Delhi gets stainless steel metro rail coaches

The first metro train meant to ply in Delhi ran a course of 20 km for the first time and was handed over to Delhi Metro Rail Corporation (DMRC). The metro trains are also extremely energy efficient.

The coaches will be fully air conditioned with automatic door closing mechanisms. Providing for fast acceleration and deceleration, the metro trains are also.
Stainless steel and safety

In case of a collision:
Nickel-containing stainless steels are not only stronger than carbon steel or aluminium, but also absorb 2.5 times more energy than carbon steel when deformed. Consequently, it is used all over the world to make strong, safe passenger compartments with the constructors designed to absorb large amounts of energy if deformed.

In case of a fire:
At elevated temperatures, stainless steel retains high mechanical characteristics. From a practical point of view at 500°C, a stainless steel structure will deform. At 760°C, the material will be sufficient, this is a guarantee of optimum safety in the case of fire and gives valuable time for evacuation of passengers in case of fire. Since nickel-containing stainless steels do not need painting, the threat of noxious fumes is minimized.

Stainless steel market survey

Fy’s 2000-01 and 2001-02

Release: October 2002  Price: US $550/- for overseas buyers  Rs10,000/- for Indian buyers

The survey covers (a) supply-side information including grade and product forms and (b) an exhaustive 35-end use sector data which is classified under: (i) process / capital goods industry, (ii) product forms and (b) an exhaustive 35 end-use sector data which is classified under: (i) process / capital goods industry, (ii) consumer durables and miscellaneous products including architecture, building & construction and (iii) utensils.

Stainless steel at The Fox restaurant, Gurgaon

A unique dining experience awaits at The Fox, a restaurant of the Vakila Group located in the First Indira Place, Surat. Lek – 1. Gurgaon. “The Fox” is about contemporary themes and offers facilities like a banqueting hall and gallery, bar and lounge, an amphitheatre, art display area. M/s Maxia Architects & Urban Planners were the architects for this project. Stainless steel fabrication was done by M/s Kaushal Engineers.

Architects to the interiors of the main dining area of the restaurant considers the visual experience of the minimalistic environment, through the focus is predominantly on exploring the sensual quality of space.

Welcoming New Members

Primary Member

Viraj Alloys Ltd

Viraj Group was established in 1991 and is engaged in the manufacture of stainless steel and stainless steel-based engineering products. Viraj is a 100% export-oriented company, exporting their products to more than 60 countries all around the globe and with an annual turnover of US$ 160 million. Presently the Group is well diversified and has the following manufacturing facilities under the wings of various public limited companies, which are a part of the Viraj Group.

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Stainless steel market survey
FYs 2000-01 and 2001-02

Release: October 2002  Price: $US500/- for overseas buyers  Rs10,000/- for Indian buyers

The survey covers (a) supply-side information including grade and product forms and (b) an exhaustive 35 end-use sector data which is classified under: (i) process / capital goods industry, (ii) consumer durables and miscellaneous products including architecture, building & construction and (iv) utensils.

VIRAJ ALLOYS Ltd

VIRAJ GROUP was established in 1991 and is engaged in the manufacture of stainless steel and stainless steel-based engineering products. Viraj is a 100% equity-related company, exporting their products to more than 60 countries all around the globe and with an annual turnover of US$ 100 million. Presently, the Group is well diversified and has the following manufacturing facilities under the wing of various public limited companies, which are a part of the Viraj Group:

Steel making division: Producing all types of grades in austenitic, ferritic, martensitic, austenitic-ferritic stainless steel. The company has the most modern steel making shop, continuous casting machine, rolling mill etc. The company has established itself in North America, Europe, Southeast Asia, Russia, Australia and Middle East regions.

Processing division: Located in Delhi, this division is engaged in manufacturing and provide all kind of finishing services like heat treatment, pickling and production facilities like spray painting, sandblasting, centreless grinding, polishing etc. The annual production is 20,000 MT of finished product.

Welcoming New Members
Primary Member

Viraj Alloys Ltd

Source: DMRC; Contact details of the architect: Mr Verendra Wakhloo, MATRA ARCHITECTS & URBAN PLANNERS, 53 (1st flo'w) Najafgarh Village, New Delhi – 110 217; Tel: 011 – 626 4971, 628 0368; E-mail: matrarch@hotmail.com

Contact details of the fabricator: Mr G S Rathore, KAUSHAL ENGINEERS, PO Box 4422, Noida Post Office, Noida – 201 301; Tel: 0120-221 1014, 221 3014; E-mail: kaushal2003@rediffmail.com

Contact details of the designer: Shweta Jain, JAIN & ASSOCIATES, 103, Milind Complex, Mehrauli Gurgaon Road, New Delhi – 110 048; Tel: 011-2200 4646, 2200 4647; E-mail: jainassociates@rediffmail.com

Contact details of the fabricator: Mr G S Rathore, KAUSHAL ENGINEERS, PO Box 4422, Noida Post Office, Noida – 201 301; Tel: 0120-221 1014, 221 3014; E-mail: kaushal2003@rediffmail.com
Automobile accessories showroom in Bangalore extensively uses stainless steel

PFM Excessories, an automobile accessories showroom at Bangalore’s Mission Road, sports many interesting applications of stainless steel like wary sculpture at the entrance of the showroom, shelves suspended by wires, furniture and tapered supports for the table, lighting fixtures etc.

In a pioneering venture, the Integral Coach Factory (ICF), Chennai, have launched manufacture of Jan Shatabdi Express coaches for high-speed short distance trains. S.S. Incorporating some features of German U25 coaches, these coaches will have a railmart and sub-partry furnished entirely in Salem Stainless.

The stainless steel fabrication for the Jan Shatabdi Express has been done by M/s Velar Engineering Works, Bangalore. Contact details of the company: VEPL ENGINEERING WORKS, # 435 Middle School Road, Y V Puram, Bangalore – 560 006, Tel: 080 - 662 1406, E-mail: velar@sify.com

SAIL’s Salem Steel Plant is undertaking fabrication of these stainless steel passenger coaches and Box-N wagons for the Indian Railways. Stainless steel is currently being used in the railway sector for trough floor, under slung water tanks, rung ladders, structure, flooring, brakes in diesel exhausts, metabolic piping, wash basins, roof mounted air conditioning units and so on.

The material’s strength, corrosion resistance, durability, cleanliness and aesthetic appeal are the prime criteria for being chosen for these applications.

Salem Steel for Railmart and sub pantry of Jan Shatabdi Coaches

S.A.I.L. Salem Steel Plant had earlier supplied material for all stainless steel passenger coaches and Box-Ns wagon to the Indian Railways. Stainless steel is currently being used in the railway sector for trough floor, under slung water tanks, rung ladders, structure, flooring, brakes in diesel exhausts, metabolic piping, wash basins, roof mounted air conditioning units and so on.

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Salem steel for railmart and sub pantry of Jan Shatabdi Coaches ...

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SAIL's Salem Steel Plant is undertaking fabrication of these stainless-steel railmarts and sub-pantries for the coaches of Jan Shatabdi Express. Fabricated in thickness ranging 0.8 to 3 mm in 304 grade stainless steel, in a variety of custom made finishes like moon rock, hammer-tone, stripe etc. each railmart and sub-pantry requires around 1 tonne of stainless steel. So far 29 coaches have been completed and deployed in various routes viz Kathiar, Malda, Vijayawada, Dehradun etc. Another order for 94 coaches has been received against the total number of 152 coaches to be fabricated for this project. Far 29 coaches have been completed and deployed in various routes. Another order for 94 coaches has been received against the total number of 152 coaches to be fabricated for this project.

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Stainless Steel Railcars for Metro and EMU Railways - The North American Experience

GSSRA, Ahmedabad

Use of Stainless Steel in the South East Asian Market

Nanthachit Thavaraputta, Thainox Steel Ltd, Thailand

Indian Experience in Stainless Steel Usage for Architecture

Ramesh Gopal, NiDI + ISSDA, New Delhi

Use of Stainless Steel in Architecture, Building & Construction

Fausto Capelli, Centro Inox, Italy

Application of Stainless Steel in Rail Coaches

A Srinivas, Integrated Coach Factory, Chennai

Stainless Steel for Airports - Status and Scope

Nalin Sharma, Airports Authority of India, New Delhi

Legal matters relating to exports to Europe and North America

R Gopal, NiDI

Marketing and Sales of Stainless Steel Long & Flat products - What can be expected in the coming years in India and the Rest of the World?

Marcello Mazzocco, SSI, Italy

Who will benefit?

Stainless steel industry personnel, architects, interior decorators, designers, railway engineers, bus fleet owners, bus bodybuilders, auto industry personnel and fabricators.

Stainless Steel Trade Programs & Seminars

• India
• EU
• Middle East

Spiral staircase and handrails for Hyderabad’s indoor stadium

Contd. from page 3

In yet another venture, around 70 tonnes of stainless steel sheets in 304 grade with polymer coated sheet, were supplied for the 10,000 sq m curved roofing of Koparkhairane Railway Station in Navi Mumbai. Other options like pre-painted mild steel and galvalume roofing were not opted for in this case in view of their vulnerability to corrosion from cut edges and holes drilled for erection. When the life cycle cost is considered, stainless steel roofing is cheaper by around 45 per cent of the galvalume option. The next coating adds to the aesthetics and protects the 200 microns thick surface of stainless steel. The 32 mm thick galvalume roofing required the supplied handrailings for the project, which is developed by the City & Industrial Development Corporation of Maharashtra (CIDCO).

Salem Steel’s Railway Platform roofing ...

(All Th V Anand, General Manager, Salem Steel Plant (Stainless Steel), Salem – 642 013; Tel: (0422) 2363570)

Close on the heels of this trend setting venture, SSP has supplied over 50 t of stainless steel coils for the roofing of the Amrit Railway Station, Navi Mumbai, another CIDCO project. The railways have also approved adoption of stainless steel roofing for various zones in the prestigious Turbhe Railway Station Project. The parapet for the Metro Railway Station in Kolkata was done way back with Salem Stainless.

Stainless 2002 - Markets & Applications

Desember 6 – 7, 2002 Hotel Regent, Lends End, Bandra West, Mumbai

The objective of the conference is to update the audience about the new developments and trends in the markets and applications of stainless steel. The conference will be special emphasis on two specific areas: Architecture and Transportation sectors with presentations aimed at the end-use sector personnel.

Marketing and Organizations of Stainless Steel Long & Flat products - What can be expected in the coming years in India and the Rest of the World?

Arithmetic Murti, Tata Aeste, India

The recently inaugurated Shilparam indoor stadium at Madhapur, near the directorate city in Hyderabad has two interesting applications of stainless steel – stainless steel spiral handrails and stainless steel clamps from the balusters. Airoli Railway Station, Navi Mumbai, another CIDCO project. The railways have also approved adoption of stainless steel roofing for various zones in the prestigious Turbhe Railway Station Project. The parapet for the Metro railway station in Kolkata was done way back with Salem Stainless.

Conference souvenirs & advertisement tariff

B & W Full page Half page

Rs 15,000 Rs 10,000

Registration fees

Indian: Rs 2000/- per delegate Overseas: US$ 300/- per delegate

Early bird fees till October 15, 2002

US$ 250/- per delegate

Online registration at www.metalindia.info

Photograph courtesy: Salem Steel Plant (Stainless Steel), Salem.
Salem Steel's Railway Platform roofing …

Another CISCO project. The railway platforms have also approved adoption of stainless steel roofing for various zones in the prestigious Tuticorin Railway Station Project. The pantalla for the Metro Railway Station in Kolkata was done way back with Salem Stainless.

Stainless Steel Rails for Metro & EMU Railways - The North American Experience

Parker & Associates Inc, Canada

Stainless Steel for Airports - Status and Scope

Nalin Sharma, Airports Authority of India, New Delhi

In yet another venture, around 70 tonnes of stainless steel sheets in 304 grade with polymer coated panel faces were supplied for the 10,000 sq m curved roofing of Kharakwasani Railway Station in Navi Mumbai. Other options like prefinished roofing were also opted for in this case in view of their vulnerability to corrosion from cut edges and holes drift for erosion. The best cycle cost is considered, stainless steel roofing is cheaper by around 30 per cent of the galvannealed option. The next cost adds to the aesthetics and protects the 220 metre long roof surface of the station. Stainless steel clamps were specially designed for the project, which is for the competitors of the City & Industrial Development Corporation of Maharashtra (CIDCO).

One of the two spiral staircases; the top rail, balusters, guards and glass guardrails. The stainless steel clamps were specially designed under the top rail to the balusters and the guardrail to the balusters at each step. This design can be twisted to the users can then trap the stainless steel into a place system whereby the glass can be replaced without removing the clamp from the balusters.

The recently inaugurated Shipra's indoor station at Madhapur, near the high-tech city in Hyderabad has two interesting applications of stainless steel — stainless steel spiral handrails and stainless steel roofing for the curved roof. The stainless steel roofing for the 10,000 sq m curved roofing of the Koparkhairane station. SSPI also supplied handrailings for the project, which is developed by the City & Industrial Development Corporation of Maharashtra (CIDCO).

One of the two spiral staircases; the top rail, balusters, guardrail, seating are also in stainless steel.
Delhi gets stainless steel metro rail coaches

The first metro train to arrive in Delhi in a race of 20 trains for the first time and was handed over to Delhi Metro Rail Corporation (DMRC) Director (Rolling Stock) Mr Satish Kumar. Four trains have been planned for the Shahdara - Tis Hazari corridor, which is due to be opened in December 2002.

The metro trains are being manufactured by a consortium of companies comprising Mitsubishi Corporation (Japan), Rotem Company (Korea) and Mitsubishi Electric Corporation (Japan). With modern features such as automatic train protection, integrated train management system, microprocessor controlled closing mechanism. Providing for fast acceleration and extremely energy efficient.

The coaches will be fully air conditioned with automatic door brakes and secondary air suspension; the Metro trains are also one of the nicest to travel in India.

Viraj Alloys Ltd

Viraj Alloys Ltd is having a good reputation of its products in the world market. The company has got the prestigious certifications like ISO 9002, AD Merkblatt W0/TRD 100, PED 97/23/EC certification, Appendix H of CSA B-51-97. The company is also having various approvals like Canadian Registration for all provinces and also the Shell Approval.

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