



Book of New Applications
2007



New Applications

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GENERAL INTRO

Message from the Chairman of the ISSF Market Development Committee

One of the ultimate objectives for ISSF is to grow the market profitably. Since its creation in 1996, the Market Development Committee (MDC) has identified and driven various market development projects. The MDC also facilitates the exchange of good stainless steel marketing ideas between various markets around the world.

In 2006, the first ISSF Book of New Applications was published. Its purpose was to inspire and help stainless steel marketers to grow the market by learning from each other. Thanks to valuable support from ISSF members and Stainless Steel Development Associations (SSDAs) around the world, the book was produced in a very short time. It was published at the ISSF-10 Annual Conference in Louisville, USA.

Considering the success of this first publication, it has been decided to produce a new edition and to publish it at ISSF-11 in Kyoto, Japan. The overall objective is again to promote the usage of stainless steel in new applications, with the aim to have a balance regarding geography, sectors, grades, surfaces, and products. It has also been decided that 'new' means 'new to the local market'. Therefore, not all of the applications are brand new to all readers.

The task of preparing the second Book of New Applications was given to an ISSF Stainless Steel Fellow from China, Ivy Zhang (Yizhong Zhang) from the Research Institute of Baoshan Iron & Steel Co., Ltd in Shanghai. Ivy has spent six months in Brussels working hard to develop this second ISSF Book of New Applications, which you now hold.

As you will see, there are applications from most sectors of the market. Most geographical parts of the world are also represented, making the book of New Applications truly balanced and global. I would like to thank Ivy and all of the ISSF members who contributed to this Book of New Applications. I sincerely hope that this will help you, and us, to grow the market profitably.

- 2 -

JEAN-YVES GILET

EXECUTIVE VICE PRESIDENT ARCELOR MITTAL

CEO ARCELOR MITTAL STAINLESS

GENERAL INTRO

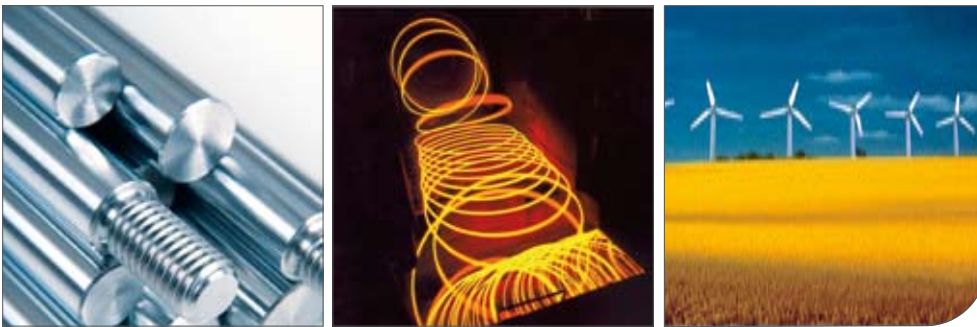
Long Products

Stainless steel long products (SSLP) are used in many applications around the world. There are a large number of SSLP grades which make it possible to utilise stainless steel wherever a long product is required. At the end of their life, all SSLP can be completely recycled.

It is also very easy to manufacture SSLP. Improvements in the processing properties of stainless steel have made SSLP easier to use than ever before.

SSLP can be formed through melting, cold drawing, cold hardening, forming, forging and machining. Austenitic, ferritic, martensitic, and duplex grades of SSLP are available.

SSLP are used extensively in the building and construction industry. Their resistance to corrosion, fire and seismic activity make them an ideal material for this market. SSLP have a high aesthetic value and are nice to touch, making them ideal for building fittings. The following images show some typical applications for SSLP in the building and construction industry.



GENERAL INTRO

The four types of stainless steel

AUSTENITIC

Austenitic stainless steels contain a significant amount of chromium, and sufficient nickel or manganese to 'stabilise' the 'austenite' microstructure that gives these steels good formability and ductility (and makes them non-magnetic). A typical composition is 18% chromium and 8% nickel, as found in the popular '304' grade – to use the American Iron and Steel Institute (AISI) designation. Austenitic grades can be highly durable and corrosion resistant and have high ductility, low yield stress, relatively high tensile strength and good weldability. They have a very wide range of uses.

FERRITIC

Ferritic stainless steels have properties similar to those of mild steel but show better corrosion resistance. Most common are 11% and 16% chromium-containing grades – the former used mostly in vehicle exhaust systems and the latter mostly in cooking utensils, washing machines and indoor architecture.

AUSTENITIC-FERRITIC (DUPLEX)

These stainless steels, which contain high chromium and some nickel, have a roughly 50% ferritic, 50% austenitic microstructure. They are mostly used in the process industry and in seawater applications.

MARTENSITIC

Like ferritic grades, martensitic grades contain 12% -16% chromium. However, they have higher carbon content and are subjected to specific heat treatments during production, making them very hard and strong. They are used in applications such as turbine blades, cutlery and razor blades.

GENERAL INTRO

Surfaces

Surface finishing treatments applied to stainless steels can take many forms. The main surface finishes are described below.

Description	ASTM	EN 10088-2	Notes
Hot rolled	1	1E/1D	A comparatively rough, dull surface produced by hot rolling to the specified thickness, followed by annealing and descaling.
Cold rolled	2D	2D	A dull, cold rolled finish produced by cold rolling to the specified thickness, followed by annealing and descaling. May also be achieved by a final light pass on dull rolls.
Cold rolled	2B	2B	A bright, cold rolled finish commonly produced in the same way as the 2D finish, except that the annealed and descaled sheet receives a final cold roll pass on polished rolls. This is a general-purpose cold rolled finish and is more readily polished than 1 or 2D.
Bright Annealed	BA	2R	BA finish produced by performing bright annealing in inert atmosphere after cold-rolling and light cold rolling. Smoother and brighter than 2B.
Brushed or dull polished	No. 4	1J/2J	A general-purpose bright polished finish obtained by finishing with a 120-150 mesh abrasive, following initial grinding with coarser abrasives.
Satin polished (matt)	No. 6	1K/2K	A soft satin finish having lower reflectivity than brushed (or dull polished) finish. It is produced by Tampico brushed (or dull polished) finish, using a medium abrasive.
Bright polished (mirror)	No. 8	1P/2P	The most reflective finish commonly produced. It is obtained by polishing with successively finer abrasives then buffing with a very fine buffing compound. The surface is essentially free of grit lines caused by preliminary grinding operations.
Electropolished surfaces	-	-	This surface produced by electrolysing in electrolytic solution. This electrochemical process improves the surface finish by removing the peaks of irregular surface.

(NB: the above table is not official and should be used only as a guide)

01

ART

- Mural 8
- Sculpture 9
- Saint Joseph statue 10
- Artwork (Narita Airport) 11
- Stainless steel pillar 12



ART

Mural

This coloured mural depicts the great importance of biotechnology in human life today. The mural is installed in the offices of Biocon India in Hebbagodi. Approximately one tonne of stainless steel was used.

- 8 -



LOCATION/ENVIRONMENT BANGALORE, INDIA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS POLISHING AND PAINTING

GRADE 304

SURFACE POLISHED AND PAINTED

COMPETING MATERIAL

DATE OF COMPLETION 2005

MANUFACTURING COMPANY

ARTIST YUSUF ARAKKAL

MATERIAL SUPPLIER SALEM STEEL PLANT

SOURCE OF INFORMATION ISSDA

REMARKS THE MURAL MEASURES 5.1 × 9.1 M.



A R T

Sculpture

This six-metre tall sculpture depicts the great importance of biotechnology in human life today. The sculpture is located outside the offices of Biocon India in Hebbagodi. Approximately 1.8 tonnes of stainless steel was used.

LOCATION/ENVIRONMENT BANGALORE, INDIA/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL PLATE

FABRICATION PROCESS SCULPTING AND WELDING

GRADE 304

SURFACE HAMMERED AND WELDED

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION 2005

MANUFACTURING COMPANY

ARTIST YUSUF ARAKKAL

MATERIAL SUPPLIER SALEM STEEL PLANT

SOURCE OF INFORMATION ISSDA

REMARKS

- 9 -





ART

Saint Joseph statue

This statue of Saint Joseph is made of stainless steel scrap and is 10 meters high.

- 10 -



LOCATION/ENVIRONMENT RIBEIRÃO PIRES, BRAZIL/OUTDOOR

PRODUCT STAINLESS SHEETS AND TUBES

FABRICATION PROCESS CUTTING, BENDING AND WELDING

GRADE 300 SERIES

SURFACE SEVERAL

COMPETING MATERIAL

DATE OF COMPLETION 2006

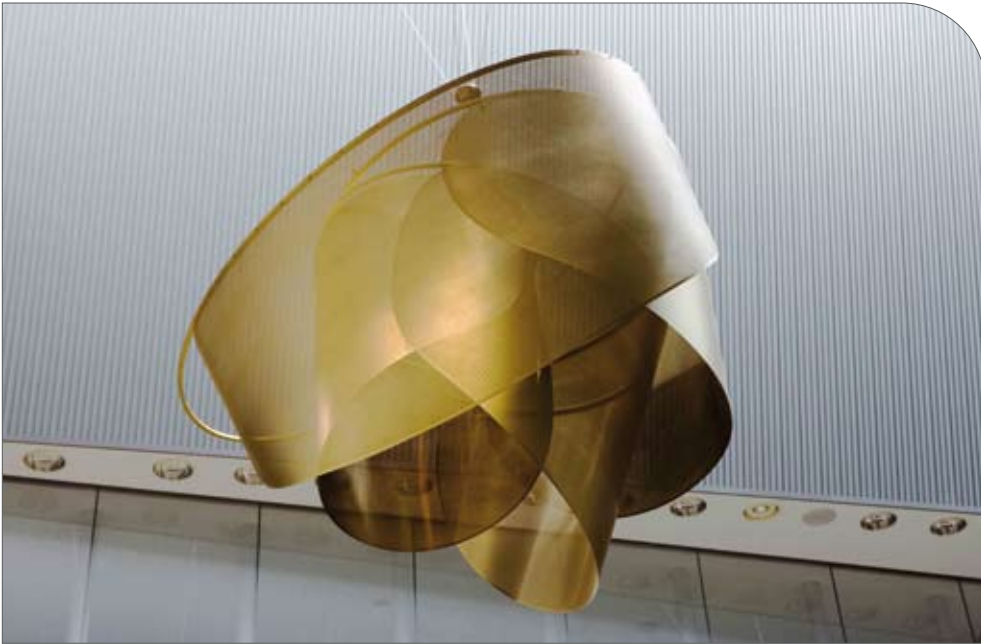
MANUFACTURING COMPANY

SCULPTOR LÚCIO BITTENCOURT

MATERIAL SUPPLIER INOXTUBOS

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS SAINT JOSEPH IS THE PATRON SAINT OF RIBEIRÃO PIRES, BRAZIL.



A R T

Artwork (Narita Airport)

Stainless steel art is widely used as decoration at Narita International Airport in Japan.

LOCATION/ENVIRONMENT JAPAN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS COLOUR, ETCHING AND PERFORATION

GRADE 304 CSP

SURFACE BA AND SPATTERING (INSIDE), BA HALF ETCHING AND SPATTERING (OUTSIDE)

COMPETING MATERIAL NICKEL

DATE OF COMPLETION 2006

MANUFACTURING COMPANY SANWA TAJIMA

MATERIAL SUPPLIER NISSHIN STEEL/TSUKIBOSHI ART

SOURCE OF INFORMATION NISSHIN STEEL

REMARKS

DESIGNER NAOYA SAKAGAMI

- 11 -





A R T

Stainless steel pillar

This is one of the seven stainless steel pillars for the Geeta Mandir Hindu temple in Washington. Grade 316 was used to make these artistic pillars. Each pillar is 2.1 m high and 30 cm in diameter. Approximately 108 kg of stainless steel was used for each pillar.

- 12 -



LOCATION/ENVIRONMENT INDIA/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS SPINNING, WELDING, CASTING

GRADE 316

SURFACE MIRROR AND BA

DATE OF COMPLETION 2005

MANUFACTURING COMPANY RUBY STEEL

MATERIAL SUPPLIER JINDAL STAINLESS

SOURCE OF INFORMATION ISSDA

REMARKS

02

AUTOMOTIVE

- Conti Support Ring 16
- Exhaust system 17



AUTOMOTIVE

Conti Support Ring

The Conti Support Ring ensures safety and mobility in the event of a flat tyre. The ring is mounted on a normal wheel rim, together with a conventional tyre. Under normal driving conditions, comfort is not affected.

If there is a loss of tyre pressure (for example, a puncture) the car can still be controlled and can be driven for up to 200 km at a maximum speed of 80 km/hour. The support ring is suitable for use in winter conditions where de-icing salts have been used. Four support rings weigh less than one spare tyre.

The proprietary stainless steel grade used for this application has excellent plasticity and formability.

- 16 -



LOCATION/ENVIRONMENT GERMANY/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL STRIP

FABRICATION PROCESS PROPRIETARY FORMING PROCESS IN COMBINATION WITH LASER WELDING

GRADE PROPRIETARY GRADE WITH A TENSILE STRENGTH OF UP TO 900 N/MM²

SURFACE POLISHED

COMPETING MATERIAL PRODUCT NOT AVAILABLE IN OTHER MATERIALS

DATE OF COMPLETION 2005

MANUFACTURING COMPANY CONTINENTAL

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX, STAHL-INFORMATIONEN-ZENTRUM

REMARKS THE CONTI SUPPORT RING RECEIVED THIRD PRIZE IN THE STEEL PRODUCTS CATEGORY OF THE 2006 GERMAN STEEL INNOVATIONS AWARD.



AUTOMOTIVE

Exhaust system

TISCO has designed an exhaust system made of grade 409L. The exhaust system is being used on the Jetta automobile which is made in China.

LOCATION/ENVIRONMENT CHINA/OUTDOOR

PRODUCT STAINLESS STEEL TUBE

FABRICATION PROCESS WELDING

GRADE 409L (11CR-TI)

SURFACE 2B/2D

COMPETING MATERIAL CARBON STEEL AND ALUMINIUM

DATE OF COMPLETION 2005

MANUFACTURING COMPANY CHANGCHUN FOJIYA EXHAUST SYSTEM CORPORATION

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS

- 17 -



03

BUILDING AND CONSTRUCTION

■ Copper-coated stainless steel roofing sheet	20
■ Marion Island research centre	21
■ Pyongyang Ryukyung Jungjuyoung Gymnasium	22
■ Samsung Museum of Art (Leeum)	23
■ Stainless steel panels	24
■ Rainsky E	25
■ Mediamesh	26
■ Protective wall rail	27
■ Stretch stainless steel waste bin	28
■ Organically coated solar panels	29
■ Underpass handrails	30
■ Metro barriers	31
■ Escalator	32
■ New Milan Fair Complex	33
■ LitterShark Protectus	34
■ Stratobel®	35
■ Terne-coated roofing sheet for facades	36
■ Entrance gate to the Japanese National Museum of Art	37
■ Kitchen tiles	38



BUILDING AND CONSTRUCTION

Copper-coated stainless steel roofing sheet

In some regions of the world there is a strong tradition of using copper in roofing and roof drainage. With current raw material prices, stainless steel is often a more budget-friendly solution than copper. Copper-coated stainless steel provides the aesthetics of copper with the technical and cost benefits of stainless steel.

- 20 -



LOCATION/ENVIRONMENT AUSTRIA/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET (0.4 OR 0.5 MM)

FABRICATION PROCESS ELECTROLYTIC COATING

GRADE 304 OR 439

SURFACE ELECTROLYTICALLY COATED

COMPETING MATERIAL COPPER

DATE OF COMPLETION 2005

MANUFACTURING COMPANY ROOFINOX INTERNATIONAL (WWW.ROOFINOX.COM)

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX

REMARKS



BUILDING AND CONSTRUCTION

Marion Island research centre

The site is on a remote volcanic island, 1,200 km south-east of Cape Town. It is accessible only by barge or helicopter. The surface area available for construction is covered by muddy mire with a depth of between 1 and 25 m.

Specially-designed mini-piling rigs were used to install over 2.5 km of 102 mm diameter 3Cr12 piles. Grade 3Cr12 stainless steel was selected for the pilings as it could perform adequately in the prevailing conditions.

Grades 304 and 316 stainless steel were used for the balustrades and external fittings. This will ensure the long-term performance of the structure on the remote and rainy island.

- 21 -

LOCATION/ENVIRONMENT MARION ISLAND, SOUTH AFRICA/OUTDOOR

PRODUCT STAINLESS STEEL TUBE AND PLATE

FBRICATION PROCESS FABRICATED BEAMS

GRADE 3CR12, 304 AND 316

SURFACE 2B AND ASTM 1

COMPETING MATERIAL GALVANISED CARBON STEEL

DATE OF COMPLETION GRADE 3CR12 PILING COMPLETED IN NOVEMBER 2005. REMAINING STRUCTURE STILL UNDER CONSTRUCTION.

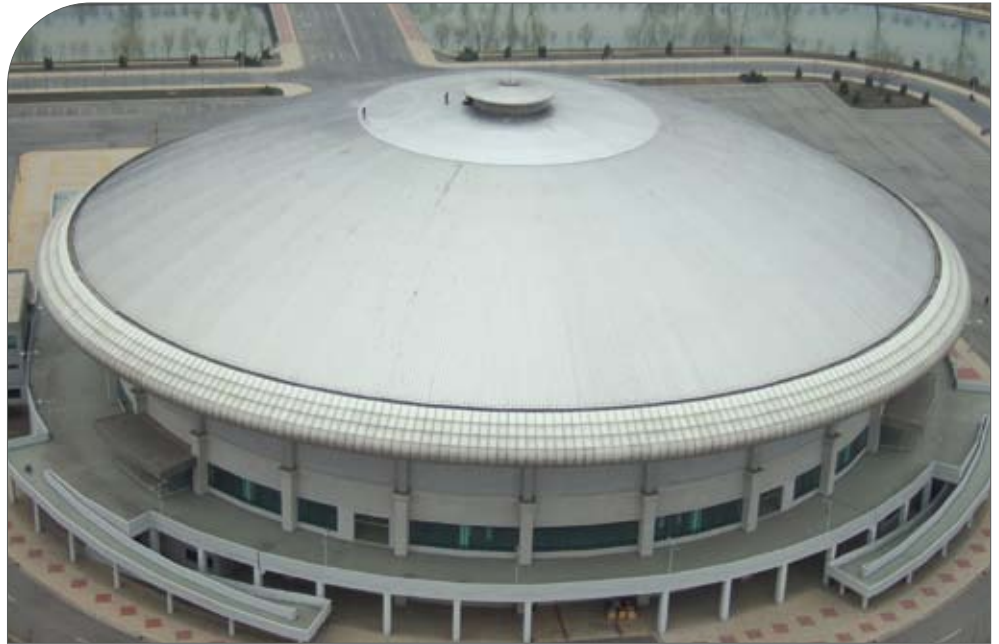
MANUFACTURING COMPANY PETREL ENGINEERING

MATERIAL SUPPLIER COLUMBUS STAINLESS, BARLOWORLD ROBOR TUBE, TRIDENT MIDRAND STEEL

SOURCE OF INFORMATION SASSDA

REMARKS THE CURRENT RESEARCH BASE ON MARION ISLAND HAS EVOLVED REACTIVELY OVER 54 YEARS, AS DEMAND DICTATED. THE LONG TIME SPAN HAS RESULTED IN THE USE OF VARIOUS BUILDING TECHNOLOGIES IN THE CONSTRUCTION OF THE FOUNDATIONS, BASE STRUCTURES, WALLS, ROOFS AND INTERNAL FINISHES.





BUILDING AND CONSTRUCTION

Pyongyang Ryukyung Jungjuyoung Gymnasium

Pyongyang Gymnasium uses a dome-type roof construction. Fan-shaped sheets of stainless steel, 50 m long, are used from the ridge of the roof to the eaves.

- 22 -



LOCATION/ENVIRONMENT PYONGYANG, NORTH KOREA/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET (0.4 MM)

FABRICATION PROCESS COLD FORMING, SEAM WELDING

GRADE STS445M (26CR-2M0)

SURFACE DULL FINISH

COMPETING MATERIAL ALUMINIUM

DATE OF COMPLETION 2003

MANUFACTURING COMPANY HANLIM E&C

MATERIAL SUPPLIER POSCO

SOURCE OF INFORMATION KOSA

REMARKS CONSTRUCTION BEGAN IN 2002. THE BUILDING WAS DESIGNED BY HYUNDAI CONSTRUCTION.



BUILDING AND CONSTRUCTION

Samsung Museum of Art (Leeum)

The external walls of the Samsung Museum of Art (Leeum) are finished with stainless steel, giving the museum a modern image. Panels of 5 mm stainless steel and 25 mm stainless steel curtain-walls are used.

LOCATION/ENVIRONMENT SEOUL, SOUTH KOREA/OUTDOOR

PRODUCT STAINLESS STEEL PLATE (5 MM AND 25 MM)

FABRICATION PROCESS WELDING

GRADE 304

SURFACE OXIDISED BLACK FINISH

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION 2004

MANUFACTURING COMPANY HANLIM E&C

MATERIAL SUPPLIER POSCO

SOURCE OF INFORMATION KOSA

REMARKS THE PANELS ARE CONNECTED WITH BUTT JOINTS. THE CURTAIN WALL PANELS ARE WELDED TOGETHER.

THE BUILDING WAS DESIGNED BY ATELIERS JEAN NOUVEL. CONSTRUCTION BEGAN IN 2003.





BUILDING AND CONSTRUCTION

Stainless steel panels

Stainless steel was chosen for the exterior of VIVO's new Rio de Janeiro branch office. Stainless was chosen to reflect the colours and landscape around the building and to give it a high-tech appearance.

The building has three floors with a total area of more than 42,000 square metres. It is located three kilometres from the coast and near busy roads.

- 24 -



LOCATION/ENVIRONMENT RIO DE JANEIRO, BRAZIL/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET (TOTAL OF 70 TONNES)

FABRICATION PROCESS FORMING AND BOLTED ASSEMBLY

GRADE AISI 444 (STRAIGHT PANELS) AND AISI 316 (CURVED PANELS)

SURFACE SKIN PASS OR N5 SATIN FINISHING ON THE FLAT PANELS (N5 IS SIMILAR TO ASTM NO. 4 FOLLOWED BY A SKINPASS WITH BRIGHT ROLLS.) BUFFING BRIGHT OR NO. 7 ON THE CURVED PANELS

COMPETING MATERIAL SEVERAL, MAINLY ALUMINIUM

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY CONSTRUTRA WALTER TORRE JUNIOR

MATERIAL SUPPLIER ACESITA

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS THE IMAGES SHOW THE STAINLESS STEEL AND GLASS BUILDING FACADE AND A DETAIL OF THE PLAIN AND CURVED FACADE PANELS



BUILDING AND CONSTRUCTION

RainSky E

The RainSky E shower combines an overhead shower, body shower, rain curtain and fog jets. An integrated light illuminates the water. Different shower settings can be selected through a minimalist control panel. For example, a rain-like release of water can be combined with programmed temperature variations, mist and perfume. The shower is designed to be a key feature in the interior design.

LOCATION/ENVIRONMENT GERMANY/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS

GRADE 304

SURFACE MANUALLY POLISHED OR BRUSHED

COMPETING MATERIAL NO SIMILAR PRODUCTS IN OTHER MATERIALS

DATE OF COMPLETION 2006

MANUFACTURING COMPANY DORNBRACHT

MATERIAL SUPPLIER

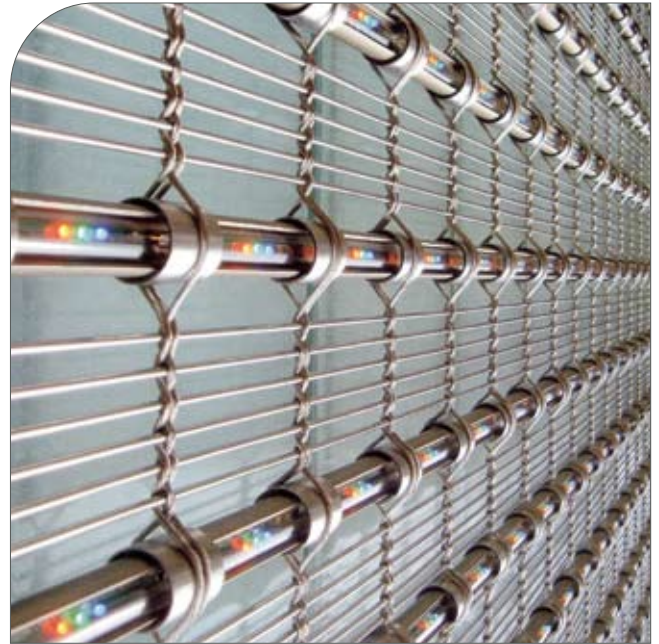
SOURCE OF INFORMATION EURO INOX, STAHL-INFORMATIONEN-ZENTRUM

REMARKS THE RAINSKY E WON FIRST PRIZE IN THE STEEL DESIGN CATEGORY OF THE 2006 GERMAN STEEL INNOVATIONS AWARD.

THE SHOWER WAS DESIGNED BY SIEGER DESIGN OF SASSENBERG, GERMANY.

- 25 -





BUILDING AND CONSTRUCTION

Mediamesh®

Mediamesh® is a woven metal screen with integrated light emitting diodes (LEDs) that turns external stainless steel finishes into a media system. Depending on the density of the mesh, various image resolutions can be achieved, even up to video quality. Each pixel consists of three LEDs (one red, one green and one blue).

The system is best viewed at a distance of 100 to 300 m. However, large facades can be used as a video screen and viewed at distances of up to 5 km.

- 26 -



LOCATION/ENVIRONMENT GERMANY/OUTDOOR

PRODUCT STAINLESS STEEL WIRE AND TUBE

FABRICATION PROCESS WEAVING

GRADE

SURFACE

COMPETING MATERIAL NO SIMILAR PRODUCT IN OTHER MATERIALS

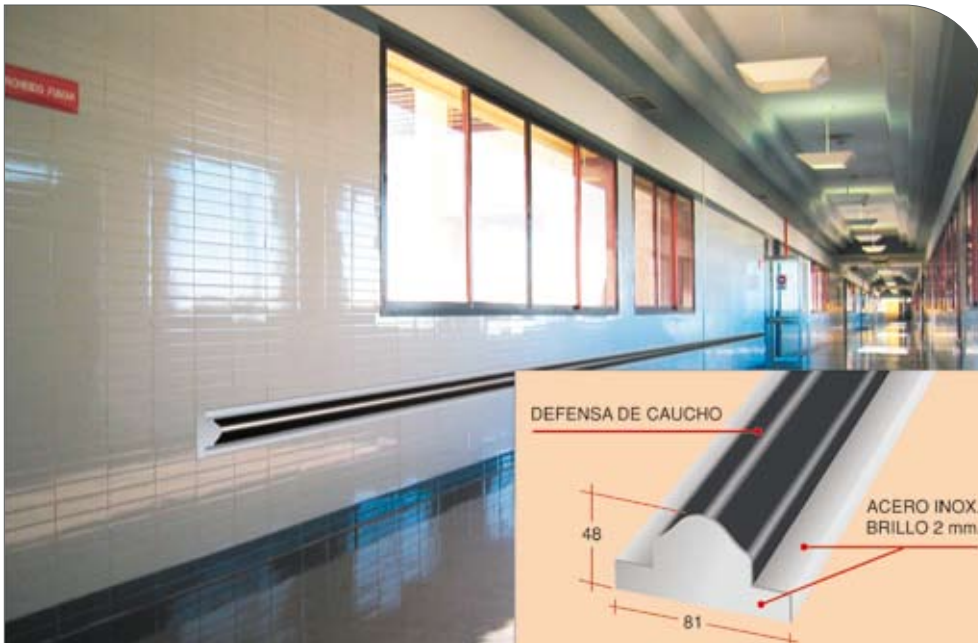
DATE OF COMPLETION 2006

MANUFACTURING COMPANY GKD METAL FABRICS

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX, STAHL-INFORMATIONEN-ZENTRUM

REMARKS MEDIAMESH® WON THIRD PRIZE IN THE STEEL DESIGN CATEGORY OF THE 2006 GERMAN STEEL INNOVATIONS AWARD.



BUILDING AND CONSTRUCTION

Protective wall rail

In buildings such as hospitals or food processing plants, high quality decorative or functional wall surfaces need to be protected from accidental damage. Stainless steel was selected for a new series of protective rails because of its mechanical strength and ease of cleaning in environments where hygiene is important.

LOCATION/ENVIRONMENT SPAIN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS CUTTING AND BENDING

GRADE 304

SURFACE 2B

COMPETING MATERIAL ALUMINIUM

DATE OF COMPLETION FEBRUARY 2005

MANUFACTURING COMPANY INOXMOBEL (WWW.INOXMOBEL.ES)

MATERIAL SUPPLIER ACERINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS





BUILDING AND CONSTRUCTION

Stretch stainless steel waste bin

Public waste bins must be decorative, cost-effective, corrosion resistant, mechanically resistant, fire resistant and easy to clean. There is a new type of waste bin made from stainless steel stretch-metal. The stretching process makes the austenitic stainless steel work-harden and ensures outstanding mechanical resistance despite its low weight.

- 28 -



LOCATION/ENVIRONMENT SPAIN/OUTDOOR

PRODUCT STAINLESS STEEL WIRE AND COLD-ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS STETCHING

GRADE 304 OR 316

SURFACE THE LID IS MADE FROM SANDED STAINLESS STEEL.

THE BODY IS MADE OF ELECTRO-POLISHED STRETCH STAINLESS STEEL.

COMPETING MATERIAL GALVANISED CARBON STEEL, PLASTICS, CONCRETE.

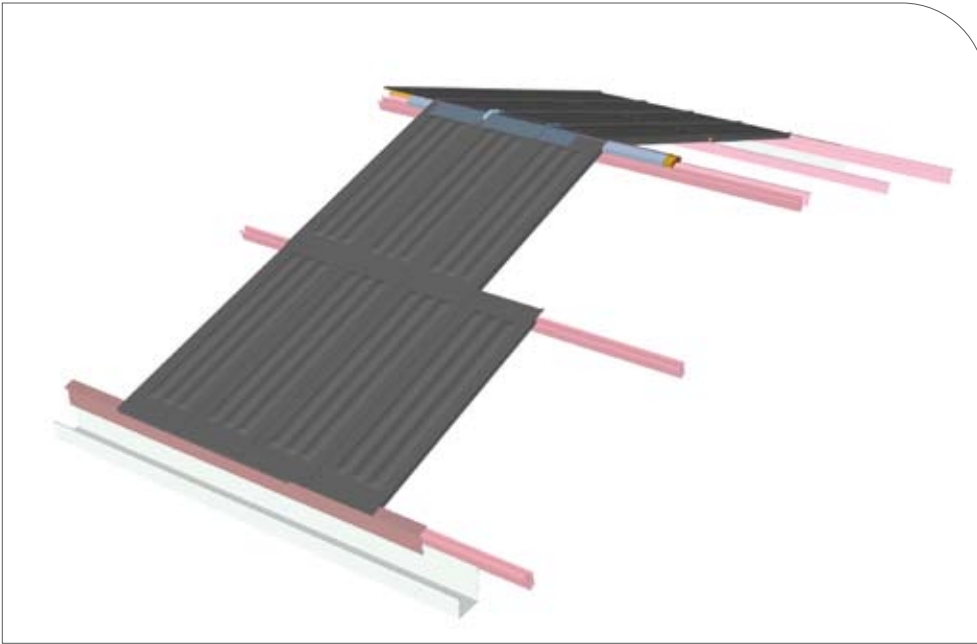
DATE OF COMPLETION 2005

MANUFACTURING COMPANY SANTA & COLE (WWW.SANTACOLE.COM)

MATERIAL SUPPLIER ACERINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS



BUILDING AND CONSTRUCTION

Organically coated solar panels

These self-supporting stainless steel solar panels are a sandwich of two stainless steel sheets. The centre of the sandwich contains thermal insulation and the primary path for the circulation of water. The system makes a conventional supporting roof redundant. This makes the generation of solar thermal energy particularly cost-effective.

In contrast to other products, the selective layer is provided by a high absorption organic coating. The coating maximises use of diffuse light and works well even if the orientation of the roof is not optimal.

LOCATION/ENVIRONMENT SPAIN/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS DEEP DRAWING, ORGANIC COATING

GRADE DEPENDANT ON ATMOSPHERIC CONDITIONS

SURFACE 2B

COMPETING MATERIAL ZINC, COPPER, ALUMINIUM

DATE OF COMPLETION FEBRUARY 2005

MANUFACTURING COMPANY INVENTAR Y CONSTRUIR

MATERIAL SUPPLIER ACERINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS

- 29 -





BUILDING AND CONSTRUCTION

Underpass handrails

The mall on Kievskaya Square in Moscow uses stainless steel for most of its external fittings including handrails. The mall is the largest in Europe. Stainless steel is the most practical material because of its aesthetics and corrosion resistance.

- 30 -



LOCATION/ENVIRONMENT RUSSIA/OUTDOOR

PRODUCT STAINLESS STEEL PIPE

FABRICATION PROCESS WELDING

GRADE AISI 304

SURFACE POLISHING

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION FEBRUARY 2007

MANUFACTURING COMPANY

MATERIAL SUPPLIER

SOURCE OF INFORMATION USSA

REMARKS



BUILDING AND CONSTRUCTION

Metro barriers

A renovation programme at Moscow's famous metro stations is replacing aluminium fixtures with longer-lasting stainless steel. Stainless steel is the ideal material for public spaces because of its strength and its ability to look good under continuous use in public spaces.

LOCATION/ENVIRONMENT MOSCOW, RUSSIA/OUTDOOR

PRODUCT STAINLESS STEEL SHEET

FABRICATION PROCESS BENDING

GRADE AISI 304

SURFACE POLISHING

COMPETING MATERIAL CARBON STEEL AND ALUMINIUM

DATE OF COMPLETION FEBRUARY 2007

MANUFACTURING COMPANY THYSSENKRUPP

MATERIAL SUPPLIER THYSSENKRUPP

SOURCE OF INFORMATION USSA

REMARKS

- 31 -





BUILDING AND CONSTRUCTION

Escalator

Stainless steel is indispensable for busy public places. It reflects the light and makes the location look clean and inviting. A new generation of stainless steel escalators is being installed in malls and supermarkets around Russia.

- 32 -



LOCATION/ENVIRONMENT RUSSIA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS BENDING

GRADE AISI 304

SURFACE POLISHING

COMPETING MATERIAL CARBON STEEL AND ALUMINIUM

DATE OF COMPLETION FEBRUARY 2007

MANUFACTURING COMPANY THYSSENKRUPP

MATERIAL SUPPLIER THYSSENKRUPP

SOURCE OF INFORMATION USSA

REMARKS



BUILDING AND CONSTRUCTION

New Milan Fair Complex

The New Milan Fair Complex (Nuovo Sistema Fiera Milano) is an exhibition centre built on a 200-hectare site. Stainless steel was used in a multitude of different locations throughout the complex, including the platforms of the underground station that connects the complex with Milan.

The most impressive aspect of the project is the spectacular mirror effect of the stainless steel. It reflects the most striking architectural parts of the building.

LOCATION/ENVIRONMENT MILAN, ITALY/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEETS AND STRIP

FABRICATION PROCESS PREASSEMBLED

GRADE EN 1.4401 (AISI 316)

SURFACE BA FINISH, SATIN FINISHED WITH 220 GRAINS

COMPETING MATERIAL PAINTED STEEL

DATE OF COMPLETION SEPTEMBER 2005

MANUFACTURING COMPANY STAINLESS STEEL CLAD PANELS: PERMASTEELISA

MATERIAL SUPPLIER TERNINOX

SOURCE OF INFORMATION EURO INOX, CENTRO INOX

REMARKS THE NEW MILAN FAIR WAS DESIGNED BY WELL-KNOWN ARCHITECT MASSIMILIANO FUKSAS. THE CONSTRUCTION PROJECT WAS UNDERTAKEN BY STUDIO ALTIERI. STRUCTURAL ENGINEERING WAS PROVIDED BY STUDIO MARZULLO.





BUILDING AND CONSTRUCTION

LitterShark Protectus

The LitterShark Protectus is an explosion-resistant waste bin. The bin is welded from 5 mm stainless steel and reinforced with stainless steel ropes. If a bomb is set off in the bin, the detonation force is directed upwards instead of sideways. This makes it much less likely that there will be serious injury to bystanders or damage to nearby property. The bin is ideal for use in cities where security is a concern.

- 34 -



LOCATION/ENVIRONMENT SWITZERLAND/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE 304

SURFACE SATIN FINISH

COMPETING MATERIAL NO SIMILAR PRODUCTS IN OTHER MATERIALS

DATE OF COMPLETION 2006

MANUFACTURING COMPANY BRÜCO SWISS (WWW.BRUCO.CH)

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX; SWISS INOX

REMARKS THE BIN WAS DESIGNED BY WERNER ZEMP. THE BIN RECEIVED THE 2006 INTERNATIONAL RED DOT AWARD FOR OUTSTANDING INDUSTRIAL DESIGN.



BUILDING AND CONSTRUCTION

Stratobel®

Stratobel® EVA Creation Inoxia is a laminated pane consisting of 0.5 mm perforated stainless steel sealed between two layers of tempered glass. This material combination is possible because the ferritic stainless steel and the glass have identical thermal expansion coefficients. This 'sandwich' has an exceptional rigidity and requires little maintenance. It can be used for external and internal solar shading, parapet fillings and street furniture. The maximum panel size is 1,250 x 6,000 mm.

LOCATION/ENVIRONMENT FRANCE/OUTDOOR OR INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS PERFORATION, LAMINATION WITH GLASS

GRADE 430

SURFACE 2R MECHANICALLY MIRROR POLISHED

COMPETING MATERIAL SCREEN-PRINTED GLASS, TEXTILE FABRICS

DATE OF COMPLETION 2006

MANUFACTURING COMPANY GLAVERBEL

MATERIAL SUPPLIER UGINE & ALZ

SOURCE OF INFORMATION EURO INOX; GLAVERBEL

REMARKS THE IMAGES SHOW THE PANEL IN USE ON THE ECOLE NORMALE SUPERIEURE, IN PARIS, FRANCE.

THE BUILDING IS OWNED BY THE REGION ILE DE FRANCE. THE ARCHITECT WAS PHILIPPE GAZEAU.

THE PHOTOS WERE SUPPLIED BY THE ARCHITECT.

- 35 -





BUILDING AND CONSTRUCTION

Terne-coated roofing sheet for facades

The Frenchgate Interchange project demonstrates innovative use of stainless steel roofing material in facades. The panels are just 0.5 mm thick. To avoid glare and to mimic the appearance of lead, terne-coated Uginox AME was used. The surface weathers over time, developing a decorative patina. This patina does not affect the intrinsic corrosion-resistance of the stainless steel.

- 36 -



LOCATION/ENVIRONMENT DONCASTER, UNITED KINGDOM/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS ANGLED VERTICAL STANDING SEAM

GRADE 316

SURFACE TIN COATED

COMPETING MATERIAL ZINC, LEAD

DATE OF COMPLETION 2006

MANUFACTURING COMPANY COVERITE

MATERIAL SUPPLIER UGINE & ALZ

SOURCE OF INFORMATION EURO INOX

REMARKS THE FRENCHGATE INTERCHANGE WAS DESIGNED BY CAREY JONES ARCHITECTS.



BUILDING AND CONSTRUCTION

Entrance gate to the Japanese National Museum of Art

The gateway to the National Museum of Art is designed to express the vitality of bamboo and the progress and growth of modern art. The structural material is stainless steel, which is equivalent or superior to carbon steel in load-bearing. Stainless steel is also highly durable and can be welded on-site. A photo-catalytic coating has been applied to highlight the clean appearance of stainless steel. The gate serves not only as the symbol of the museum but also as the entrance gate to the local community.

LOCATION/ENVIRONMENT OSAKA, JAPAN/OUTDOOR

PRODUCT STAINLESS STEEL PIPE

FABRICATION PROCESS BENDING, WELDING

GRADE 304

SURFACE 2B

COMPETING MATERIAL

DATE OF COMPLETION 2004

MANUFACTURING COMPANY JST

MATERIAL SUPPLIER NISSHIN STEEL

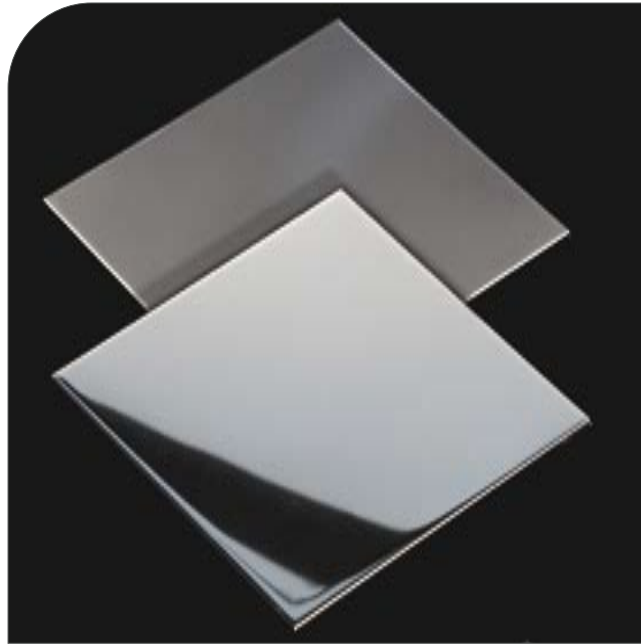
SOURCE OF INFORMATION JSSA

REMARKS

DESIGNER CESAR PELLI AND ASSOCIATES, JAPAN

- 37 -





BUILDING AND CONSTRUCTION

Kitchen tiles

Cladding materials must be durable and easy to clean and maintain. Mozaik tiles, with their metallic finish, fit perfectly with contemporary architecture. The tiles can be used on walls, floors, leisure areas, and in mosaics.

- 38 -



LOCATION/ENVIRONMENT BRAZIL/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS DRAWING

GRADE AISI 304

SURFACE N7 (BUFFING BRIGHT), N5 (SIMILAR TO ASTM NO. 4 FOLLOWED BY A SKINPASS WITH BRIGHT ROLLS), 2B, MICRO-TEXTURE AND ELECTRO-COLOURED

COMPETING MATERIAL CLADDING MATERIALS SUCH AS CERAMIC TILES, GLASS, ALUMINIUM, AND NATURAL STONE

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY MOZAIK

MATERIAL SUPPLIER ACESITA

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS THE TILES CAN BE LAID WITH STANDARD TILE MORTAR.

04

COOKWARE

- Lunch box 42
- Stainless steel boiler 43
- Cutlery 44
- Ferritic stainless steel pots and pans 45



COOKWARE

Lunch box

The stainless steel lunch box is used to store food and then re-heat it in a steamer. Traditionally lunch boxes are made of aluminium. However, aluminium is more fragile than stainless steel and more difficult to clean. Using stainless steel avoids these problems.

- 42 -



LOCATION/ENVIRONMENT TAIWAN, CHINA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS FORMING

GRADE SUS 304

SURFACE 2B

COMPETING MATERIAL ALUMINIUM

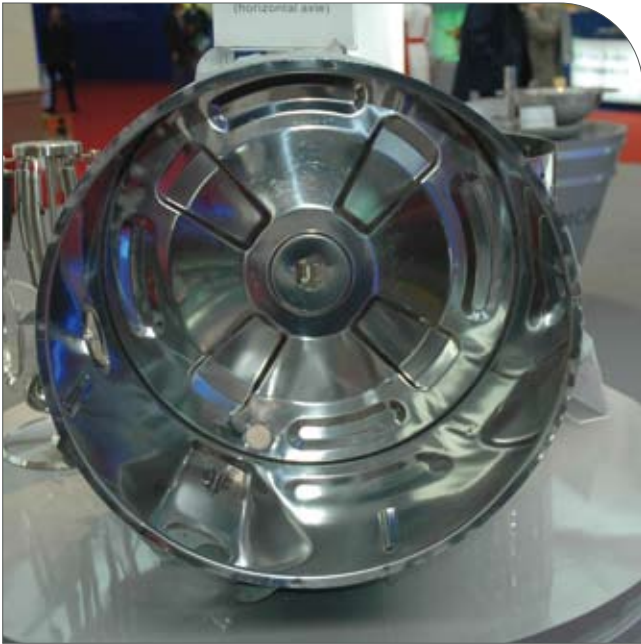
DATE OF COMPLETION 2005

MANUFACTURING COMPANY DA-CAI STAINLESS

MATERIAL SUPPLIER YUSCO

SOURCE OF INFORMATION YUSCO

REMARKS THE FASTENER USES COPPER PLATING WITH CHROMIUM



COOKWARE

Stainless steel boiler

Many manufacturers are urgently looking for a grade of steel to replace the nickel-containing 304 grade. Grade 436L is a good solution. It contains some titanium and molybdenum, has excellent corrosion-resistance, highly effective thermal-conductivity and magnetic conductivity. Grade 436L contains some nickel.

LOCATION/ENVIRONMENT CHINA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS PRESSING, STRETCHING AND POLISHING

GRADE 436L (17CR-MO)

SURFACE 2B

COMPETING MATERIAL 304

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS THIS PRODUCT IS STILL IN THE TESTING PHASE OF DEVELOPMENT

- 43 -





COOKWARE

Cutlery

Stainless steel grade 2Cr13 is made by TISCO and used in the cookware sector. The grade is used extensively for cutlery which is used locally in China and exported overseas.

- 44 -



LOCATION/ENVIRONMENT CHINA/INDOOR

PRODUCT STAINLESS STEEL WIRE AND ROD

FABRICATION PROCESS PRESSING AND POLISHING

GRADE 2B

SURFACE

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION MAY 2005

MANUFACTURING COMPANY TIANJIN DISHWARE MANUFACTURER

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS



COOKWARE

Ferritic stainless steel pots and pans

The ferritic grade of stainless steel used in these pots has a low cost. It is a basic but highly efficient material.

LOCATION/ENVIRONMENT ITALY/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEETS AND STRIP

FABRICATION PROCESS DRAWING

GRADE AISI 430 (EN 1.4016)

SURFACE 2B

COMPETING MATERIAL ALUMINIUM, TIN-COATED COPPER

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY STEEL PAN

MATERIAL SUPPLIER

MORE INFORMATION EURO INOX, CENTRO INOX

REMARKS

- 45 -



05

ELECTRICAL MACHINERY OR EQUIPMENT

■ Electrical room and control cabin	48
■ Microwave oven exterior	49
■ Washing machine drum	50
■ Mobile telephone	51
■ Tube-type optical fibre unit	52



ELECTRICAL MACHINERY OR EQUIPMENT

Electrical room and control cabin

Electrical rooms and control cabins have traditionally been made of carbon steel. This type of structure is often used in dusty, humid and harsh environments. In these conditions, carbon steel often suffers from severe external corrosion.

Because of its well-known corrosion resistance, stainless steel offers a solution for this type of structure. The cabins are used to control two pieces of equipment that transport iron ore at CVRD's facility at Tubarão Harbour.

- 48 -



LOCATION/ENVIRONMENT VITÓRIA BRAZIL/OUTDOOR

PRODUCT STAINLESS STEEL TUBE

FABRICATION PROCESS CONFORMATION AND BOLTED ASSEMBLING

GRADE AISI 304 (1 TO 3 MM WALL THICKNESS)

SURFACE BRUSHED

COMPETING MATERIAL GALVANISED STRUCTURAL CARBON STEEL

DATE OF COMPLETION NOVEMBER 2006

MANUFACTURING COMPANY THYSSENKRUPP AND COMISA

MATERIAL SUPPLIER ACESITA

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS STRUCTURAL COLUMNS AND BEAMS MADE OF 80 MM SQUARE TUBES (AISI 304, WALL THICKNESS OF 3 MM). TOTAL CONSUMPTION OF STAINLESS STEEL WAS 17 TONNES.



ELECTRICAL MACHINERY OR EQUIPMENT

Microwave oven exterior

The outer panel of this microwave uses grade 430D stainless steel. The grade is ideal for use in the pressing phase of production.

LOCATION/ENVIRONMENT CHINA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS PRESSING, WELDING AND FASTENING

GRADE 430D

SURFACE 2B\2BB

COMPETING MATERIAL 430

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY GLANZ GROUP COMPANY

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS

- 49 -





ELECTRICAL MACHINERY OR EQUIPMENT

Washing machine drum

This washing machine drum is made from grade 430D stainless steel. The grade has the durability required from this application and is ideal for use in the pressing process used to create the drum.

- 50 -



LOCATION/ENVIRONMENT CHINA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS PRESSING, WELDING AND FASTENING

GRADE 430D

SURFACE 2B\2BB

COMPETING MATERIAL 430

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY TSINGDAO HAIR GROUP

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS



ELECTRICAL MACHINERY OR EQUIPMENT

Mobile telephone

Stainless steel adds a sophisticated appearance and beautiful surfaces to an everyday object such as a mobile telephone. The stainless steel also has superior mechanical resistance and never peels because no coating is applied.

- 51 -

LOCATION/ENVIRONMENT SOUTH KOREA/OUTDOOR AND INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS BENDING

GRADE STS304

SURFACE ASTM NO. 4

COMPETING MATERIAL PLASTIC

DATE OF COMPLETION OCTOBER 2006

MANUFACTURING COMPANY LG ELECTRONICS

MATERIAL SUPPLIER

SOURCE OF INFORMATION KOSA

REMARKS





ELECTRICAL MACHINERY OR EQUIPMENT

Tube-type optical fibre unit

In conventional optic overhead ground wire units, aluminium tubes were used to house optical fibres. Switching the tube material to stainless steel has enhanced the reliability of the unit.

Because stainless steel tubes have higher crush resistance than their aluminium counterparts, the wall thickness can be lower. This allows the density of optical fibres to be increased. The diameter of the stainless steel unit remains the same as its aluminium counterpart.

- 52 -



LOCATION/ENVIRONMENT JAPAN/OUTDOOR AND INDOOR

PRODUCT STAINLESS TUBE-TYPE COMPOSITE FIBRE OPGW

FABRICATION PROCESS COLD ROLL FORMING, WELDING, TUBE DRAWING

GRADE 304

SURFACE

COMPETING MATERIAL ALUMINIUM

DATE OF COMPLETION

MANUFACTURING COMPANY VARIOUS ELECTRIC WIRE MANUFACTURERS

MATERIAL SUPPLIER NISSHIN STEEL/NIPPON KINZOKU

SOURCE OF INFORMATION JSSA

REMARKS

06

FOOD AND BEVERAGE

- Food service trolley 56
- Kiosk 57
- Train restaurant 58
- Cooking stand 59
- New kitchen concept 60
- Mobile vending/cooking demonstration unit 61



FOOD AND BEVERAGE

Food service trolley

This food service trolley has been designed for use in hospitals. Manufactured from No. 4 brushed stainless steel, the trolley has a double-panelled construction. Polyurethane insulation is sandwiched between the panels to ensure the food stays warm while it is delivered.

The trolley has two sections. One section is heated and the other remains a neutral temperature. The heated section is fitted with nine pairs of runners. Each runner is fitted with a removable stainless steel plate holder. Each plate holder has four cut-outs to accommodate dinner plates.

The runners are pressed stainless steel, ensuring a surface that is easily cleaned. This is an important consideration in hospital applications.

- 56 -



LOCATION/ENVIRONMENT SOUTH AFRICA/INDOOR

PRODUCT HOT ROLLED STAINLESS STEEL SHEET (1.2 MM)

FABRICATION PROCESS SHEET METAL, CUTTING, BENDING, WELDING

GRADE 430

SURFACE 2B AND ASTM NO.4 BRUSHED

COMPETING MATERIAL GALVANISED CARBON STEEL

DATE OF COMPLETION ONGOING

MANUFACTURING COMPANY STAINLESS STEEL DESIGNS CC

MATERIAL SUPPLIER COLUMBUS STAINLESS

SOURCE OF INFORMATION SASSDA

REMARKS



FOOD AND BEVERAGE

Kiosk

This elegant, minimalist and modern kiosk was designed to attract customers while being easy to clean. Due to the high mechanical strength of stainless steel, the thin walls also have load-bearing functions. The kiosk is suitable for both indoor and outdoor use.

LOCATION/ENVIRONMENT SPAIN/OUTDOOR OR INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS BREAK PRESSING, WELDING

GRADE 316L OR 304

SURFACE SHOT BLASTED FINISH

COMPETING MATERIAL GALVANISED CARBON STEEL, ALUMINIUM, GLASS, WOOD

DATE OF COMPLETION 2005

MANUFACTURING COMPANY SANTA & COLE (WWW.SANTACOLE.COM)

MATERIAL SUPPLIER GRUPINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS

- 57 -





FOOD AND BEVERAGE

Train restaurant

A new range of stainless steel restaurant equipment has been designed for high-speed and express trains in Spain. Stainless steel was selected for its ease of cleaning, mechanical resistance and attractiveness.

- 58 -



LOCATION/ENVIRONMENT SPAIN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS BREAK-PRESSING, WELDING

GRADE 304 AND 304 L

SURFACE 2B, BA, SCOTCH-BRITE

COMPETING MATERIAL PAINTED CARBON STEEL, WOOD

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY KELOX (WWW.KELOX.ES)

MATERIAL SUPPLIER ACERINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS



FOOD AND BEVERAGE

Cooking stand

Traditional cooking stands are made of wood or carbon steel. As wood burns and carbon steel rusts outdoors, more and more proprietors are choosing stainless steel cooking stands. Stainless steel is also easier to clean compared to wood and carbon steel. Proprietors can choose stands made from different grades of stainless, depending on their needs and budget.

LOCATION/ENVIRONMENT TAIWAN, CHINA /OUTDOOR AND INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS FORMING, WELDING

GRADE SUS 304 AND SUS 430

SURFACE 2B

COMPETING MATERIAL CARBON STEEL AND WOOD

DATE OF COMPLETION 2006

MANUFACTURING COMPANY TUNG LI MACHENICAL

MATERIAL SUPPLIER HSIN KUANG STEEL/YUSCO

SOURCE OF INFORMATION YUSCO

REMARKS THE BLUE PLASTIC MEMBRANE IS APPLIED TO AVOID SCRATCHES.





FOOD AND BEVERAGE

New kitchen concept

An ambitious project to build a pre-fabricated two-zone kitchen was completed in Maré, New Caledonia, an island in the Pacific Ocean. The kitchen is used to prepare 1,000 meals a day for the children of Maré.

The construction was tested twice in France in 2003. The Maré kitchen was then pre-fabricated in France and shipped 22,000 km in eight, 12 m containers. Altogether it took three months to build the world's most advanced kitchen. The kitchen combines excellent ergonomics for kitchen staff with the hygienic properties of stainless steel.

- 60 -



LOCATION/ENVIRONMENT MARE, NEW CALEDONIA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE 304

SURFACE 2B

COMPETING MATERIAL NONE

DATE OF COMPLETION APRIL 2005

MANUFACTURING COMPANY BOURGEOIS

MATERIAL SUPPLIER UGINE & ALZ

SOURCE OF INFORMATION EURO INOX, 3BORNES

REMARKS



FOOD AND BEVERAGE

Mobile vending/cooking demonstration unit

This mobile cooking unit can be used as a catering station or for cooking demonstrations. The unit is on rollers which make it easy to move about. The unit is a good example of the high quality, innovative and cost-effective properties of stainless steel.

LOCATION/ENVIRONMENT PAARL, SOUTH AFRICA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS SHEET METAL, CUTTING, BENDING, WELDING

GRADE 304 AND 430

SURFACE 2B AND ASTM NO. 4

COMPETING MATERIAL COATED CARBON STEEL

DATE OF COMPLETION ONGOING

MANUFACTURING COMPANY FABRINOX

MATERIAL SUPPLIER COLUMBUS STAINLESS

SOURCE OF INFORMATION SASSDA

REMARKS

- 61 -



07

HOME AND OFFICE APPLIANCES

- Umbrella packing box 64
- Mono Concave oil lamp 65
- Classified trash container 66
- Medical clinic furniture 67
- Kitchen hoods 68
- Refrigerator 69
- Extendible shelving/bookcase 70



HOME AND OFFICE APPLIANCES

Umbrella packing box

This stainless steel umbrella box holds plastic sleeves for wet umbrellas. The cover holds the excess water from the umbrella so that it does not drip on the floor or carpet. This is especially important on smooth floors where pedestrians may easily slip on wet floors. Stainless steel was chosen for its excellent visual effect and cleanliness, even on the rainiest days.

- 64 -



LOCATION/ENVIRONMENT SOUTH KOREA/OUTDOOR AND INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS BENDING

GRADE 304

SURFACE HAIR LINE

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION 2006

MANUFACTURING COMPANY HYUNDAIJINHEUNG

MATERIAL SUPPLIER BNG STEEL

SOURCE OF INFORMATION KOSA

REMARKS



HOME AND OFFICE APPLIANCES

Mono Concave oil lamp

Inspired by butter oil lamps used in Tibetan monasteries, Mono Concave is a modern interpretation of the open oil lamp. The flame appears to hover over the matt polished surface.

LOCATION/ENVIRONMENT GERMANY/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS 24-STEP FORMING AND JOINING PROCESS INVOLVING ADHESIVE BONDING

GRADE

SURFACE MATT POLISHED

COMPETING MATERIAL NO COMPARABLE PRODUCT IN OTHER MATERIALS

DATE OF COMPLETION 2005

MANUFACTURING COMPANY MONO

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX, STAHL-INFORMATIONEN-ZENTRUM

REMARKS MONO CONCAVE WON SECOND PRIZE IN THE STEEL DESIGN CATEGORY OF THE 2006 GERMAN STEEL INNOVATIONS AWARDS.

- 65 -





HOME AND OFFICE APPLIANCES

Classified trash container

The stainless steel trash container is designed so that it is easy to separate different types of trash. Stainless steel was chosen because it is sturdier and easier to clean than plastic or aluminium.

- 66 -



LOCATION/ENVIRONMENT TAIWAN, CHINA/OUTDOOR OR INTERIOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS FORMING AND WELDING

GRADE SUS 304

SURFACE HAIR LINE (OUTDOOR APPLICATIONS) AND 2B (INDOOR APPLICATIONS)

COMPETING MATERIAL ALUMINIUM, PLASTIC, CARBON STEEL, WOOD

DATE OF COMPLETION JANUARY 2004

MANUFACTURING COMPANY BEI-KIN CO., LTD.

MATERIAL SUPPLIER YUSCO

SOURCE OF INFORMATION YUSCO

REMARKS MATERIAL SELECTION CAN BE MODIFIED DEPENDING ON THE CUSTOMER'S PREFERENCE OR PURPOSE.



HOME AND OFFICE APPLIANCES

Medical clinic furniture

Medical clinic furniture, while being easy to clean and disinfect, must also be visually pleasant to staff and patients. By using stainless steel, the designers succeeded in bringing together durability, hygienic properties and interior design.

LOCATION/ENVIRONMENT SPAIN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS CUTTING, BENDING AND WELDING

GRADE 304

SURFACE BA

COMPETING MATERIAL PAINTED CARBON STEEL

DATE OF COMPLETION 2006

MANUFACTURING COMPANY EURO MOBILIARIO CLÍNICO (WWW.CLINEQUIP.COM)

MATERIAL SUPPLIER GRUPINOX

SOURCE OF INFORMATION EURO INOX, CEDINOX

REMARKS

- 67 -





HOME AND OFFICE APPLIANCES

Kitchen hoods

This new line of kitchen hoods are made from grade 430 stainless steel. This grade enables the company to considerably reduce production costs.

- 68 -



LOCATION/ENVIRONMENT BRAZIL/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET, THICKNESS OF 0.6 MM

FABRICATION PROCESS CUTTING, BENDING AND WELDING

GRADE AISI 430

SURFACE SATIN FINISHING

COMPETING MATERIAL OTHER GRADES OF STAINLESS STEEL AND PAINTED CARBON STEEL

DATE OF COMPLETION JUNE 2005

MANUFACTURING COMPANY FALMEC

MATERIAL SUPPLIER ACESITA

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS THE REDUCTION IN PRODUCTION COST HAS MADE IT POSSIBLE FOR FALMEC TO INCREASE DEMAND FOR THIS LINE OF KITCHEN HOODS.



HOME AND OFFICE APPLIANCES

Refrigerator

Until recently, the use of stainless steel sheets for the outer panels of refrigerators was mostly limited to commercial equipment. The main reason was that the polished finish of stainless steel sheets looked cold to consumers. This did not fit well in domestic kitchens. It was difficult to accommodate different preferences as the finishes could only be supplied in monochrome.

New coated stainless steel refrigerator panels have been developed to provide different finishes. Clear, transparent coatings can be applied to moderate the sharp, cold appearance of stainless steel. Elegant touches of the polished surface can also be retained. Colour coatings or printed patterns can be applied to the stainless steel surface, giving consumers a wide variety of finishes to choose from. Antimicrobial agents can also be added to the paint, thereby enhancing the consumer's impression that the refrigerator is hygienic and appropriate for the domestic environment.

LOCATION/ENVIRONMENT JAPAN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS CUTTING AND BENDING

GRADE SUS 430

SURFACE ASTM NO. 4 AND COLOUR CLEAR COAT

COMPETING MATERIAL COLOUR CARBON STEEL SHEET

DATE OF COMPLETION 2001

MANUFACTURING COMPANY SANYO ELECTRIC

MATERIAL SUPPLIER NISSHIN STEEL

SOURCE OF INFORMATION JSSA

REMARKS

- 69 -





HOME AND OFFICE APPLIANCES

Extendible shelving/bookcase

Stainless steel offers practical and elegant functionality in this extendable shelving system. The shelves are also easy to assemble.

- 70 -



LOCATION/ENVIRONMENT ITALY/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEETS AND STRIP

FABRICATION PROCESS CUTTING AND BENDING

GRADE AISI 304 (EN 1.4301) AND AISI 430 (EN 1.4016)

SURFACE POLISHED AND BRUSHED

COMPETING MATERIAL CARBON STEEL, WOOD, ALUMINIUM

DATE OF COMPLETION 2000

MANUFACTURING COMPANY GRAEPEL ITALIANA

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX; CENTRO INOX

REMARKS

08

INDUSTRIAL MACHINERY

- Quick-connect coupler 74
- NATO submarine rescue system 75
- Evaporators for multi-effect distillation 76
- Storage tank for medicine 77
- Ferritic stainless steel water tank 78
- LMD-filter hood 79
- Motor shaft 80



INDUSTRIAL MACHINERY

Quick-connect coupler

Conventional couplers are typically machined and welded to the tube. This new quick-connect coupler is produced directly from the tube ends. By exploiting the formability of austenitic stainless steel, this technology achieves material savings of up to 30%. Fabrication time is decreased by one third, while energy input is reduced by up to 80%.

A circular bead on an inner tube accommodates the O-ring. Corresponding beads on the outer and the tube take-up a special stainless-steel spiral, which acts as a fastener. The coupler produces a joint. The joint has proved its water-tightness at pressure up to 100 bar. This well exceeds the nominal pressure of 40 bar.

The maximum deflection of the tube axes is 0.5 degrees. The useful inner diameter of the tube is constricted within the coupler.

The coupler is designed for use both underground and in water.

LOCATION/ENVIRONMENT GERMANY/OUTDOOR

PRODUCT STAINLESS STEEL TUBE AND SPRINGS

FABRICATION PROCESS DEEP DRAWING PROCESS

GRADE 304

SURFACE

COMPETING MATERIAL NOT POSSIBLE IN OTHER MATERIALS

DATE OF COMPLETION 2005

MANUFACTURING COMPANY BECKERT BRUNNENTECHNIK GMBH

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX, STAHL-INFORMATIONEN-ZENTRUM

REMARKS THE COUPLER RECEIVED A SPECIAL PRIZE FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN THE 2006 GERMAN STEEL INNOVATIONS AWARD.

- 74 -





INDUSTRIAL MACHINERY

NATO submarine rescue system

A new submarine rescue system has been developed for use by NATO. The system is built from 5 mm grade SAF2205 stainless steel which was selected because of its strength. Weight was an important consideration in material selection as the system is normally flown to the rescue site. Due to the high strength of SAF2205, thinner gauges could be used, making the end product lighter.

The 100 m³ hyperbaric complex consists of five connected chambers. Each chamber can be isolated from the others independently. Up to 72 people can be accommodated in the system.

The system has been developed to the relevant industry standards. Hydro tests were run on the system and all were completed successfully.

LOCATION/ENVIRONMENT SOUTH AFRICA/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL PLATE, 5 MM

FABRICATION PROCESS WELDING

GRADE SAF 2205 DUPLEX STAINLESS STEEL

SURFACE ASTM 1

COMPETING MATERIAL

DATE OF COMPLETION APRIL 2006

MANUFACTURING COMPANY H G MOLENAAR

MATERIAL SUPPLIER IMPORTED FROM SWEDEN

SOURCE OF INFORMATION SASSDA

REMARKS

- 75 -





INDUSTRIAL MACHINERY

Evaporators for multi-effect distillation

The dual-duplex concept combines the excellent properties of different duplex stainless steel grades into an optimal construction. In this example, the more corrosion resistant grade 2205 is exposed to the hostile conditions. Grade 2304 is used where the environment is less corrosive.

The benefits of using duplex include improved corrosion resistance and higher strength, compared to conventional austenitic stainless steels. Duplex chambers can be built with thinner plates, resulting in less material, less bevelling and welding, easier handling and lower environmental impact. By using the dual-duplex concept, considerable cost savings are possible.

- 76 -



LOCATION/ENVIRONMENT SWEDEN/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL PLATES

FABRICATION PROCESS WELDING

GRADE 2304 AND 2205

SURFACE 1D

COMPETING MATERIAL SOLID 316L

DATE OF COMPLETION STILL UNDER CONSTRUCTION

MANUFACTURING COMPANY SIDEM

MATERIAL SUPPLIER OUTOKUMPU AND OTHERS

SOURCE OF INFORMATION EURO INOX

REMARKS THE IMAGE SHOWS HIDD III, THE WORLD'S LARGEST MULTIPLE-EFFECT DISTILLATION PLANT WHICH IS UNDER CONSTRUCTION.



INDUSTRIAL MACHINERY

Storage tank for medicine

Stainless steel is extensively used to meet the cleanliness requirements of the pharmaceutical industry. Stainless steel protects the drugs from the effects of corrosion that may be found in other materials.

LOCATION/ENVIRONMENT USA/INDOOR

PRODUCT HOT ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE SUS 304L (18CR-10NI-LC)

SURFACE ASTM 1

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION MAY 2006

MANUFACTURING COMPANY NINGBO LEHUI FOOD MACHINERY CO.,LTD

MATERIAL SUPPLIER BAOSHAN IRON AND STEEL

SOURCE OF INFORMATION BAOSHAN IRON AND STEEL

REMARKS THE IMAGE ABOVE IS OF ONE OF THE MEDICAL TANKS USED BY GENENCOR INTERNATIONAL (USA).

- 77 -





INDUSTRIAL MACHINERY

Ferritic stainless steel water tank

Ferritic stainless steel has been used to build this water tank in China. Stainless steel was chosen as the tank needed to be located near the sea. It provides an aesthetic finish and long-term durability.

- 78 -



LOCATION/ENVIRONMENT CHINA/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS PUNCHING AND WELDING

GRADE 444 (18CR-2MO)

SURFACE 2B

COMPETING MATERIAL CARBON STEEL OR CONCRETE

DATE OF COMPLETION DECEMBER 2006

MANUFACTURING COMPANY SHANGHAI TONGHUA STAINLESS STEEL PRESSURE VESSEL FACTORY

MATERIAL SUPPLIER BAOSHAN IRON AND STEEL

SOURCE OF INFORMATION BAOSHAN IRON AND STEEL

REMARKS THIS IS ONE OF THE LARGEST COMBINATION WATER TANKS IN CHINA.



INDUSTRIAL MACHINERY

LMD-filter hood

The goal of this project was to develop a lighter, leak-proof and maintenance-friendly hood for an LMD filter. The result is a modular, sandwich-structured hood. Laser welding and traditional sheet metal work is used to manufacture the hood.

LOCATION/ENVIRONMENT FINLAND/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS LASER WELDING, TRADITIONAL SHEET METAL WORK

GRADE EN1.4301

SURFACE 2B 2J

COMPETING MATERIAL

DATE OF COMPLETION 2003

MANUFACTURING COMPANY HIGH METAL PRODUCTION

MATERIAL SUPPLIER OUTOKUMPU STAINLESS AND RUUKKI

SOURCE OF INFORMATION EURO INOX, OUTOKUMPU TORNIO WORKS

REMARKS THIS PRODUCT WON THE PLOOTU FENNICA AWARD IN 2006. THE PHOTOGRAPH WAS TAKEN BY ANDRITZ.

- 79 -





INDUSTRIAL MACHINERY

Motor shaft

Stainless steel is extensively used for these motor shafts. The motor shafts are designed to work at high temperatures. Stainless steel was selected instead of carbon steel because of its anti-corrosion properties and durability.

- 80 -



LOCATION/ENVIRONMENT CHINA/INDOOR

PRODUCT STAINLESS STEEL BAR

FABRICATION PROCESS DRAWING AND POLISHING

GRADE 2CR13

SURFACE POLISHING

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION JUNE 2005

MANUFACTURING COMPANY NINGBO PRECISE AND MINISIZE SHAFT PLANT

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS

09

TRANSPORT

■ Railway station seats	84
■ Timber truck and trailer	85
■ Transwerk 10m5 (Gomod) train	86
■ Ferritic rail wagons	87
■ Subway cars	88
■ Refrigerated containers	89
■ Stainless steel boxcar	90
■ Fishing boat	91
■ Motorcycle	92
■ Train carriage fittings	93
■ Hydraulic braking system	94



TRANSPORT

Railway station seats

About 30 sets of stainless steel seats have been installed in the Bangalore City railway station. Each set contains four seats. The seats have a honeycomb finish. Perforations in the seats facilitate air circulation. Each set of seats uses about 35 kg of stainless steel.

- 84 -



LOCATION/ENVIRONMENT BANGALORE, INDIA/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET, WELDED TUBE

FABRICATION PROCESS WELDING

GRADE 304

SURFACE HONEYCOMB FINISH

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION JULY 2006

MANUFACTURING COMPANY VELAAR ENGINEERING WORKS

MATERIAL SUPPLIER SALEM STEEL PLANT, SAIL

SOURCE OF INFORMATION ISSDA

REMARKS



TRANSPORT

Timber truck and trailer

These timber truck structures are made from temper-rolled stainless steel. They are easy to maintain, strong and provide optimal performance. The banks are made of stainless steel material in strength class +C850 (Rm > 850 MPa). The polished, corrugated safety wall is in the strength class +C1000 (Rm > 1000 MPa).

LOCATION/ENVIRONMENT FINLAND/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET (HIGH STRENGTH)

FABRICATION PROCESS LASER CUTTING AND ARC WELDING

GRADE EN 1.4318 2H +C850 AND +C1000

SURFACE COLD ROLLED 2H

COMPETING MATERIAL ULTRA HIGH STRENGTH STEEL, ALUMINIUM ALLOYS

DATE OF COMPLETION 2006

MANUFACTURING COMPANY ALUKARIKKA

MATERIAL SUPPLIER OUTOKUMPU TORNIO WORKS

SOURCE OF INFORMATION EURO INOX

REMARKS

- 85 -





TRANSPORT

Transwerk 10m5 (Gomod) train

The exterior bodywork of this train is made from corrosion-resistant 3Cr12. This grade can easily be painted in the client's choice of colour. Approximately six tonnes of 3Cr12 is used to build the body shell of each vehicle. The grade was selected because it is a corrosion-resistant material that is easily painted. The product fully justifies its 30-year guarantee.

- 86 -



LOCATION/ENVIRONMENT SOUTH AFRICA/OUTDOOR

PRODUCT STAINLESS STEEL TUBE AND SHEET

FABRICATION PROCESS WELDING

GRADE 3CR12

SURFACE 2B

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION OCTOBER 2005

MANUFACTURING COMPANY TRANSWERK

MATERIAL SUPPLIER COLUMBUS STAINLESS

SOURCE OF INFORMATION SASSDA

REMARKS STAINLESS STEEL PANELS WERE USED IN THE PAST. ALTHOUGH THE STAINLESS STEEL WAS CORROSION RESISTANT, IT SHOWED DENTS EASILY AND WAS DIFFICULT TO KEEP SHINY AND BLEMISH-FREE.



TRANSPORT

Ferritic rail wagons

Many carbon steel rail-wagons in China are deteriorating and corroding after more than 20 years of service. Stainless steel is now being used to build rail wagons with a capacity of more than 80 tonnes of freight. The new wagons are designed to have a service life much longer than 20 years.

LOCATION/ENVIRONMENT CHINA/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE TC5345 (12CR-0.5NI)

SURFACE ASTM 1

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION MARCH 2005

MANUFACTURING COMPANY CSR ZHUZHOU ROLLING STOCK WORKS

MATERIAL SUPPLIER BAOSHAN IRON AND STEEL

SOURCE OF INFORMATION BAOSHAN IRON AND STEEL

REMARKS

- 87 -





TRANSPORT

Subway cars

New subway cars were required for Beijing's No 5 subway line. Stainless steel was chosen for the new cars because carbon steel was too heavy. Aluminium was also considered. However, its fire resistance properties were inadequate for this application. Stainless steel provided an ideal solution because of its light weight and fire resistance. Stainless steel is also easy to keep clean and looks modern and inviting.

- 88 -



LOCATION/ENVIRONMENT BEIJING, CHINA/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE SUS 301L (17CR-7NI-LC)

SURFACE 2B

COMPETING MATERIAL CARBON STEEL OR ALUMINIUM ALLOY

DATE OF COMPLETION AUGUST 2006

MANUFACTURING COMPANY CHANGCHUN RAILWAY VEHICLE

MATERIAL SUPPLIER BAOSHAN IRON AND STEEL

SOURCE OF INFORMATION BAOSHAN IRON AND STEEL

REMARKS



TRANSPORT

Refrigerated containers

Refrigerated containers are used for goods that need to be transported at a constant temperature, either above or below freezing point. Stainless refrigerated containers have the advantages of high hardness, ease of cleaning and excellent corrosion resistance. During the life of the container, frequent maintenance is unnecessary.

LOCATION/ENVIRONMENT CHINA/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS MOULDING

GRADE 409L, 304

SURFACE 2B

COMPETING MATERIAL CARBON STEEL OR ALUMINIUM ALLOY

DATE OF COMPLETION 2005

MANUFACTURING COMPANY SCRC

MATERIAL SUPPLIER ZPSS

SOURCE OF INFORMATION ZPSS

REMARKS

- 89 -





TRANSPORT

Stainless steel boxcar

To meet the requirements of China's railroad industry, TISCO has developed a new kind of ferritic stainless steel named TCS. The material is being used to build rail boxcars to transport freight. TCS is an environmentally-friendly and economical material. The material meets the customer's requirements for high strength, low cost, light deadweight, corrosion resistance and long life.

- 90 -



LOCATION/ENVIRONMENT CHINA/OUTDOOR

PRODUCT HOT ROLLED STAINLESS STEEL SHEET

FABRICATION PROCESS WELDING

GRADE TCS (12CR-NI)

SURFACE ASTM 1

COMPETING MATERIAL 450NQR1, 09CUPCR-NI-A

DATE OF COMPLETION DECEMBER 2005

MANUFACTURING COMPANY QIQI HAER VEHICLE FACTORY

MATERIAL SUPPLIER TAIYUAN IRON AND STEEL (GROUP) CO. (TISCO)

SOURCE OF INFORMATION TISCO

REMARKS



TRANSPORT

Fishing boat

The choice of stainless steel for the plating and the structural strengthening elements was driven by the need for greater resistance and durability. Stainless steel also offered easier maintenance and, above all, a lighter product. Inside the boat the galley area and wash-basin are made of stainless steel. This boat is safe, comfortable and practical.

LOCATION/ENVIRONMENT ITALY/OUTDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET, TUBES, FULL RODS AND SCREWS IN AUSTENITIC MOLYBDENUM EN 1.4401 (AISI 316) STAINLESS STEEL

FABRICATION PROCESS CUTTING, WELDING

GRADE AISI 304 (EN 1.4301)

SURFACE THE SURFACES WERE SAND-BLASTED TO ASSIST THE APPLICATION OF THE EPOXY PAINTS

COMPETING MATERIAL CARBON STEEL, WOOD

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY CARPENTINOX (WWW.CARPENTINOX.IT)

MATERIAL SUPPLIER

SOURCE OF INFORMATION EURO INOX, CENTRO INOX

REMARKS





TRANSPORT

Motorcycle

The Husqvarna STR 650 CRC prototype motorcycle was unveiled at the 2006 Milan International Motorcycle Exhibition (EICMA 2006). The motorcycle frame is made of stainless steel and aluminium.

- 92 -



LOCATION/ENVIRONMENT ITALY/OUTDOORS

PRODUCT WELDED AND SEAMLESS TUBES, BARS, COLD ROLLED STAINLESS STEEL SHEETS AND STRIP

FABRICATION PROCESS CUTTING, WELDING, TURNING, DRILLING

GRADE AISI 304 (EN 1.4301)

SURFACE BRUSHED

COMPETING MATERIAL ALUMINIUM AND HIGH STRENGTH STEEL

DATE OF COMPLETION NOVEMBER 2006

MANUFACTURING COMPANY CRC CENTRO

MATERIAL SUPPLIER MARCEGAGLIA DIV. INOX, MANNESMANN DMV STAINLESS ITALIA, THYSSENKRUPP ACCIAI SPECIALI
TERNI, ACCIAIERIE VALBRUNA

SOURCE OF INFORMATION EURO INOX, CENTRO INOX

REMARKS CENTRO INOX HAS BEEN CLOSELY INVOLVED IN THE CREATION OF THIS MOTORCYCLE. THEY PROVIDED VALUABLE STAINLESS STEEL KNOW-HOW TO THE TEAM.



TRANSPORT

Train carriage fittings

Mumbai's MRVC suburban trains will be tastefully furnished with stainless steel interiors. The Integral Coach Factory (ICF), a production unit of Indian Railways, has rolled out a prototype of the carriage. Approximately two tonnes of stainless steel is used in each carriage.

Stainless steel has been used for the pipes and double ferrule-type fittings for the brakes. It has also been used for roof panelling, seat frames, handholds, luggage racks, fans, partitions, doorway grab poles, protective wire window screens and rainwater gutters.

LOCATION/ENVIRONMENT MUMBAI, INDIA/OUTDOOR AND INDOOR

PRODUCT WELDED TUBES, COLD ROLLED STAINLESS STEEL SHEETS, WIRE

FABRICATION PROCESS PIPES WITH DOUBLE FERRULE FITTINGS

GRADE SS 304

SURFACE BUFFED

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION 2006

MANUFACTURING COMPANY INTEGRAL COACH FACTORY (ICF)

MATERIAL SUPPLIER RATNAMANI METALS AND TUBES

SOURCE OF INFORMATION ISSDA

REMARKS PHOTOGRAPH COURTESY OF ICF





TRANSPORT

Hydraulic braking system

Stainless steel has been used for part of the hydraulic braking system in long-distance passenger carriages. Grade 304 was used. Indian Railways plans to fit all suburban and main-line carriages with this stainless steel braking system.

- 94 -



LOCATION/ENVIRONMENT INDIA/OUTDOOR

PRODUCT STAINLESS STEEL WELDED TUBE

FABRICATION PROCESS PIPES WITH DOUBLE FERRULE FITTINGS

GRADE SS 304

SURFACE 2B

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION 2006

MANUFACTURING COMPANY INTEGRAL COACH FACTORY (ICF)

MATERIAL SUPPLIER RATNAMANI METALS AND TUBES

SOURCE OF INFORMATION ISSDA

REMARKS

10

OTHERS

- Eyeglass frames 98
- Training equipment 99
- Safety footwear 100



OTHERS

Eyeglass frames

Nelson Martins de Almeida Netto has designed eyeglasses with a frame made of stainless steel wire. The stainless steel wire offers superior resistance to tension, torsion and bending than its main competing material, titanium. The stainless steel frame is also lighter and cheaper to produce than similar titanium frames.

- 98 -



LOCATION/ENVIRONMENT BRAZIL/OUTDOOR

PRODUCT STAINLESS STEEL WIRE (Ø 0.90 MM, UTS 1700/1900 MPA)

FABRICATION PROCESS BENDING

GRADE AISI 302

SURFACE BA

COMPETING MATERIAL TITANIUM, ALUMINIUM AND GOLD

DATE OF COMPLETION JANUARY 2006

MANUFACTURING COMPANY DESIGNER: NELSON MARTINS DE ALMEIDA NETTO

MATERIAL SUPPLIER MORELLI ORTODONTIA

SOURCE OF INFORMATION NÚCLEO INOX

REMARKS



OTHERS

Training equipment

Stainless steel is the best material for outdoor training equipment because of its corrosion resistance and aesthetic qualities. This stainless steel exercise equipment was developed by the KOSA Stainless Steel Club.

LOCATION/ENVIRONMENT SOUTH KOREA/OUTDOOR

PRODUCT STAINLESS STEEL WELDED PIPE

FABRICATION PROCESS WELDING

GRADE ST5304

SURFACE POLISHED

COMPETING MATERIAL CARBON STEEL

DATE OF COMPLETION NOVEMBER 2006

MANUFACTURING COMPANY BSPOLS COMPANY

MATERIAL SUPPLIER POSCO

SOURCE OF INFORMATION KOSA

REMARKS

- 99 -





OTHERS

Safety footwear

Temper-rolled stainless steel grade 201 (EN1.4372) is being used to manufacture penetration-resistant metallic inserts for the safety footwear industry. Grade 201 is being used as alternative to grade 301 (EN1.4310).

The use of the high molybdenum grade 201 provides comparable mechanical, penetration and corrosion-resistance compared to the higher-nickel grade 301 alternative. Grade 201, with approximately 3% lower nickel, provides a cost advantage compared to the standard 301 grade which has traditionally been used by European manufacturers.

- 100 -



LOCATION/ENVIRONMENT SWEDEN/INDOOR

PRODUCT COLD ROLLED STAINLESS STEEL SHEET (TEMPERED 0.43 - 0.48 MM)

FABRICATION PROCESS BLANKING, FORMING

GRADE 201 (EN1.4372)

SURFACE 2H (IN WORK HARDENED CONDITION THROUGH TEMPER ROLLING)

COMPETING MATERIAL 301 (EN1.4310)

DATE OF COMPLETION SINCE 2004

MANUFACTURING COMPANY VARIOUS

MATERIAL SUPPLIER OUTOKUMPU AND OTHERS

SOURCE OF INFORMATION EURO INOX

REMARKS

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- 104 -



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