

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

"LIFE ELECTRIC": ESSENCE, LINEARITY, AND HARMONY WITH THE SURROUNDING SPACE (*"Life Electric": essenza, linearità, armonia con lo spazio*)

The restoration and enlargement of the breakwater flange of the outer dam "Piero Caldirola", have been recently completed in Como. These works were necessary to allow housing the work "Life Electric" by the famous architect and designer Daniel Libeskind, a monument conceived and intended for celebrating Alessandro Volta.

This installation offered to the city by the author, rises up at the centre of the first basin of the Lake of Como, and is positioned in the end stretch of the dam on an EN 1.4301 (AISI 304) stainless steel ring, which has a diameter of 6 m and weighs approximately one ton. This ring forms the outer perimeter of the fountain, or rather the basin, that houses this work. The installation form is closely connected with the artist's continuous research in the architectural representation of energy.

The installation is 16 m high and has a total weight of 29 tons. "Life Electric" includes a carrying frame made of carbon steel, onto which a first shell made of EN 1.4301 (AISI 304) stainless steel, and a second shell made of 6 mm thick mirror-polished EN 1.4401 (AISI 316) stainless steel have been welded. The choice to use this material has been made considering the intrinsic characteristics of stainless steel and the need of creating a bright work capable of creating ever-changing reflections.

Manufacturer: Rodacciai – Via G. Leopardi 1 – I-23842 Bosisio Parini LC, phone +39 031 878111, fax +39 031 878312, info@rodacciai.com, www.rodacciai.com / **Customer:** Amici di Como / **Architect and designer:** Daniel Libeskind - Studio Libeskind Milano | Libeskind Design – Via Spadari 7/9 – I-20123 Milano, phone +39 02 84502385, fax +39 02 84502372, info@libeskind.it, libeskind.com / **Commissioning:** MetalSistem – Cantù CO / **Photographs:** Nick Zonna

PAGE 5

THE PLEASURE OF SAILING (*Il piacere di navigare*)

The company we are talking about has specialized in the production of yacht and super-yacht components and fittings since 1995.

EN 1.4404 (AISI 316L) stainless steel is widely used in all products, starting from the production of gangways, flying bridges, boarding ladders, davits, doors, balconies and decks, multi-functional platforms and other small accessories obtained through cold- and hot-rolled sheets, tubes, bars and round sections. Some other elements are obtained through precision casting processes. The stainless steel sheet thickness ranges from 1 mm to 50 mm, while the round section diameters range from 10 mm to 800 mm. AISI 316L stainless steel, in addition to its aesthetical features, which allow obtaining a variety of finishing options, has an excellent water and weather corrosion resistance, allows easy cleaning and maintenance operations, and ensures very high structural resistance levels. The company makes widely use of mirror-polished

and electro-polished surface finishing solutions.

All welding operations are carried out through TIG and MIG welding processes.

Stainless steel is the material mainly used also for fasteners and hydraulic cylinders, hydraulic hose connections, and davits - all made of EN 1.4401 (AISI 316) stainless steel - as well as the external gangways and flying bridges, the tenderlifts (in which electro-polished steel is used), the sliding-out balconies (which have an AISI 316L stainless steel structure), and finally, the manual and automatic doors, which are supplied with an AISI 316 stainless steel frame.

Manufacturing Company: Opacmare S.r.l. – Via Luigi Einaudi 150-154 – I-10040 Rivalta TO, phone +39 011 9045411, fax +39 011 9093022, www.opacmare.com / **Stainless steel supplied 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

PAGES 6-7

FROM OUR MEMBERS ACCIAI SPECIALI TERNI: NO MARKET IS TOO DISTANT FOR OUR EXPERTISE, PASSION AND SPIRIT OF INNOVATION

(*Acciai Speciali Terni: nessun mercato è lontano per la nostra competenza, passione e spirito di innovazione*)

Global vision, focus on customers, reliability, innovation, and passion: these five values represent **Acciai Speciali Terni**, a leading company in the production of stainless steel flat rolled products, and one of the major integrated production sites in the world. About 1,000,000 tons are produced every year in Terni, and from there, distributed all over the world. In Terni all process stages are carried out: from fusion in the steel mill to surface processes. Every day, Acciai Speciali Terni enriches its production range with new products and new finishing options, offering the supply of semifinished products, hot- and cold-rolled flat products made of all the main austenitic, ferritic, and martensitic stainless steel grades. The company is in a position to customize its products from the point of view of steel grades, dimensions, surface finishing, and tolerance.

The Finishing Department can offer a wide range of surface finishing options aimed at improving the aesthetical features and the technical characteristics of every product. This is the final and market-oriented stage of the production cycle, which ensures customized solutions through just-in-time deliveries. Working in close cooperation with Centro Sviluppo Materiali, one of the most important Italian research institutes on materials, the company guarantees products of excellence with the highest quality standards at global level. In addition, the team of specialized engineers who work inside the company is prepared to develop innovative solutions together with customers, thus establishing relationships based on real partnership. The current AST new product range focuses on **super-ferritic stainless steels**; the **Vivinox®** product line, including **Silver Ice®**; the **new decorated and micro-decorated finishing**

options; **the new ferritic steels specially conceived for the automotive industry**, including the 441M, 439MPS, and 441PS grades. Acciai Speciali Terni aims to create a work environment in which everybody can develop his/her personal potentialities and skills, where safety and health are always in the forefront. A specialized Training Centre has been made available to the over 2,000 members of the AST staff, to allow them being continuously up-to-date and consistently trained.

BUSINESS AREAS – The core business of Acciai Speciali Terni is the production of stainless steel flat rolled products. In addition, the company produces large forgings mainly addressed to the energy industry through its corporate forging division "Fucine". The "Tubificio" division of AST is specialized in the production of electro-welded stainless steel tubes. The production cycle is mainly focused on tubes for the automotive industry, but the company is also specialized in the production of tubes for ornamental, decorative, and structural applications.

ACCIAI SPECIALI TERNI S.P.A. – Viale B. Brin 218 – I-05100 Terni TR, phone +39 0744 490282, fax +39 0744 490907, marketing.ast@acciaitermi.it, www acciaitermi.it

PAGES 8-9

UPDATE OF MINISTERIAL DECREE MARCH 21, 1973: CHANGES BROUGHT TO ART. 37 (Aggiornamento del DM 21.3.73: le modifiche all'art. 37)

The Ministerial Decree issued on March 21, 1973, is one of the earliest regulatory measures ever issued in the world concerning hygienic and food-related specifications aimed at ratifying the suitability to use a set of stainless steels – gathered in a so-called "positive list" that originally included 21 materials – in contact with food.

Through Decree n° 195 issued on August 6, 2015, the Italian Official Journal published in issue n° 288 dated December 11, 2015, the twelfth update of the Ministerial Decree of March 21, 1973, which for over 40 years, has regulated the sector of materials and objects coming into contact with food.

In particular, two new conditions have been included in the text of Art. 37 as follows:

- *In the case of kitchen or table pieces of cutlery intended for being repeatedly used for a short time at warm or ambient temperature, the assessment of suitability can be based on the following tests: 3% aqueous solution of acetic acid at 70°C for 30 minutes; three subsequent "attacks" to determine the global migration and the specific migration of chrome, nickel, and manganese in the disposal liquid resulting from the third "attack".*
- *In the case of objects repeatedly used for a short period at warm or ambient temperature, which can be exclusively used in contact with water, the assessment of suitability can be based on the following tests: distilled (or equivalent) water brought at the temperature of 100°C for 30 minutes; three subsequent "attacks" to determine the global migration and the specific migration of chrome, nickel, and manganese in the disposal liquid resulting from the third "attack".*



In addition to the changes brought to Art. 37, the update issued on August 6, 2015 contemplates a variation in Part A, Annexe II, Section 6, reporting the "positive list" of stainless steels. In the columns referring to the numerical and alphanumeric designation of UNI EN 10088-1 standard, the codification 1.4116 – X50CrMoV15 is suppressed. This designation in the previous update of this decree (n° 140 issued on November 11, 2013) was wrongly published as corresponding to the material reporting the initials AISI 440A – S44002. No new materials have been included for the time being.

PAGE 10

A PERFECT MATCH OF SAFETY AND DESIGN

(Il connubio perfetto tra sicurezza e design)

Stainless steel fire doors combine some important characteristics, such as: safety for individuals in case of fire, corrosion resistance, possibility to be used in areas with an aggressive atmosphere, use in naval constructions and in the area of design. Stainless steel is mainly used for the profiles for the frame and door construction. Profiles are 1.5 mm thick and are supplied with a standard 2B finish. They are manufactured using EN 1.4307 and EN 1.4404 (AISI 304L and AISI 316L) stainless steel grades as to resistance class E30, and EN 1.4401 (AISI 316) as to resistance class E130. The system is completed with stainless steel fittings and accessories.

After the construction of the door, further surface treatments enrich the aesthetic and architectural characteristics of the product.

Fire doors can be supplied with a single shutter or with two shutters, with or without overpanels and fixed sides. The technical characteristics of stainless steel profiles and the quality of fittings and accessories allow also the construction of large size fire doors.

Manufacturing company: BTfire S.r.l. – Via Edmondo De Amicis 63 – I-20092 Cinisello Balsamo MI, phone +39 02 6128104, fax +39 02 61295646, commerciale@btfire.it, www.btfire.it / **System:** Jansen

PAGE 11

... AND THERE WAS LIGHT

(E luce fu)

"Aurora" is a line of lamps capable of taking numberless shapes, thanks to the pliability and ductility of the metal they are made of. The lamps can be supplied both in brass and in EN 1.4301 (AISI 304) stainless steel, thickness 0.6 mm and BA finish. These lamps are the result of a research conducted on the expressive modes provided by photochemical etching applied to very thin metal sheets. The customer can buy a metal disk he can shape as he likes it, and then assemble the lamp using a kit of electric accessories.

A handy system has been studied for the users, who can act on the central hole of the metal disk and gradually work the sheet with their hands until they achieve the desired shape. Disk diameters range between 25 and 58 cm.

Manufacturer of MeLamp "Aurora": Caino Design – Corso Vercelli 16 – I-10078 Venaria Reale TO, phone +39 011 4070811, www.cainodesign.com / **Design:** Nucleo – Via Vittorio Andreis 18, int. 18s – I-10152 Torino, nucleo@nucleo.to - Piergiorgio Robino ed Edoardo Trave / **Line:** Marca - www.marca.to.it / **Photographic credits:** Pepe Fotografia – Via Santa Giulia 10 b – I-10124 Torino, www.pepefotografia.it and Caino Design

PAGE 12

LIGHT AND ELEGANT STAIRCASES... AS STAINLESS STEEL

(Scale leggere ed eleganti...come l'acciaio)

The elegant staircases presented in this page

have been conceived for being used in residential and public buildings. They are characterized by refined finishing options and by an accurate and careful choice of materials. In particular, these solutions provide for a wide use of either polished or brushed EN 1.4301 (AISI 304) stainless steel, combined with other materials, particularly coloured glass. These combinations give lightness to the staircase by enhancing its elegance.

Manufacturing company: Rintal S.p.a. – Via Traiano Imperatore 6 – I-47122 Forlì FC, phone +39 0543 791111, fax +39 0543 722544, www.executivestairs.it

PAGES 13-14

"CAFÈDECURSA" (COFFEE IN A HURRY): THE NEW LOMBARD CAFÉ RACER

("Cafèdecursa": la nuova café racer lombarda) The new Duu "Cafèdecursa" (which in the Milanese dialect means "coffee in a hurry") is a Café Racer based on the well-known Duu model, equipped with an S&S 2000 motor.

This new motor bike has an aggressive look, based on the new elements introduced in the body (windscreen and back end). Its shape resumes the 1960s style of the café racers. The handle bar has been lowered, and there are new rear lights and a new trombone-shaped air filter. The only available colour is black, with a set of finishing options: bright, opaque, or embossed.

The frame consists of a mixed structure and is the same as the frame of the standard Duu published in "Inossidabile", issue 184. The main element of the frame is a tube of considerable size and cross section (Ø 108,0 x 2,1 mm) made of EN 1.4404 (AISI 316L) stainless steel, which acts both as backbone and as fuel tank. Some stainless steel box elements are coupled with the tube. These elements have been obtained using laser-cut and bent sheets in thickness ranging from 1.5 to 8 mm hand-welded through a TIG process. The use of stainless steel means lifelong guarantee against corrosion and the possibility to obtain an excellent and perfect finishing even on raw material. 20.3 kg of stainless steel have been used in all for the frame. The fork is a single element formed by a large section (Ø 88,9 x 2,0 mm) AISI 316L stainless steel tube, and is reinforced by an upper truss box, made of stainless steel, too.

The overall weight is 7.6 kg and the set is TIG hand welded. EN 1.4301 (AISI 304) stainless steel has been obviously used also for the exhaust system (10 kg), as well as for all A2 fasteners and small parts (about 2 Kg).

Design and Production: CR&S Motorcycles – "Vun" and "Duu" are registered trademarks owned by: O.M.M Srl (Officina Meccanotecnica Milanese) – Via Galvani 18 – I-20019 Settimo Milanese MI, phone +39 02 33514093, fax +39 02 36528740, www.crs-motorcycles.com

PAGE 15

NACE ITALIA MILANO SECTION - CONFERENCE & EXPO 2016

"A EUROPEAN EVENT FOR CORROSION PREVENTION IN THE OIL & GAS INDUSTRY" – GENOA, MAY 29 + 31, 2016

A conference organized by NACE ITALIA, and sponsored by Centro Inox.

This event aims at becoming a permanent forum for specialists and experts in fundamental engineering issues concerning corrosion prevention and related themes.

For additional information: <http://www.naceitalia.it/GENOA2016>, Genoa2016@naceitalia.it

STAINLESS STEEL MARKET SEMINAR SPECIAL FOCUS ON ITALY

June 7, 2016, Holiday Inn Milano Assago SMR, in partnership with Centro Inox, has

organized a seminar completely focused on the stainless steel market.

The main issues and themes that will be discussed concern: market trends; an overview of stainless steel consumption in Italy, in Europe, and in the world; effects of antidumping duties; raw materials trend (scrap, nickel, chrome, molybdenum) and their influence on prices and stainless steel alloy surcharges; detailed diagrams on domestic, European, and world trends referred to production, consumption, imports, and exports of flat and long products, including tubes and pipes; 2016 outlook focused on the Italian market and on the main European and international markets. The official language of the seminar is English. A translation service in Italian will be provided.

For additional information, registrations, and a detailed agenda of the event, please contact:

Centro Inox – Phone +39 02 86450559/69 – e-mail: eventi@centroinox.it – www.centroinox.it

11TH ASIAN STAINLESS STEEL CONFERENCE

15 - 16 June 2016 - The Ritz Carlton Hotel, Hong Kong

Metal Bulletin Events and SMR's 11th Asian Stainless Steel Conference has established itself as the undisputed No. 1 pan-Asian stainless steel event. Building on the success of previous years, over 150 participants are expected to attend again this year, giving delegates the chance to meet and network with the entire supply chain – from raw materials to end users – in the region and internationally.

Further information:

www.metalbulletin.com/events/asts

PAGE 16

RUSSIA IN MILAN BETWEEN ARCHITECTURE AND LANDSCAPE

(La Russia a Milano: tra architettura e paesaggio)

Russia has always attended all Universal Exhibitions since the first London edition held in 1851. For Expo 2015 in Milan, Russia built a pavilion with a strong expressive identity resulting from the close link existing between architecture and Russian landscape.

The 30 meters of the ceiling of the access projecting roof was made covering a wood base with using super-mirror n.8 finish EN 1.4301 (AISI 304) stainless steel sheets.

The panels, positioned through mechanical anchors, have been supplied in the following three sizes: 1500x3800 mm, 0.8 mm thickness, and a total weight of about 3.6 tons; 1500x4200 mm, 0.8 mm thickness, and a total weight of about 2 tons; 1250x3000 mm, thickness 0.6 mm, and a total weight of 576 kg.

Architecture and design: Sergei Tchoban - **Architectural firm:** Speech / **Stainless steel for the access projecting roof:** Steel Color SpA – Via per Pieve Terzagni 15 – I-26033 Pescarolo ed Uniti CR, phone +39 0372 834311, www.steelcolor.com / **Pict. 1 and 3:** Russian Pavilion Expo 2015 – Photo © Alexey Naroditskiy / **Pict. 2:** Russian Pavilion Expo 2015 – Photo © Ludovica Mangini

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.

