

STAINLESS INDIA

A MAGAZINE PUBLISHED BY

**Indian Stainless Steel
Development Association**

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Stainless steel bus shelters in BRT corridor

M/s Jindal Architecture Limited has successfully completed installation of 60 stainless steel Bus Rapid Transit (BRT) shelters in Delhi. These are already operational at various places in BRT corridor. The company had won the prestigious order for installation of 123 stainless steel BRT bus shelters in Delhi.

The unique stainless steel bus-q-shelters are an eclectic mix of modern design, aesthetics and environment and a disabled friendly structure. These bus shelters provide a comfortable seating arrangement along with display panels for bus routes their timings, litter bins and a clock besides LCD display for GPS. These bus shelters are also fitted with light weight stainless steel advertisement panels with back-lit option on its roof. These advertisement panels are developed indigenously by Jindal Architecture Ltd. Stainless steel with its natural sheen and aesthetic appeal is all set to transform Delhi's arterial routes in appropriate league



Each bus stand uses two tonnes of 304 stainless

to the upcoming Commonwealth Games 2010 and Delhi will be all set to celebrate this iconic occasion with Global Urban Infrastructure splendour.



Fabricator: M/s Jindal Architecture Limited, Plot No. 64 & 65, Udyog Vihar, Phase – IV, Gurgaon – 122 016, Haryana.
Tel: +91-124-4127700, Fax: +91-124-4127777, Website: www.jindalarc.in

Contact: Mr Achal Puri, Mobile: 91-98713 87021, Mr Chirdeep Dhawan, Mobile : 91-98101 12929

Stainless rebar is ideal for repairing distressed RCC

Ever wondered why repair of distressed RCC with fresh carbon steel rebar does not last very long?

During repair of distressed Reinforced Concrete structures, loose concrete cover and rusted rebar are first removed, leaving only mildly corroded and structurally sound carbon steel rebar in tact. Fresh carbon steel rebar is put in place alongside the existing ones and covered with cement.

Engineers engaged in rehabilitation of distressed concrete structures have however found to their dismay that if the first distress occurred say 15 years after construction, the second distress sets in within 5 years even after very careful repair.

The explanation lies in the fact that galvanic corrosion sets in the two corners where fresh carbon steel is on contact with mildly corroding existing carbon steel. This galvanic action accelerates the corrosion of existing carbon steel. Another round of repairs, and the corrosion points keep traveling along the structure to different places.

On the other hand, it has been found through intensive laboratory testing and field experience that stainless steel and carbon steel in contact with each other inside the environment of concrete behave just the opposite of what happens in the outside atmosphere. In the outside atmosphere, we all know that carbon and stainless steels in contact in a moist environment would lead to accelerated corrosion attack on carbon steel.

Inside concrete, stainless in contact with mildly corroding carbon steel helps in passivating the carbon steel to an extent. As to why this strange thing happens inside concrete can be understood from figure 1. Measurements of galvanic current between fresh stainless steel and corroding carbon steel, and that between fresh and corroding carbon steel inside concrete reveal that the former is barely 6% of the latter!

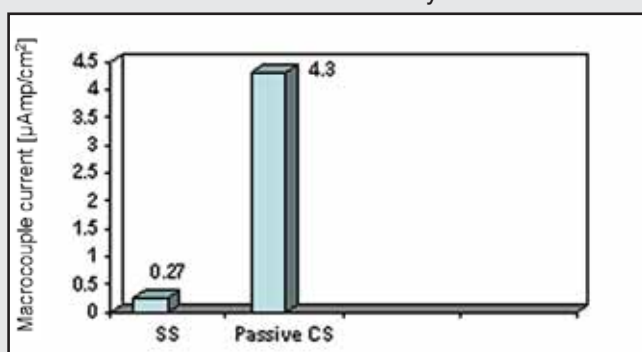


Figure 1 – Macrocouple current density for SS and passive carbon steel in contact with carbon steel embedded in chloride-contaminated concrete

So, when you use stainless steel for rehabilitation of distressed RCC structures you can be sure of a lasting repair job.!

This galvanic behaviour is one reason why new construction uses a small quantity (2-5%) of stainless steel rebar only in critical and corrosion-prone areas of structure. Such a design increases the original budget by barely 1% of the project cost, but ensures a trouble-free life of 300-400 years for the structure.

(Figure courtesy: Guidance on the use of stainless steel reinforcement, Concrete Society Technical Report 51, 1998)



(Illustrations courtesy: Nickel Institute, Nickel Magazine, September 1998, Volume 14)

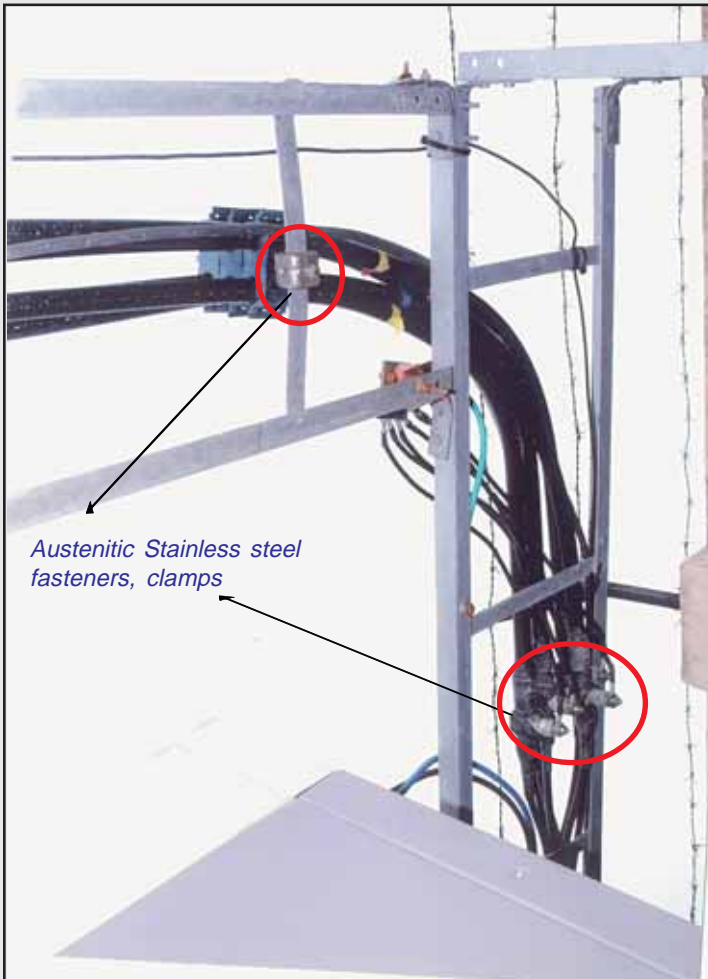
Cell Phone Towers – Important market for austenitic stainless steel fasteners



India is presently the second largest cell phone market in the world next only to China. At the end of February 2008, India's wireless (GSM, CDMA and WLL) base stood at 250.93 million. In February 2008, China's subscriber base passed the 400 million mark and in the United States, it

was 256 million. India's monthly addition to subscriber base is the highest in the world (more than 8 million per month). At this rate, by April 2008, India would have overtaken the United States in the number of cell phone subscribers.

Cell phone usage is dependent on the presence of tall towers which can spread the signal around for users to talk to or SMS other people. The number of cell phone towers in India was 110,000 in March 2007. The industry is expected to add around 90,000 towers each in FY 2008 and FY 2009. This means that by March 2009, India will have about 290,000 cell phone towers spread all over the country.



M/s Asha Telecom Pvt. Ltd in Faridabad is one of the fabricators of cell phone towers. According to Mr. Pawan Verma, Director, there are basically two types of Towers. The first is Roof Base Tower (RBT) which is perched on roof tops of buildings. The second is Ground Base Towers (GBT).

RBTs are 7-10 meters tall and use about 75-85 kg of austenitic stainless steel fasteners per tower. GBTs are 20-30 meters tall and use about 125 to 140 kg of the same. The austenitic stainless steels used are in the form of fasteners, clamps, hangers and clips.

Austenitic stainless steels are preferred for securing the communication cable to the tower structure from the top of the towers to the base unit because of their non-ferromagnetism. A ferromagnetic material would tend to disrupt communication and cause severe background noise

Given that 90,000 towers are going up every year now, the requirement of austenitic stainless steel could be placed at about 10,000 tonnes per annum on an average.

Photos and information courtesy:

Mr. Pawan Verma, M/s Asha Telecom Pvt. Ltd., 17/3 Mathura Road, Faridabad – 121 002.

E-mail: ashatelecom2006@yahoo.co.in.

Low-nickel Austenitic Stainless Steels Draft Standard Submitted to BIS

The sub-committee MTD-16:1 of Bureau of Indian Standards (BIS) entrusted with the responsibility of developing a standard for low-nickel austenitic stainless steels has submitted a draft standard to the BIS for placing it before the main committee MTD-16. It's expected that by the end of 2008 or early 2009, a new Indian Standard titled "Low-nickel Austenitic Stainless Steel Sheets and Strips for Utensils and Kitchen Appliances" will be published.

Mr. Ramesh R Gopal, Executive Director of ISSDA was the convener of the Sub-Committee MTD 16:1 of BIS. This Sub-Committee is prominently represented by member companies producing 200 series. The sub-committee was established by BIS at the request of ISSDA for purposes of inclusion of the 200 series in the Indian Standards. It is hoped that this new standard will help in bringing order into the unregulated utensils market and also help exporters of kitchenware meet international standards.

The Central Food Technology Research Institute (CFTRI), Mysore, conducted tests on these grades in food media (for leaching of metallic ions and corrosion). TCR Engineering Services Pvt. Ltd., Mumbai, conducted mechanical property and formability tests. The grades tested were 304, 430, N1 (nominally 1% nickel), N2 (nominally 2% nickel) and N3 (nominally 4% nickel). Grades 304 and 430 were tested for assessing comparative performance. ISSDA initiated work on these tests in September 2006 and has spent about Rs. 15 lacs on this project.

The Low-nickel grades fully met the requirements on both these series of tests. It took four meetings of the sub-committee to arrive at the final draft submitted to the BIS.

ISSDA is very thankful to:

1. Mr J K Bakhroo, Sc. 'E' (Director) & Member Secretary, MTD 16 of the Bureau of Indian Standards (BIS) for giving whole hearted support, facilitating and coordinating the meeting and activities of the Sub-Committee
2. Mr. K R Ananthanarayanan, Consultant, for the huge amount of time, efforts and energy he has devoted to ensure early completion of tests on the large number of samples of 200 series and 304 and 430 grades.



(From left to right: Mr Naresh, Scientist-in-charge, CFTRI, Mr G C P Ranga Rao, Dy. Director & Head Food Packaging Technology, CFTRI, Mr N C Mathur, President, ISSDA and Mr K R Ananthanarayanan, Consultant)

Photo courtesy : CFTRI, Mysore



Photo courtesy : M/s Rajlaxmi Industries, Jodhpur

3. Mr S Sisodia, DGM (Quality), Salem Steel Plant for making the draft specification on the Low-nickel Austenitic Stainless Steels.
4. M/s Jindal Stainless Ltd and Salem Steel Plant (SAIL) for providing the samples in various grades.
5. Other members of the sub-committee who conscientiously executed their responsibility.

For contact details, click 'Members' in the homepage at www.stainlessindia.org

Click 'Supply Chain' in the homepage for category-wise lists of suppliers of various stainless steel products & services

Log on to : www.stainlessindia.org for a list of components needed for wagons. URGENT!!!

Architects & Builders!!!

For stainless steel products used for the Architecture, Building & Construction (ABC) Sector, click "ABC Products" in our homepage at www.stainlessindia.org

Presentation to RITES on Main Line Stainless Steel Coaches

The Indian Railways are planning a new rail coach factory in Palghat District in Kerala. The facility, when ready, is expected to manufacture 600 coaches per annum initially, expandable to 1,000 coaches. The Railway Board has asked M/s Rail India Technical and Engineering Services Ltd. (RITES Limited) to prepare a report recommending materials of construction and production process for this project.

The main stipulation was that the factory should be designed to produce bare stainless steel coaches (i.e., austenitic stainless steels that do not need painting) and there should be no surface preparation (either blasting or chemical preparation involving acids) and at the same time, material selection, the design and the production process should be cost-effective.

RITES Ltd. invited a team of Nickel Institute + ISSDA to provide inputs for preparing a plan to the Railway Board. On Tuesday, August 26, 2008 Nickel Institute + ISSDA team made a presentation to a group of about 15 RITES personnel including the Executive Director (Technical) Mr. Atul Sud.

Nickel Institute + ISSDA team comprised of Mr. Ramesh Gopal and two consultants; Mr. K. R. Ananthanarayanan (an independent consultant, formerly of Salem Steel Plant), and Mr. R. Sriraman, retired Chief Mechanical Engineer-Quality Assurance/Integral Coach Factory, Chennai. (with 20 years' experience in the field of design of railway coaches at Research, Designs and Standards Organisation, Lucknow and ICF during his 32 years' service in the Indian Railways).

Mr. Ananthanarayanan and Mr. Sriraman exhaustively covered areas like grade selection – where and which grade could be



A Swedish rail coach under fabrication

used to the best advantage in the car body structural members such as side walls, end-walls, roof, trough floor, underframe etc., — Cold Roll Formed Sections, Stretch formed sections, Rolled finishes for aesthetic appearance of the exteriors, precautions and care to be taken during storage, handling to processing and fabrication of stainless steels, infrastructure requirements and finally the ideal designs for eliminating arc welding on exterior surfaces thereby eliminating any possibility of distortion and to avoid exterior painting. It may be recalled that eliminating arc welding on the exteriors would greatly reduce the cost and time involved in coach manufacture. Material selection guidelines were also provided for passenger interface areas in the interiors of coaches with stainless steel composites and flooring with rigidized stainless steel. In short, all the areas of concern for RITES in preparing their report were covered in detail to their fullest satisfaction.



Left to Right: Mr S B Malik, Group General Manager (RW & IE), Mr P Kapur, Advisor and Mr Atul Sud, Executive Director (Technical Services) of RITES Ltd



Seated Left to Right are Consultants: Mr K R Ananthanarayanan, and Mr R Sriraman.

**Would you like to
feature your stainless
steel products /
services in
STAINLESS INDIA?
Send us your write-up
along with attractive
colour images**

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News on Opportunities for Stainless Steels

Delhi Metro to introduce 131 new trains

Delhi Metro Rail Corporation Limited (DMRC) will add 131 more trains, some of them with six coaches, to its fleet to cater to the additional traffic caused due to the increasing number of passengers.

The trains will soon run every three minutes and some of these trains' sets would have six coaches on those stretches which are very crowded.

Siemens to make metro train coaches in India

Engineering and electrical goods major Siemens would set up a facility to manufacture coaches for trains and metros in India, thereby launching a completely new business segment in the country.

The Indian arm of the German company has nearly completed the acquisition of land at Aurangabad in Maharashtra to put up a Greenfield plant for the manufacture of engineering goods including rolling stock, it is learnt.

Mumbai rail project Line 2 to have 27 stations

The Mumbai Metropolitan Region Development Authority's 32 km long Charkop-Bandra-Mankhurd Metro Rail project (Line 2 Phase I), the second corridor of Mumbai Metro Rail Project, will have 27 stations.



BEML offers low-cost metro cars

BEML Ltd has come up with a new low-cost, stainless steel metro rail car targeted at the upcoming mass transit projects of Tier II cities.

The cars, priced around Rs 5 crore each, are designed and developed with BEML's R&D and cost much less than those built using imported technology. These could be 25-30 per cent lower than the coaches made using imported technology, a source said.

"The reduction in cost is planned to be achieved through in-house R&D and by using stainless steel material of indigenous make and other aggregates. This will help Tier II cities implement their mass rapid transportation systems at an affordable cost," the BEML release said.

It has received a Rs 52-crore order from DMRC (Delhi Metro Rail Corp Ltd) for the design and development of eight cars.

DMRC is upgrading its four trains to six-car formations by adding two cars to each of them.

This will increase the passenger capacity from 1,506 to 2,290. "On completion of the eight-car project, BEML hopes to bag further orders from DMRC," it said.

The military, mining equipment and metro cars PSU that closed fiscal 2008 with a turnover of Rs 3,005 crore, almost a third of it from the metro business, said it was banking on the success of Delhi and similar upcoming projects in Bangalore, Hyderabad and Ahmedabad.

BEML's proposal on using its stainless steel electric multiple units has also found favour with the Indian Railway Board, which is placing a developmental or test order for six rakes, the defence PSU said. It estimated the total requirement of 3,000 cars with a business potential of Rs 5,000 crore in the coming years. The Railways operates a substantial EMU fleet in Kolkata and Delhi too.

Bombardier starts Indian operations

Bombardier Transportation, a global major in railway transport, said it would kick off its manufacturing activity in India

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at Savli, Gujarat by the end of this year. The manufacturing plant would start with bogies by the fourth quarter of 2008, and metro cars by early next year for the Delhi Metro Rail Corporation (DMRC).

Bombardier has bagged a \$700 million contract from DMRC to supply 424 Bombardier MOVIA metro cars. Around 600 people would be hired, along with 40 engineers, at the 160 thousand square meters facility. As per the contract, delivery of the MOVIA cars is scheduled to begin in the last quarter of 2008. The aim is to complete the project in 2010 to provide effective public transport during the Commonwealth Games that will be held in New Delhi in October 2010.

BMRCL for extension of rail project

Bangalore Metro Rail Corporation (BMRCL) has proposed a plan to add another 5.6 km extension on northern side of Bangalore and 3.2 km towards southern side of the city (total 8.8 km), at an estimated cost of Rs. 1,763 crore, which is to be incorporated in the first phase of the metro rail project itself. The proposal has been sent to the Karnataka government for the Cabinet approval, after which it will send the proposal to the Union Ministry of Urban Development for the final concurrence to carry out extension work.

Maytas bags Hyderabad MRTS



Hyderabad-based construction and infrastructure firm development Maytas Infra Ltd, has announced that its consortium comprising Navabharat Ventures Ltd, Maytas Infra Ltd, Ital Thai Development Public Company Ltd and Infrastructure Leasing and Financial Services Ltd ('NMII Consortium') has been

awarded the concession for undertaking the development of Hyderabad Metro Rail Project (MRTS) on Design, Build, Finance, Operate and Transfer (DBFOT) basis.

The Project cost as per Government of Andra Pradesh (GoAP) estimate is around Rs 12,000 crore and will comprise 3 lines totaling 71km – Line 1: Miyapur to L.B. Nagar, approx length being 30 km, Line 2: Jubilee Bus Station to Falaknuma, approximate length of 15 km, Line 3: Nagole to Shilparamam, approx length being 26 km.

Mumbai gets approval for 2nd airport



The Maharashtra cabinet gave formal approval to City and Industrial Development Corporation's (CIDCO) plans to develop second airport for the city in Navi Mumbai area. If things go by schedule prepared by the CIDCO, airport will be operational by 2012 and it will generate 10 million traffic in the year of inception.

New Coach Factory in Kerala

Indian railways have decided to put up a manufacturing unit for all stainless steel 300 series (unpainted stainless steel shells like Delhi Metro) coaches in Kerala. The unit's initial capacity will be 600 long distance coaches per annum to ramped up to 1,000 coaches per annum at a later date.

Railways launch stainless steel body open wagons

Focussed to improve the reliability and productivity of its freight wagons, Railways have taken upgradation of existing open wagons into stainless steel body wagons. A stainless steel body

wagon upgraded from an open wagon was flagged off from the Carriage and Wagon Works at Perambur, according to a press release. The upgraded wagons have the potential to carry additional freight of 11.6 tonne for each wagon, the release said. For a rake of 58 wagons, it worked out to additional freight of 673 tonne about 16.6 per cent higher than the existing payload of a rake.

Kerala to invest in port projects

The government of Kerala is planning to invest Rs 12,000 crore for development of minor ports in the state within a period of three years. The feasibility study as well as the road and rail alignment leading to the port had been completed and a Maritime Development Board will be set up for port development.

In addition to Vizhinjam, ports in Kollam, Alappuzha, Ponnani, Bepore and Azheekal will be developed with private participation.

Power boiler plant at Ennore



Toshiba would set up a power boiler plant at Ennore in Chennai, with an estimated cost of Rs 1,000 crore. The company will set up boilers for a capacity of 15,000 mw. The company is in talks with the state government's Transport Department and the National Highways Authority of India for strengthening certain stretches of the road connecting the proposed site to the Ennore port, so that it could bring the heavy equipment need for the project.

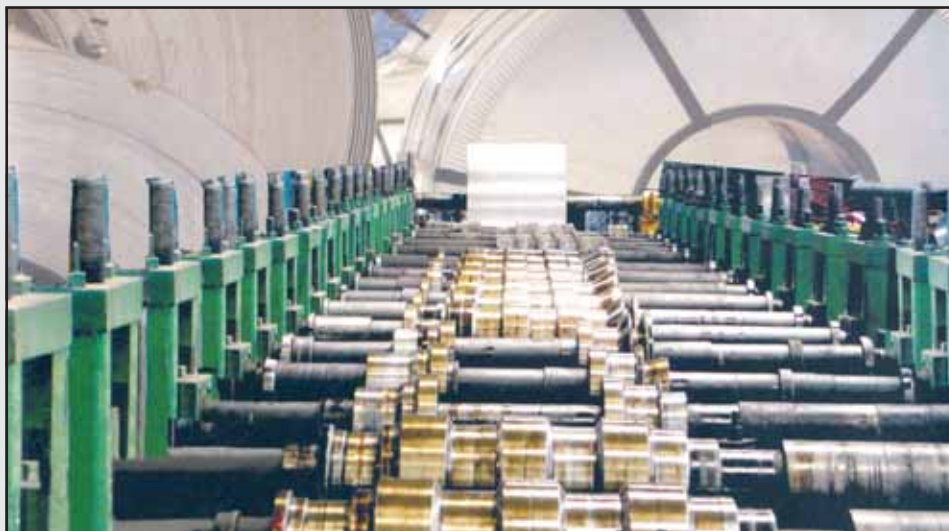
Substantial quantities of austenitic and duplex stainless steels and high nickel alloys are used in power plants for service water systems, boilers, condensers and feedwater heaters. The establishment of this power boiler plant will boost the demand for seamless stainless steel tubes.

Welcoming New Members



DTL Ancillaries (Pune Works) Ltd

DTL Ancillaries, the first indigenous load-body manufacturer in the country, started operations in Greater Noida in 1983 for M/s DCM Toyota Ltd using Toyota-defined manufacturing processes and standards. DTLA started supplies of LCV load-bodies to TML Pune since 1988 after putting up a plant near Pune. It also diversified into cold roll forming (CRF) process manufacturing and has since added prestigious customers like the Indian Railways, M/s Piaggio Ltd, M/s Thermax Ltd among some other prominent OE manufacturers. We have ISO:TS and ISO9001:2000 manufacturing systems implemented at our various plants at Chakan.



One of the three Cold Roll Forming (CRF) Mills in operation at DTLA

Specific achievements of company

DTLA has the unique distinction in the country to be the only load body manufacturer to have captive panel manufacturing capabilities.

The company has a C.A.G.R of 30% for the last 5 years

DTLA is the single source supplier for 100% rolled panels for TMLACE and for PVPL 3 wheeler – 'APE' load bodies.

DTLA is among the three shortlisted companies for a vendor base of over 50,000 of the Indian Railways for development & manufacture of stainless steel coach shell sub assemblies.

Company goals

DTLA aims to become a Rs. 100 crore group by 2010

Introduction of better manufacturing technologies

Expand manufacturing facilities to locations out of Pune with the help of technical joint ventures in the near future.

Get direct orders from some South East Asian and Belgian companies for direct export of products in the near future.

Modernization & Diversification

Investments in new technologies in cold

roll forming process to cater to the needs of passenger car manufacturing sector

Expansion plan

The company plans to expand its manufacturing facilities to locations out of Pune with the help of technical joint ventures in the near future to serve existing and new customers.

Contact : Mr J Vijay Mohan, MD, M/s DTL Ancillaries (Pune Works) Ltd, Gate No. 366, Ambethan Road, Behind Telephone Exchange, P.O. Chakan, Pune – 410 501. Tel: 91-2135-326158, Fax:91-2135-253230, Email: dtlpune@hotmail.com



Johnson Lifts Private Limited

We take the privilege of enjoying ourselves as Manufacturers of Electric Lifts in India. We have been in this field over 40 years and have close to **19000 Installations** in the country and **No.1 Position in South India** in the Elevator Industry. Our current sales is 5000 units per annum.

We have factories at **Poonamallee, Ambattur and Vyasarpadi in Chennai** and have our **ultra-modern factory** having a built-up area of 120 thousand sq. feet at MIDC, Butibori, Nagpur. Currently, in India, we are the 2nd largest manufacturer of Lifts with a market share

of over 50% in major cities like Chennai and Hyderabad in India.

We manufacture and install all types of lifts like Passenger, Bed Lifts for Hospitals and Nursing Homes, Freight Lifts, Automobile lifts and also Scenic Lifts. Our designs conform to the latest Standards Prescribed by Bureau of Indian Standards.

We use the latest Microprocessor Based Variable Voltage Variable Frequency Drive in our equipment. As a matter of fact, we are the first to introduce with V3F technology for use in lifts in South India.

Currently, we have more than **500 Lifts** of high speed type – some installations servicing 25 floors – working satisfactorily in various parts of the country.

Our esteemed customers include Government Departments like CPWD, PWD, DMRC, Pot Trust, Railways, Airport Authority etc. We have customers in the Corporate sector like Polaris, Larsen & Toubro, BHEL, Hyundai Engineering for their new Car Plant etc. and many large reputed builders and Hoteliers.

We are an **ISO 9001** Certified Company, which is carried out by Bureau Veritas Quality International (BVQI) France. Our objective is to provide Excellent Quality
Johnson continued on page 9

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product, Prompt installation and effective after-sales-service to our customers. We are committed to upgrade the technology on a continuous basis.

The manufacturing facilities that we have include Milling Machines, both horizontal and vertical Lathes, Slotting Machines, Radial Drilling Machines, Shaping Machines, Iron Working Machines, CNC Engraving Machines, CNC Press Brake & CNC Turret Punch (Both imported from AMADA – JAPAN & FRANCE), Presses of various capacities etc. and a 7 Tank Paint Shop. **We have 155 ft. tall Test Tower for Research & Development purpose.**

We have suppliers like Greaves for Gears, Siemens for Motors etc. who are reputed in their own fields. Some Critical items like the Traveling Cables, V3F, Automatic Rescue Device and Full Screen Infra Red Door Sensor are still imported from Europe / USA.

We have a total of 1200 people involved in sales, service, installation, finance etc. including 75 Engineers who supervise and inspect all the lifts installed. Apart from this, we have a team of more than 350 dedicated installers of our Lifts. We have exclusive departments for Quality, Design and Development, Research and Production headed by Senior Personnel in the capacity of General Manager.

We have operations in Delhi and neighbouring areas like Noida, Faridabad and Gurgaon and also Service Center at Chandigarh.

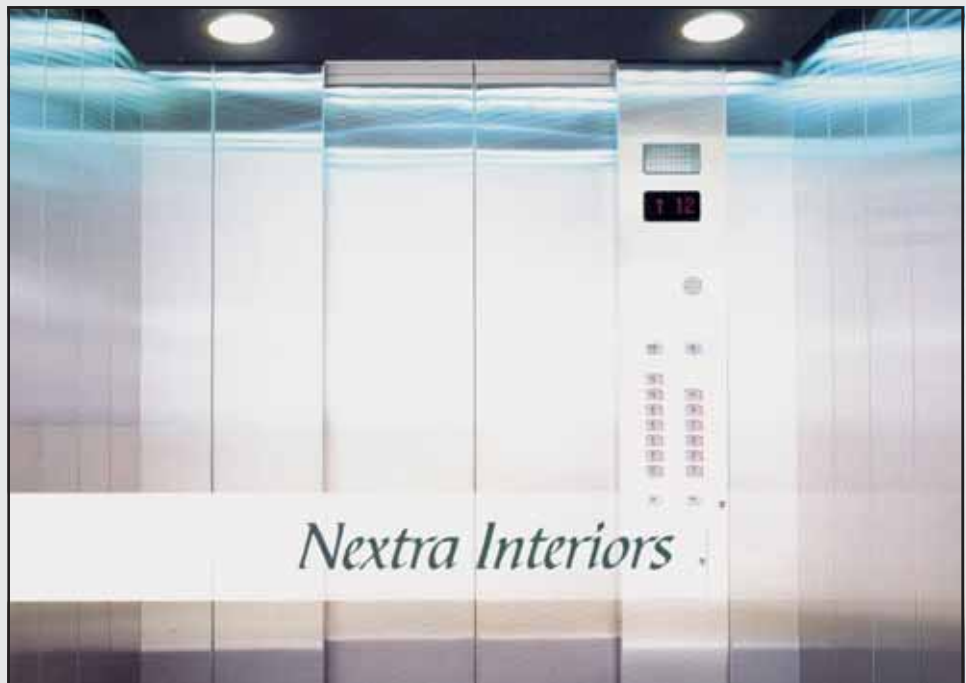
Also, we have full- fledged office at Mumbai, Pune, Nagpur, Raipur, Bhopal, Indore, Ahmedabad & Jaipur.

“We have recently commenced our operations in Kolkata and Bhubaneshwar (Eastern Region). Currently we are exporting our lifts to SAARC countries also.”

In most models of lifts and escalators we have a stainless steel option. Of late, the Indian market is very keen on use of stainless steel cladding for lifts and escalators. We are catering to this increasing fascination of the market with five different surface finishes. There are



SJEC Johnson Escalators installed at Anna International Airport, Chennai



Stainless Steel interior in No. 4 Hairline finish from Nextra Interiors

Johnson continued on page 10



Scenic Custom Lift, HM Geneva House, Bangalore

four imported finishes, namely Dama, Lino, Pelle and Prisma. Moonrock finish is sourced from India.

In the last two years we have grown at a tremendous pace. In 2007 we sold over 5,000 units of escalators and elevators compared to 2006. The highlight of 2007 was when we won the largest ever order for escalators (243 units) in the country placed by Delhi Metro worth over Rs. 1,000 million. We also won the biggest ever order for elevators (200 units) for Shapoorji Pallonji Shukhobrishti, Kolkata. We expect to raise our turnover to 10,000 million by the year 2010.

We keep sufficient quality of spare parts in our Service Centers to maintain different kinds of Lifts/Escalators produced by us. We have adequate number of service Personnel with "Mobile" facilities to attend to any breakdown call in shortest possible time during working hours.

The quality of our **After-Sales-Service** is considered as "**Bench mark**" in the industry.

Contact: Mr V M Thomas
Jt. Managing Director

M/s Johnson Lifts Private Limited

Factory: No. 17, Bye-pass Road,
Sennerkuppam, Poonamallee
Chennai – 600 056

Tel: 91-44-2649 0444

Fax: 91-44-2627 2026

Email: info1@johnsonliftsltd.com,

Website: www.johnsonliftsltd.com

"Stainless Steel: One World – One Market" 2nd International Stainless Steel Symposium in Dubai

Focus Rostfrei and Stainless Steel Focus are holding the **2nd International Stainless Steel Symposium in Dubai in conjunction with ISSDA.**

The registration fee for the 2nd International Stainless Steel Symposium in Dubai, including hotel accommodation for two nights, participation at the conference, as well as the evening event, is between Euro1,530 and Euro1,700, depending on the category of room chosen. It goes without saying - Dubai demands it - that a sightseeing tour is included in the package!

The Symposium begins on Wednesday evening with a "Get Together" in an informal atmosphere in the hotel, and ends on early Friday afternoon. Five papers by well-known experts from the stainless steel industry will be presented at each of the conference sessions which will take place on Thursday afternoon and Friday morning.

The following experts, known and respected throughout the world, have already agreed to speak at the event:

Chairman: Nigel Ward, Director
British Stainless Steel Association (BSSA)

Nicole Kinsman, Technical Director
International Molybdenum Association

Andrea Gatti, Executive Vice President
Commercial Operations Outokumpu

Pascal Payet-Gaspard, Chairman
CEO Arcelor Stainless International

SD Sharma, President (HRCR)
Viraj Profiles Ltd

Heinz H. Pariser
Alloy Metals & Steel Market Research

Ramesh R. Gopal, Executive Director
Indian Stainless Steel Development
Association (ISSDA)

Luigi Agarini, Managing Director
Tad Metals Srl

Special 10% discount for participants from India!!

Log on to : www.Stainless-Symposium-2008.com

CD on Architectural Applications of Stainless Steels

Available from Nickel Institute - India

The Nickel Institute (NI) and the Indian Stainless Steel Development Association (ISSDA) conducted a series of one-day workshops on the applications of stainless steel for Architecture, Building & Construction (ABC) sector in November / December 2006.

Ms. Catherine Houska, a consultant to the Nickel Institute and a renowned international expert on the use of stainless steel for the ABC Sector made the presentations.

The CD covers the following subjects on the use of stainless steel in this application area:

- Sustainability
- Grade Selection
- Design Basics
- Maintenance
- Finishes
- Fabrication
- Interior Applications
- Building Exteriors
- Roofing
- Structural Applications and
- Street Furniture

All the above mentioned Ppt presentations in the pdf format are recorded in the CD.

Along with this, another CD containing all important publications of the Nickel Institute on this subject is also available. The two CDs, in a pack, are available and interested people can write to nissda@gmail.com with their occupation and complete postal address.



WORKSHOPS FOR THE PETROLEUM REFINING, PETROCHEMICAL AND FERTILIZER INDUSTRIES With emphasis on Stainless Steels and Nickel Alloys

The Nickel Institute (NI) is organizing a series of multi-location workshops on materials for the Petroleum refining, petrochemical and fertilizer industries during the first half of December 2008. The Speakers are Mr Donald L. Bagnoli, Mr Donald J. Tillack and Dr. A K Lahiri, consultants to the Nickel Institute.

Locations and dates where the workshops will be held:

- Delhi : Monday, December 1, 2008,
- Vadodara : Wednesday, December 3, 2008
- Kochi : Friday, December 5, 2008
- Mumbai : Saturday, December 6, 2008,
- Haldia : Tuesday, December 9, 2008
- Guwahati : Thursday, December 11, 2008

Details of the venue in various centres will be available shortly.

Programme details are as follows:

- Session 1 : Low Temperature Corrosion (Don Bagnoli)
- Session 2 : High Temperature Corrosion (Don Tillack)
- Session 3 : Introduction to Stainless Steel (Don Bagnoli)
- Session 4 : Duplex Stainless steels and nickel alloys (Don Tillack)
- Session 5 : Materials for Refinery and Petrochemical Services (D Bagnoli)
- Session 6 : Fabrication and design (Don Tillack)
- Session 7 : Materials for Urea production (Dr. A.K. Lahiri)
(Only at Delhi, Vadodara, Mumbai & Kochi)

The presentation is of interest and value to those involved in design, material selection, technical engineering services, maintenance and inspection and research & development. The workshop will be a full-day session generally between 10:00 am to 6:00 pm. Details of the programme will be available at www.stainlessindia.org

There is no fee for attending the workshops.

Participation will be by invitation. Any one interested in these workshops, please contact us with your professional background.

Contact: rgopal@nickelinstitute.org or nissda@gmail.com

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