither pollute the air, nor the land, nor the ground water tables. In addition, the possibility to be reused in new castings allows achieving considerable raw-material savings (ferroalloys).

Each newly manufactured stainless steel part has an average content of about 60% recycled material. In turn, this percentage is by 35% composed by production return materials and processed scraps (also called “new” scraps), and includes only about 25% materials obtained from end-of-life products (the real “old” scraps) (Figure 1).

Even though stainless steel is completely recyclable, the material content consisting of “old scraps” totals only 25%, because stainless steel products are extremely durable, and what we are recycling today may have been put on the market even more than 30 years ago. However, as in those years the overall steel production was much smaller, the quantities of old scraps available today are rather limited. Calculating a 5% average yearly growth rate of stainless steel production over time, we can infer that the maximum theoretical recycling rate is now determined by the production of the previous years and its related growth rates (Figure 2).

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#### A NEW “CRADLE FOR LIFE” IN MILAN (Inaugurata a Milano una “culla per la vita”)

On November 20, 2007, during the World Day of the Child, Ferdinando Acunzo, President of the Association “Venti Moderati”, presented the first charitable undertaking of the association for Milan: the donation of a video-controlled cradle, a modern, technological version of the ancient revolving wheel used in the past, particularly in convents, in which abandoned infants were accommodated.

The new cradle is a small, safe, hygienic, air-conditioned box, which can be used by fully respecting the baby’s safety requirements, as well as the privacy of the person that deposits the infant in it. Automatic alarm devices immediately advise the operators of the neighbouring maternity hospital Mangiagalli, as soon as a baby is deposited. The wall in which the rolling shutter is housed is lined with an embossed (anti-vandalism) EN 1.4301 (AISI 304), 1 mm thick stainless steel sheet both outside and inside the box, where the thermal cradle is located. The box frames are made of the same kind of steel with a satin finishing and 1.5 mm thickness.

**Sponsor:** Associazione “Venti Moderati”, Milano, phone +39 02 57610027, +39 346 5422944, info@ventimoderati.it / **Responsible for the project:** International Cartel Sign – I-20090 Opera MI – Via Piemonte 28, phone +39 02 57610027, fax +39 02 57619043, info@cartelsign.it, www.cartelsign.it / **Stainless sheet fabricator:** La Fortezza – I-20098 San Giuliano Milanese MI – phone +39 02 9848690, fax +39 02 98247235, lafortezza@tiscali.it, www.lafortezzaasm.it / **Design of walls:** Studio Architettura Dr Arch. Cini Boeri – I-20133 Milano – Via Cappuccio 3, phone +39 02 875038, fax +39 02 875531, studio@cimboeriarch.fastwebnet.it

#### INTERNATIONAL FRAUDS: WHEN PREVENTING IS BETTER THAN HEALING (Frodi internazionali: quando prevenire è meglio che curare)

A worrying increase in imports of stainless steel products from developing countries has been reported in the last few months. The chemical composition of these products does not comply with the international standards. In particular, these products (for example, “A2” screws imported from Far East, especially from China and India) often include a nickel percentage that is considerably lower than that provided for by EN ISO 3506 standards. In most cases, delivered parts are accompanied by a manufacturer’s certification stating (untruthly) that their chemical composition conforms to such standards.



In these cases, the manufacturer's behaviour might conceal a real fraud, which would grant a consequent right to compensation for damages to the purchaser. Unfortunately, the enforcement of this right in practice may present considerable difficulties, especially if these problems are not carefully considered as soon as the supply contract is signed.

**How to manage the first stage of a dispute** - It is necessary to: - bear in mind that any communication exchange with the adverse party shall be made exclusively in writing, and if possible by fax;

- notify immediately any defect or fault detected in the supplied products and immediately stop any further delivery; - get in touch with the adverse party in order to verify whether there are the terms for a carrying out a transaction; - ask the Judicial Authority to make an urgent preliminary technical control on the actual characteristics of the defective products.

**Evaluating the suitability of a lawsuit** - If taking legal action is needed, it is necessary to preliminarily evaluate whether a lawsuit is economically worth or not. It is firstly necessary to determine which law applies to the contract (lacking a specific clause, usually the applicable law refers to the law enforced in the manufacturer's country (Convention of Rome of June 19, 1980).

If instead the agreed applicable law is the Italian law, it is possible to take a civil action for breach of contract (Art. 1453, Civil Code), or bring a penal action against the manufacturer for fraud (Art. 640, Penal Code) and/or sale of products with untruthful characteristics (Art. 517, Penal Code).

The economic appropriateness of these actions depends on several factors, among which:

- Existence of a clause that remits any dispute to a board of arbitrators instead of remitting it to state judges;
- Place in which the lawsuit can be brought;
- Legal value of an Italian judgment in the manufacturer's country;
- Manufacturer's economic conditions and property.

A penal suit is easier, also because it is carried out by the Public Prosecutor's Office, and the injured party can limit itself to start a proceeding by simply bringing an action. However, due to the complicate procedures of an extradition provision, in most cases it would not prove particularly effective. Finally, also the costs of the proceeding should be considered (it is advisable to turn to specialized international law firms).

**Preventing is better than healing** - To prevent these problems, it is therefore advisable to sign a "master-agreement" with the manufacturer, in the position to regulate the major aspects of the future product supplies. This agreement should include, in particular, the following clauses:

- Submission of any dispute to the competence of an international board of arbitrators or to the Italian jurisdiction;
- The agreement/contract shall be regulated by the Italian law;
- Provision for penalties to be paid by the manufacturer in the case of serious and/or fraudulent non-fulfilment of the contract. Such penalties shall be immediately secured by a bank guarantee;
- Establishment of sample controls/inspections to be carried out by the purchaser (or by his trustworthy personnel) on the goods to be supplied before they are sent to the customer and the letter of credit is cashed.

(Luca Sommariva, lawyer at the law firm Dewey & Le Boeuf, Milan. For additional information: l.sommariva@dl.com)

## THE CUSTOMS AGENCY IS ON THE ALERT AGAINST FRAUDS: ITALIAN STAINLESS STEEL MANUFACTURERS ASK FOR MORE CONTROLS

**(Allertata l'agenzia delle dogane sulle frodi: i produttori italiani di acciaio inox chiedono più controlli)**

Considering the continuous increase of stainless steel products imported from Asian countries, and particularly those originating from China and India, accompanied by delivery documents bearing different marks from those reported on products, or marks referring to steel types other than those actually composing delivered goods, Federacciai and Centro Inox, on behalf of the manufacturers they represent, have informed the Customs Agency about the current situation, asking for more frequent, accurate, and in-depth controls in the customs areas involved in the transit of such goods.

Fasteners, for example, are not subject to controls, and the related European customs codes are still lacking. Both associations declared to be prepared to provide their advice and organized a refresher course addressed to customs operators

and seaport customs officers, which was held in the premises of Centro Inox on October 11, 2007. During the seminar, all participants had the opportunity to learn the basic notions concerning stainless steels and their classifications, as well as their reference standards and the equipment for distinguishing the different types of steel. In particular, as regards the last issue, the course included also practical demonstration of a portable analyzer for determining the chemical composition of steels.

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### STAINLESS STEEL FURNISHINGS FOR A NEW SPORTS CENTRE ON THE POND SANTA MARIA (Arredi inox per un centro sportivo sul laghetto Santa Maria)

In Buccinasco, a town in the south-west outskirts of Milan, there is a pond, where a large sports centre equipped for practising different sports, including beach-volley, table football, canoeing, diving, swimming, gym and riding, was lately opened.

The large swimming-pool is surrounded by a wide plastic fence, supported by EN 1.4301 (AISI 304) stainless steel tubes having 42.4 mm diameter and 1.5 mm thickness. Other fittings are made of stainless steel tubes as well, such as ladders and showers, to ensure maximum cleanness and higher hygiene standards (a feature of paramount importance in the case of swimming-pools), as well as longer life over time.

**Client:** Centro Sportivo al Laghetto "Lago Santa Maria" - I-20090 Buccinasco MI - Fraz. Gudo Gambaredo - Via De Amicis 1, phone +39 02 45701830, fax +39 02 45487446

**Welded tube supplier:** CPC Inox - I-20060 Basiglio MI - Via Alfieri 11, phone +39 02 9500421, fax +39 02 950042333, info@cpinox.com, www.cpinox.com **Stainless steel fittings:** A.M. di Missoni A. & C. snc Arredamenti Negozi - I-20080 Calvignasco MI - Strada Provinciale 33, phone +39 02 90848003, fax +39 02 90848134, roberta@amarredamenti.com

### PORTHOLES, HATCHES AND PORTLIGHTS FOR PLEASURE BOATING

**(Oblò, prese d'aria, osteriggi e passo-fly per nautica da diporto)**

Portholes, portlights and hatches (installed respectively on the deck and on the "fly", and opening outwards) have a dynamic profile, and are only 25 mm high.

As to portholes (opening inwards), they are provided with a clutch-operated opening/closing system, invisible from the outside, which combines functionality and aesthetical properties.

These marine fittings are made of EN 1.4404 (AISI 316L) formed stainless steel without welds, have an extremely "neat" and elegant line, and ensure maximum durability over time. Steel is submitted to different working stages, including grinding and finishing, degreasing and pickling, passivation and polishing processes that allow all parts to safeguard both their sheen and their mechanical properties over time. All used materials, as well as all finished lots, are submitted to sample salt spray tests.

**Production:** Nemo Industrie SpA - I-47025 Cella di Mercato Saraceno FC - Via Togliatti 1555, phone +39 0547 96567, fax +39 0547 96526, nemo@nemoindustrie.com, www.nemoindustrie.com

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### A STAINLESS STEEL SCULPTURE CELEBRATES A "PRAISE TO THE EARTH"

**(Una scultura inox celebra l'"Elogio alla Terra")**

To improve and enhance the aspect of a urban roundabout, Cesano Boscone, a town in the outskirts of Milan, chose a sculpture that refers to one of the most precious environmental resources of the Earth: water. The sculpture is entirely made of EN 1.4301 (AISI 304) stainless steel and is composed by an internal bearing frame formed by 80x40x3 and 60x40x3 mm rectangular section tubes, an external coating made of 3 mm thick panels with a 40 grain, orbital glaze finish. The base is formed by a 300x20 mm plate and by 80x40x3 and 60x40x3 mm tubes. All welds are made according to GTAW technology. A water blade falls down from the top of the structure. Its mighty aspect is enhanced by a synergic relation with the material of which it is made: stainless steel, which thanks to its properties of resistance, durability and inalterability over time, and its high aesthetical characteristics, proves to be an appropriate material also in the field of sculpture.

**Client:** Comune di Cesano Boscone (Milano) / Ideation

**and design:** Sculptor Annalisa Conforti, Laboratorio d'Arte Srl in collaboration with Arch. Massimo Mescia - I-20090 Buccinasco MI - Via Calatafimi 14, phone +39 02 45712740, fax +39 02 457127332, arte@laboratorioitalia.com, www.laboratorioitalia.com / **Metalwork:** SVM di Spaziani Massimo - I-20090 Buccinasco MI - Via della Resistenza 37, phone +39 02 45700241, fax +39 02 48844164, svmdispaziani@tiscali.it

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### NEWS

#### STAINLESS STEEL IN DESALINATION

**(Acciaio inossidabile nella dissalazione)**

Centro Inox, in collaboration with IMO (International Molybdenum Association) and Nickel Institute, is preparing a meeting to be held on **May 21, 2008** morning, focused on "Stainless steels: corrosion-proof alloys for desalination plants". The meeting will take place on the opening day of the "H<sub>2</sub>O" Exhibition (Drinking Water and Waste Waters) www.acadueo.com, which will be held in **Ferrara** on May 21-23, 2008.

#### A MEETING ON ALTERNATIVE STAINLESS STEELS - FIRST ANNOUNCE

**(Incontro sugli inox alternativi - Primo annuncio)**

Centro Inox in partnership with RTM Breda, has carried out a research aimed at comparing the corrosion-proof properties of ferritic and Cr-Mn austenitic stainless steels with those of the well-known AISI 304 steel. The results of this research will be presented during a meeting to be held in the second half of 2008 (date to be decided). Additional information on both meetings will be provided in the next issue of Inossidabile, in the website of Centro Inox (www.centroinox.it) and, on demand, by e-mail (eventi@centroinox.it).

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### NEW FERRITIC STEEL FOR HYGIENE-PROOF LOCKERS

**(Un nuovo acciaio ferritico per armadietti a prova di igiene)**

In the past, the manufacturer of these lockers had been using exclusively austenitic stainless steels, such as EN 1.4301 (AISI 304), but in the last few months, after an in-depth analysis, decided to turn to another type of steel with the same properties, but less expensive: EN 1.4509 (AISI 441 LI). This stabilized ferritic stainless steel belongs to the new highly technological steel generation with low carbon content, devised and developed as a valid alternative to AISI 304 stainless steel. Due to its technical characteristics, this steel is relatively inexpensive, can be easily welded and cold-formed, and resists against corrosion.

A specialized external laboratory has carried out a corrosion salty spray test for 816 hours (according to ASTM B117 standards) on six different types of stainless steel. Though in Italy this kind of stainless steel is for the time being under approval for coming into contact with food, it already proves to be a perfect material for manufacturing lockers that are supposed not come into contact with food or similar stuffs (for example, in changing rooms, cloakrooms, storerooms, etc.). Bottom picture: the "Inox" logo that distinguishes stainless steel items nearby the logo of the new ferritic 441 LI (EN 1.4509) steel.

**Production:** Facilitas Srl - I-41050 Montale Rangone MO - Via Lazio 7 A/B/C, phone +39 059 530570, fax +39 059 4909000, facilitas@facilitas.it, www.facilitas.it / **Stainless sheet supplier:** Terminox - I-20020 Ceriano Laghetto MI - Via Milano 12, phone +39 02 96982001, fax +39 02 96982328, info@terminox, www.terminox.it - **Marketing:** Dr.ssa V. Fontana, ThyssenKrupp Acciai Speciali Terni SpA - I-05100 Terni - Viale B. Brin 218, phone +39 0744 490867, fax +39 0744 490879, valeria.fontana@thyssenkrupp.com, www.acciaiatermi.it

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