



STAINLESS INDIA

A QUARTERLY NEWSLETTER PUBLISHED BY



INDIAN STAINLESS STEEL DEVELOPMENT ASSOCIATION, NEW DELHI

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SEPTEMBER 2002

Delhi gets stainless steel metro rail coaches



Source: DMRC

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) 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

brakes and secondary air suspension; the Metro trains are also extremely energy efficient.

The coaches will be fully air conditioned with automatic door closing mechanism. Providing for fast acceleration and

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Stainless 2002 conference
Rush your registrations before **October 15, 2002** to avail the early bird discount ! See pages 3,4

Indian Stainless Steel Development Association www.stainlessindia.org

K - 36 (FF), Hauz Khas Enclave, New Delhi - 110 016; Tel: 686 5631 / 3389; Fax: +91-11-686 3376;
E-mail: nidissda@del3.vsnl.net.in

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deceleration, they will be able to move from zero to 80 km per hour in 65 seconds. The public address system and electronic display system would keep the passengers informed about the train's position. It would also help inform the driver and the central control room in case of emergencies.

A total of 240 coaches have been ordered for the first phase of Delhi metro. While 60 of them will be fully imported, the remaining will be progressively indigenised with the last 100 being fully built in India. The coaches are 22 metres long and 3.2 metres wide with four exits on each side; the doors are wide enough to admit a wheelchair easily.

The coaches, made of lightweight stainless steel, can accommodate 370 passengers. Most of the equipment and fittings inside the coaches, including the toolboxes, are made of stainless steel, thus decreasing the chances of fire and the cost of maintenance. It is likely that some of the track equipment will also be in stainless steel.

The Nickel Development Institute (NiDI), ISSDA and its member companies have been in contact with DMRC to specify stainless steel for the railway coaches and for various passenger amenities like the ticket counters, kiosks etc at the metro stations. With DMRC as the benchmark, it is likely that authorities in other cities like Navi Mumbai, Bangalore, Nagpur may also opt for stainless steel for their metro systems.

Information: www.delhimetrorail.com and press reports



Chief Minister Mrs Shiela Dikshit in a metro coach made of stainless steel 301L at the DMRC's Shastri Park maintenance shed in New Delhi.

Source: Times of India



Source: DMRC

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 coach-ends designed to absorb large amounts of energy if deformed by collision.

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 car body retains an important part of its stiffness; this is a guarantee of optimum resistance to the collapse of structures. This 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 FYs 2000-01 and 2001-02

Release: October 2002 **Price:** US\$350/- 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) transportation, (iii) consumer durables and miscellaneous products including architecture, building & construction and (iv) utensils.

Stainless steel at *The Fox* restaurant, Gurgaon



A unique dining experience awaits at The Fox, a restaurant of the Vatika Group located in the First India Place, Sushant Lok – 1, Gurgaon. “The Fox” is about contemporary lifestyle and offers facilities like a fashion café and gallery, bar and lounge, an amphitheatre, art display area. M/s Matra Architects & Urban Planners were the architects for this project. Stainless steel fabrication was done by M/s Kaushal Engineers.

According to the architects, the interiors of the main dining area of the restaurant considers the visual experience of the minimalist environment, though the focus is predominantly on exploring the sensual quality of space.

Designed to dine 142 persons and a radiant elliptical bar for 20 persons, the interiors of the restaurant has many novel

applications of stainless steel in the canopy for the bar counter, pillar cladding, furniture etc.

Promoter: The Fox, A Division of Vatika Group, First India Place, Sushant Lok – 1, Mehrauli Gurgaon Road, Gurgaon – 122 002, Haryana.

Contact details of the architect: Mr Verendra Wakhloo, MATRA ARCHITECTS & RURBAN PLANNERS, 53 (1st floor) Navjeevan Vihar, New Delhi – 110 017; Tel: 011 – 628 4971, 628 0368; E-mail: matrarch@hotmail.com

Contact details of the fabricator: Mr G S Rathore, KAUSHAL ENGINEERS, PO Box 4422, Kalkaji Post Office, New Delhi - 110 019; Telefax: 011 - 692 1614, 691 9346; Mob: 0-98100 21405

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 turn over of US\$ 100 million. Presently the Group is well diversified and has the following manufacturing facilities under the aegis 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 steels. The company has the most modern steel melting shop, continuous casting machine, rolling mill etc. The company has installed India’s first intelligent refining system from Praxair, USA with a fully computer controlled operations of AOD to produce perfect quality stainless steel. The company is producing ingots, billets, RCS and rounds with an annual production capacity is 1,00,000 MT. This division is solely catering to the need of group companies.

Bright bar division: This division produces bright bars in the form of coils, straight bars, hexagons and squares with size ranging from 1.5 mm to 450 mm. The division has its own in-house facility for heat treatment, pickling and production facilities like straightening, peeling, drawing, centreless grinding, polishing etc. The annual production is 20,000 MT of finished product.

Flanges-fittings and forged bar division: It is an integrated forge shop which manufacture forged bars and all types of pipe fittings i.e., flanges, butt welding fittings in various specifications like ASME, ANSI, DIN, BS, JIS etc. The flange sizes are: “” to 36” and the forged bar sizes range from 160 mm to 450 mm. The annual production 6,000 MT of finished products.

Angles-flats division: This division is engaged in manufacturing and exporting stainless steel rounds, angles, flats etc. The angle size ranges from 25x25x3 mm to 100x100x12 mm and the flat width from 25 mm to 120 mm with thickness from 5 mm to 30 mm. This division is having in-house facilities like rolling mill, shot blasting machine, straightening and buffing machines, annealing and pickling units. The annual production is 15,000 MT.

Wire and wire-rod making division: This division is engaged in manu-

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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 wavy

sculpture at the entrance of the showroom, shelves suspended by wires, furniture and tapered supports for the table, lighting fixtures etc.



Above: A pair of sleek looking stainless steel suspended merchandising fixtures with shelves made of 12 mm glass. Stainless steel cables at the corners of the shelves appear to run the full length from ceiling to the floor. The top and bottom cables are anchored at respective ends in the ceiling and the floor.

Right: Stainless steel flat is used as beading to separate two different colours of granite. A circular table with stainless steel chairs provides an ideal discussion area. Subdued lights encased in stainless steel cones, which appear to have been sliced into halves vertically. The longer of these, which is almost eight feet tall, doubles up like a pillar.

Promoter: PFM Car Excessories, PFM Shamarao Compound, Mission Road. Bangalore – 560 027.

Contact details of the designer: M/s deSTALLION, 18 / 2, Muniyappa Complex, M C Layout, Vijayanagar, Bangalore – 560 040; Tel: 080 - 311 1802.

Contact details of the fabricator: M/s STALLION SYSTEMS PVT LTD, 15, Shantappa Lane, SJP Road Cross, Bangalore – 560 002; Tel: 080 – 860 4191, 674 4118, 674 7678; Email: stallion@bgl.vsnl.net.in Web: www.stallionstainless.com



NiDI publication

Stainless Steels and Specialty Alloys for Pulp and Paper (No. 11 025) - Arthur H Tuthill

This bulletin is a major expansion and a complete rewrite and update of the American Iron and Steel Institute (AISI) 1982 bulletin, "Stainless Steels for Pulp and Paper". It has been prepared to provide mill engineers with a good overview of the wrought and cast alloys currently used in sulphate and sulphite mills. The bulletin is application oriented. Alloys useful in the principal equipment found in 12 different sections of paper mills are supplemented by sections on alloy characteristics, fasteners, abrasion, welding and corrosion. This updated edition has been prepared by a Task Force of the Metals Subcommittee of the Corrosion and Materials Engineering Committee of the Technical Association of the Pulp and Paper Industry (TAPPI). The bulletin is designed to be a useful reference for mill engineers concerned with materials of construction for the equipment in everyday use. *Free copies of this publication can be had from:*

NiDI-India, K-36 (FF), Hauz Khas Enclave, New Delhi-110016; Fax: 011-686 3376; E-mail: nidissda@del3.vsnl.net.in (please give your postal address while sending your request).

Salem Steel for Railmart and sub pantry of Jan Shatabdi Coaches ...

(Mr M V Anand, General Manager, Salem Steel Plant (SAIL), Salem - 636 013, Tamil Nadu)



Photographs courtesy: Integral Coach Factory, Chennai

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

SAIL's Salem Steel Plant is undertaking fabrication of these modular 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.

Striped stainless steel sheeting was used for the first time in the full wall paneling in the WCS of 3 First AC Coaches turned out by ICF in July and August. These bath-cum-toilets incorporate a number of upgraded features including Stainless Steel fittings and plumbing (exterior).

The Plant is also pursuing the prospects of furnishing the WCB pantry cars, besides the "Deccan Odyssey" coaches of the

"Palace on Wheels" Project of the Maharashtra Tourism Development Corporation.

Salem Steel Plant had earlier supplied material for all stainless steel passenger coaches and Box-N wagons to the Indian Railways. Stainless steel is currently being used in the railway sector for trough floor, under slung water tanks, rung ladders, structurals, flooring, bellows in diesel exhausts, overhead electric car paneling, berth railings, commodes, sinks, 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.

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The stainless steel fabrication for the Jan Shatabdi Express has been done by M/s Velar Engineering Works, Bangalore. *Contact details of the company:* VELAR ENGINEERING WORKS, # 435 Middle School Road, V V Puram, Bangalore - 560 004; Tel: 080 - 662 1406, 661 3979; Fax: 080 - 662 1406; E-mail: velar@satyam.net.in

Salem Steel's Railway Platform roofing ...

(Mr M V Anand, General Manager, Salem Steel Plant (SAIL), Salem - 636 013, Tamil Nadu)

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In yet another venture, around 70 tonnes of stainless steel sheets in 304 grade with polyester Korean blue resin coating in 25/200 trapezoidal profile were supplied for the 10,000 sq m curved roofing of Koparkhairane Railway Station in Navi Mumbai. Other options like pre-painted mild steel sheet roofing 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 65 per cent of the galvalume option. The resin coating adds to the aesthetics and protects the 220 metre long roof surface of the Koparkhairane station. SSP also supplied handrailings for the project, which is developed by the City & Industrial Development Corporation of Maharashtra (CIDCO).



Photograph courtesy: Salem Steel Plant-SAIL, Salem

Close on the heels of this trend setting venture, SSP has supplied over 50 t of stainless steel coils for the roofing of the Airoli Railway Station, Navi Mumbai,

another CIDCO project. The railways have also approved adoption of stainless steel roofing for selective zones in the prestigious Turbhe Railway Station Project. The panelling for the Metro Railway Station in Kolkata was done way back with Salem Stainless.

Stainless 2002 - Markets & Applications

December 6 – 7, 2002 Hotel Regent, Lands End, Bandstand, Bandra West, Mumbai

The objective of the conference is to up-date the audience about the new developments and trends in the markets and applications for stainless steel in India and in different parts of the world. The conference will lay special emphasis on two specific areas, Architecture and Transportation sectors with presentations aimed at the end-use sector personnel.

Who will benefit ?

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

List of Topics and Speakers

Keynote address

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

Markus Moll, SMR, Austria

European market scenario

Euro Inox, Belgium

Scenario in China

Prof. Li Cheng, Stainless Steel Council of China (confirmation awaited)

Use of Stainless Steel in the South East Asian Market

Nanthachit Thavaraputta, Thainox Steel Ltd, Thailand

North American Market for Long Products

Y P S Suri, SteelRX, New Delhi

Utensil Sector in India - Prospects

GSSRA, Ahmedabad

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

Parker & Associates Inc, Canada

Application of Stainless Steel in Rail Coaches

R Sriraman, Integral Coach Factory, Chennai

Use of Stainless Steel in the Construction of Buses in Italy

Fausto Capelli, Centro Inox, Italy

Auto LPG Tanks

Gerry Comarmond, Noveau Technologies Pvt Ltd, Baroda

Use of Stainless Steel in Architecture, Building & Construction

W J Molloy, Nickel Development Institute (NiDI), United Kingdom

Delhi Metro Rail station platforms - a case study

Delhi Metro Rail Corporation (confirmation awaited)

Stainless Steel for Airports - Status and Scope

Nalin Sharma, Airports Authority of India, New Delhi

Parliament Library building in Delhi - a case study

Central Public Works Department (confirmation awaited)

Railway Platform Roofing in Navi Mumbai - a case study

Salem Steel Plant - SAIL

Indian Experience in Stainless Steel Usage for Architecture

Ramesh Gopal, NiDI + ISSDA, New Delhi

Legal matters relating to exports to Europe and North America

Hammond Suddards Edge, Belgium (confirmation awaited)

Registration fees

Indian: Rs 4,500/- per delegate

Overseas: US\$ 400/- per delegate

Early bird fees till October 15, 2002

Rs 3,825/- per delegate

US\$ 340/- per delegate

Online registration at www.stainlessindia.org



Spiral staircase and handrails for Hyderabad's indoor stadium



Stainless steel handrails in combination with acrylic balusters and glass guardrails. The stainless steel clamps were specially designed to weld the top rail to the balusters and the baluster to the base plate at each step. The clamps are forged and machined to perfection and are designed as a two-piece system whereby the glass can be replaced without removing the clamps from the balusters.

The recently inaugurated Shilparam indoor stadium at Madhapur, near the Hitech city in Hyderabad has two interesting applications of stainless steel – stainless steel spiral handrails and stainless steel handrail with acrylic balusters. M/s SS Consultants, Begumpet, Hyderabad were the architects for this project, which was constructed by M/s Nagarjuna Construction Company, Hyderabad.

Contact details of the fabricator: Mr C C Sampath, SREEVATSA STAINLESS STEEL FABRICATORS (P) LTD, New 176-H (Old 93-H) Habibullah Road, T Nagar, Chennai – 600 017; Telefax: 044 – 814 3552; E-mail: sreevatsai@hotmail.com

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One of the two spiral staircases; the top rail, balusters, guardrails, skirting are also in stainless steel.

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Stainless 2002 ...

Conference souvenir advertisement tariff

	B & W	4-colour
Inside front / back covers	—	Rs 30,000
Back cover	—	Rs 40,000
Full page	Rs 15,000	Rs 20,000
Half page	Rs 7,500	—

Mechanical data

Inside front / back covers: 9" height x 6.5" width
 Back cover: Bleeding or 9" height x 6.5" width
 Full page: 9" height x 6.5" width
 Half page: 4.25" height x 6.5" width

Please send the matter along with the appropriate payment before October 31, 2002.

Exhibition

A limited number of exhibition booths are available during the 2-day conference. 9 sqm standard modular stalls are available near the conference hall for display of stainless steel products and services related to architecture and transportation applications. Each stall will have the fascia of the company's name, tables, chairs, lighting and security. A limited number of stalls are available; stalls will be allotted on a 'first-come-first-served' basis.

Stall charges are Rs 15,000/-. This includes one free registration for the conference.

For further details contact ISSDA.

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facturing stainless steel wires and ribbed bars. Wires for the application redraw wires, weaving & knitting wire, link chain, screens/conveyor belt, spring wire, grating wire, electropolish-quality wire, free cutting wire, cold heading wire, wire ropes etc. The size ranges from 0.8 mm to 10 mm; ribbed bars are of sizes 5 mm to 20 mm. The fine wires 0.1 mm to 0.7 mm on spools according to DIN standards (hard and soft finish condition) and in various levels hardness. The annual production is 10,000 MT.

Viraj is having a good reputation of its products in the world market. The company has got the prestigious certifications like ISO 9002, AD Merkblatt WO/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.

VIRAJ ALLOYS LTD, 10 Imperial Chambers 1st floor, Wilson Road, Ballard Estate, Mumbai – 400 038; Tel: 022 – 261 3056, 261 4284; Fax: 022 – 261 2980, 265 9713; E-mail: viel@giasbm01.vsnl.net.in

Works: G – 23, MIDC Tarapur Industrial Area, Distt Thane – 401 506, Maharashtra; Tel: 02525 – 71 365 to 68; Fax: 02525 – 70 431, 72 448; E-mail: viraj@viraj.com
Web: www.viraj.com

Associate Member Sunher India Pvt Ltd

M/s Suhner India Pvt Ltd supplies various kinds of equipment and kits for surface finishing of stainless steels. Founded in 1914 at Switzerland, the company now has offices in the United Kingdom, Germany, the USA, France, Italy, Austria, Mexico, Australia and India.

According to a company source, the abrasive finishing of stainless steels places the highest demands on functionality and aesthetics. For reasons of technical hygiene and appearance, a flawless surface is of essence.

The desired finish is produced in a series of successive work operations and as a specialist in the field of surface finishing, SUHNER possesses comprehensive know-how from which users can benefit.

Concrete stainless steel finishing application solutions are shown in a series of company leaflets, of which several have already been published. They are devoted to the various working processes in vessel, railing and industrial kitchen construction or in the finishing of pipes and sections and



extending to topics such as the repair of jet engine combustion chambers. The company also offers free-of-charge on-site consultation which cater to the individual's solution and cost reduction.

SUHNER INDIA PVT LTD, Plot No. 235 U2, Bommasandra Industrial Area, Bommasandra, Bangalore – 562 158; Tel: 080 – 783 1108; Fax: 080 – 783 1109; E-mail: blroffice@suhnerindia.com

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Thainox Steel Ltd
Trivedi Ind'l. & Research Associates Pvt Ltd
Usinor Ugine India
VSL Alloys (I) Pvt Ltd
Velar Engineering Works
Venus Wire Industries Ltd

Association Members

Institute for Steel Development & Growth
Metal Research Centre
Nickel Development Institute
Stainless Steel Rerollers Association

ISSDA MEMBERS

Primary Members

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Ferro Alloys Corporation Ltd
Haryana Steel & Alloys Ltd
Isibars Ltd
Ispat Industries Ltd
Jindal Strips Ltd
Mukand Ltd
Panchmahal Steel Ltd
Shah Alloys Ltd
Stainless India Ltd
Steel Authority of India Ltd
(Alloy Steels Plant + Salem Steel Plant)
Viraj Alloys Ltd

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