

STAINLESS INDIA

A MAGAZINE PUBLISHED BY

**Indian Stainless Steel
Development Association**

L-22/4, Ground Floor, DLF Phase-II, Gurgaon 122 002



Tel : +91-124 4375 501, 502 & 503

Fax: +91-124 4375 509

E-mail: nissda@gmail.com, issdastainless@gmail.com

Web: www.stainlessindia.org

VOL.16 NO. 2

Published four times a year

May 2011

For the first time in India

Large Capacity Stainless Steel Water Tanks up to 40,000 Ltrs



AQUA PRIDE circular tanks in a few of the available sizes

M/s Sreevatsa Stainless Products Pvt. Ltd, a pioneer in fabrication of stainless steel for the Architecture, Building & Construction (ABC) sector, now present to you large capacity water tanks in stainless steel in 304/316 grades.

To create facilities to manufacture wide range of stainless steel water storage tanks with maximum holding capacity of 40,000 litres, under the brand name "AQUA PRIDE", an agreement has been signed with their principals M/s Stainless Rainwater Tanks Pvt. Ltd. (SRT), Brisbane, Australia. SRT has successfully manufactured and installed more than 5,000 Stainless Steel Water Tanks of various capacities over the last 10 years throughout Australia. The plant

with imported and indigenous machinery was commissioned in March 2011, in Chennai and the unique corrugated stainless steel water tank was launched successfully during Water Expo 2011 at Chennai.

AQUA PRIDE – Circular stainless steel tanks are available in various capacities ranging from 1,000 to 40,000 litres. Diameters vary from 1250mm to 4500mm and height from 890mm to 2520mm. M/s Sreevatsa Stainless Products (P) Ltd can execute the order according to customer requirement.

Sreevatsa thought it fit to initiate the application of stainless steel for water storage as an alternative to concrete,

galvanized steel and plastic due to the intrinsic and essential characteristics of this wonder alloy. In spite of slightly higher initial cost of stainless steel, over the total life of a project stainless is often the best value option.

Salient features like long service life, environmentally friendly and 100% recyclable, hygienic, aesthetic appearance, strength-to-weight ratio advantage, ease of fabrication, easy cleaning ability, long term value for money are some of the advantages stainless steel has over other materials for storing water.

"AQUA PRIDE" corrugated stainless steel water tanks allow reduced material

Continued from page 1

thickness even for tanks of high holding capacity of over 40,000 litres over conventional steel, resulting therefore in substantial cost savings. The lower weight results in cheaper transport, lifting, installation and supporting structures. Oval-shaped Slim Line model has ability to fit in small niches and otherwise wasted spaces.

The proven and distinctive design of the "AQUA PRIDE" stainless steel water tanks offer lightweight, durable solutions to the water industry. Thin walls, longevity of service life and high expectation of complete recycling at end-of-life mean that stainless steel can reduce the material intensity of the water industry from the point of extraction, through to the treatment plant and drinking water distribution, and finally in waste water treatment.

In certain areas of the country with minimal rain and acute water shortage, the accumulation of rainwater becomes a necessity and these tanks would prove to be the best alternative for storing of rain water even for drinking purposes with certain precautions during collection.

Carbon steel water tanks have to be painted every 5-7 years. A plastic tank has a service life of five to ten years. There will then be further expenses involved in the ecologically safe disposal of the tank. Galvanized steel tank will have a service life of around eight years and there will then be additional expense involved in removing this tank.

"EASY" stainless steel water tanks suitable for storage of drinking water are designed and built in Chennai, by Sreevatsa Stainless Products Pvt. Ltd,



Aqua Pride - Slim Line; Oval-shaped tanks available in various sizes

a family owned enterprise with over 3 decades of experience in crafting stainless steel. The EASY tanks, capacity up to 5000 litres, are being manufactured since 2008.

"EASY" and "AQUA PRIDE" series stainless steel tanks have a service life well in excess of forty years and will add value to any property. When a stainless steel tank reaches the end of its effective service life, possibly in 50 to 60 years, it will be worth a considerable amount of money as scrap metal.

On special request, Sreevatsa can manufacture tanks in 316 stainless steel (marine grade). These tanks are suitable for extreme marine environments, for example, on Islands and beach frontage dwellings.

Application Areas: Application Areas of

"EASY" and "AQUA PRIDE" series stainless steel tanks is wide spread like R.O Plants, replacement of concrete overhead tanks in bungalows, flats and high rise buildings, rain water harvesting, and many other applications that may require storage of potable water in schools, colleges, community drinking water facility, malls and multiplexes, rural water storage tanks, resorts, hotels and restaurants, hospitals and nursing homes, where hygiene and durability of the water storage unit is paramount, without a compromise.

For details contact : Mr.C.C.Sampath, Managing Director, M/s Sreevatsa Stainless Products Pvt Ltd, Sri Malola, 174 G Habibullah Road, T. Nagar, Chennai 600017. Phone : +91 44 28243553 / +91 44 43502454. (Please see advertisement on page 10)

Workshop on the Use of Stainless Steel in the Water Industry July 22, 2011, New Delhi.



David Jordan

ISSDA is organizing a half-day workshop on the use of stainless steel in the water industry. After having successfully introduced stainless steel in the building and construction sector & rail transportation, ISSDA is now making a foray into the water industry which has immense potential for stainless steel.

For this workshop, ISSDA has invited Mr David Edmund Jordan, consultant to the Nickel Institute. Mr. Jordan will be making a presentation on the 'Use of Stainless Steel in the Water Industry' on July 22, 2011 in New Delhi.

This half-day workshop would be of great interest for the organizations engaged in water supply (potable as well as industrial), pumping stations, water reservoirs, water and sewage treatment plants, transmission and distribution mains etc., and process plants using

water such as power, chemicals, food, pharmaceuticals etc.

Venue: Conference Room II, India International Centre, 40 Max Muller Marg, New Delhi - 110 003.

Time: 0930 - 1400 hrs.

Interested persons may contact ISSDA at *email: nissda@gmail.com* or call 0124 4375 501, 02 or 03.

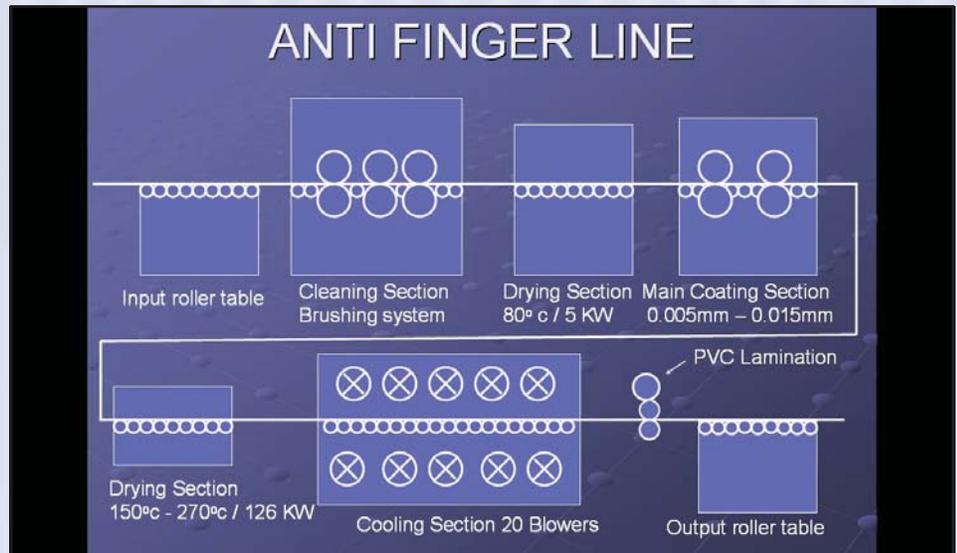
There is no participation fee for attending this workshop.

Anti-fingerprint finish available for stainless steel surfaces

JSL Stainless Limited through its chain of service centers Jindal Stainless Steelway Ltd. has been continuously focusing on improving the services offered to its customer and simultaneously developing capabilities for value added world class products. One such recent development has come out in the form of **antifinger finish** stainless steel sheets. The state of art facility is installed at JSSL, Gurgaon service center that offers an antifinger finish to stainless steel sheets after processing. The facility installed has the following process capabilities –

- Sheet to Sheet finishing
Thickness range: 0.30 – 3.00 mm
- Max. Width: 1270 mm
Max. Length: 3000 mm

The antifinger finish is a thin acrylic coating of 5-10 microns, which decreases the intensity of finger impression on surface of stainless steel sheets and it can be easily wiped off by a piece of cloth thus minimizing maintenance.



This antifinger finish coating can be easily done on any surface such as 2B, No.4 Scotch Brite or any other special finish.

Due to this property, the antifinger is finding a great use in applications such as: •Elevators •Wall Cladding •Kitchen Walls •Refrigerators •Water Coolers.

Contact :

Mr.Rajesh Modi

M/s Jindal Stainless Steelway Ltd.
Chief of Business Unit,
Plot 64, 2nd floor, Udyog Vihar, Phase - IV,
Gurgaon 122 016, Haryana
Mob:99700 52010
Tel:0124-4127700, Fax:0124-4127729
Rajesh.modi@jindalsteelway.com

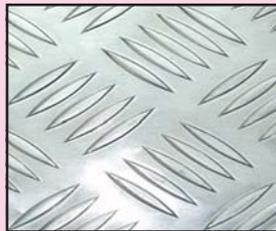
SLIP-FREE Stainless Steel sheets from Salem

Salem Steel Plant have recently introduced SLIP-FREE stainless steel flooring sheets. With excellent corrosion and wear resistance and deep relief, the SLIP-FREE stainless steel flooring sheets come in as a very good alternative option to the traditional aluminium chequered finish sheets.

Having a wide area of application in areas like gangways, walkways, abattoirs, food processing units, industrial kitchens, automobiles and railway coaches, Stainless Steel SLIP FREE flooring sheets have a longer life span as compared to Aluminium (three times more) and easy cleanability.

This application has aptly played on the strengths of stainless steel – gaining strength on cold working, thereby crafting a product to meet the exacting demands of the usage conditions. With a yield strength of 515 MPa and high level of hardness (Vickers - 275) and a wear resistance which is more than 2 ½ times that of Aluminium, stainless steel SLIP FREE flooring sheets is now fast becoming a popular choice for designers and consultants.

CHEQUERED PLATE ALUMINIUM



SLIP FREE FINISH STAINLESS STEEL



And it is also pertinent to reckon that stainless steel with its inherently high “strength-to-weight ratio” lends a distinct advantage to adopt lesser thickness without compromising on strength – thereby bringing down the tare weight, in

the case of bus bodies, LCVs and railway coaches. On a like to like comparison there can be a 60 to 70 % reduction in thickness as can be seen from the following:

Aluminium		Stainless Steel	
Thickness (mm)	Weight (kg/sqm)	Thickness (mm)	Weight (kg/sqm)
2.00	5.40	0.80	6.20
3.00	8.10	1.00	7.80
4.00	10.80	1.25	9.75

Fixing of SLIP FREE Stainless Steel is quite easy using screws and rivets. Stainless steel sheets are also easily weldable where required.

Enquiries on Stainless Steel SLIP FREE

flooring sheets and several such customized finishes can be addressed to : **GM (Mktg-HQ) Salem Steel Plant Salem 636 013.**

email : sspmkthq@sailssp.in

Cost-effective Stainless Steel Solutions in Modern Plumbing Systems

Water piping plays a very important role in determining the life of the RCC structure and hence the life of building as such. The new and tall buildings in modern times have additional unique requirements – they must be able to withstand not only high pressures but the motion of the building caused by seismic and wind forces. The mechanical properties of stainless steels are ideally suited for such loads. Also, stainless steel is well known for its hygienic and anti-bacterial properties and hence is used extensively in the pharmaceutical and food processing applications.

Indian architects and plumbing consultants are looking for alternatives to galvanized iron, PVC and copper, to meet the increasingly demanding performance requirements from their customers going for state-of-the art buildings.

Stainless steel plumbing is often seen as expensive and tricky to work with. But the new and innovative “Press Fit Technology”, has made stainless steel to be a cost effective and easy to install alternative to most systems.

Stainless Steel - Material Benefits

- Stainless steel has a very low general corrosion rate in water and hence no corrosion allowance is required.
- Stainless steel is hygienic. It is used in all pharmaceutical and food processing industry. It is ideal for hotels, hospitals and high rise buildings.
- By preventing leakage, it significantly extends the life of RCC structures.
- It can withstand very high flow rates - in excess of 40m/s as against 2m/s norm in the case of GI /copper or plastics.
- Combining corrosion resistance with high strength allows reduction in section diameter, wall thickness and weight, making it cost effective and quick and easy to install.
- Stainless steel press-fittings, in particular, are easy to use for joints, and ideal for installation in areas with limited space and access or where the use of heat would be a problem.

Life-Cycle Cost Analysis

A typical life-cycle cost (LCC) calculation should take the following factors into account:

- **Material Cost**
- **Maintenance cost**
- **Fabrication Cost**
- **Replacement Cost**
- **Installation Cost**
- **Disruption cost**

But typically, in most analysis, only the first 2 or at the most 3 factors are considered. As a result of this, the study becomes skewed and when the other costs are incurred during service life, the decision looks like a bad decision in retrospect. To overcome this phenomenon, it is advisable to include all the costs. An example of this analysis in water piping in a typical bathroom of a house is as shown below:

LCC for 50-year life of Plumbing systems

<u>Cost</u>	<u>GI</u>	<u>SS</u>
Material cost	4,000	10,000
Installation Costs	4,000	4,000
Total	8,000	14,000
Average Life	10 years	50 years
Repairs during life	Once (every 10 years)	Nil
Cost of Repair (5 times)	10,000	0
Replacement	4 times (@Rs.15000/-)	Nil
Cost of Replacement	60,000	0
Cost of Interiors	60,000	0
Total Lifecycle cost	138,000	14,000

(Disruption cost of GI not included)

Therefore, the actual cost of installing a Stainless Steel piping system is 1/10 of the GI system in the life of a house.



Environmental Benefits :

- It has excellent resistance to the full range of potable waters (including the various chloride levels) covered by the European Drinking Water Directive.
- Stainless steel installation is clean.
- No heat is required to form a joint or a groove, reducing fire hazards. Therefore, hot work permits are not required.
- At the end of its useful life, stainless steel is fully recyclable and retains a higher residual scrap value than ordinary steel.

Economic Benefits :

- The expected lifetime of a stainless steel system is more than 50 years, longer than is typical for competing materials.
- Stainless steel requires no additional coating / or painting.
- No maintenance is required after installation, eliminating system down time, replacement and maintenance costs over the life of the installation.
- As a strong material, stainless steel is **not easily damaged by use in public areas.**
- Savings in stainless steel result from the following factors:

- Lower thickness of pipe hence lower material cost.
- High flow velocities enable use of lower diameter pipes - cost saving.
- Fast installation with semi-skilled labor, saves labor costs.
- Savings in installation time results in saving in project overruns.

Legislation in Plumbing: Revised German standard DIN 50930, prohibits galvanized steel plumbing. Similarly, in China, Japan and many other countries, use of GI plumbing is banned for drinking water supply.

Even in the "Uniform Plumbing Code of India – 2008" the GI plumbing is not recommended for drinking water.

Grades of Stainless Steel : Stainless steel comes in various grades which have different chemical compositions. The most common grade is 304 in water pipelines and is recommended for most applications. For some special applications like seawater and coastal applications, 316 grade may be used. In future, cost effective grades like 444, 441 and 439 will become available and hence

will drive wide acceptability of stainless steel for water applications.

Fire Fighting Systems : Another area of application is the fire-fighting systems. A conventional fire-fighting system consists of MS pipes with welded joints for the sprinkler systems. But, on random inspection, it is typically found that 2 out of 5 sprinklers do not work when fire testing is carried out. Also, in case of fire, most of the high rises need an external fire-extinguisher to douse the flames, in effect, implying that the installed firefighting system has failed to work. The problems are not of installation, but the material. The corrosion products of pipes and weld spatters get accumulated at the nozzle of the sprinklers and block the water exit.

A stainless steel press fit system on the other hand doesn't suffer from this shortcoming. As a result, many modern high rise buildings are now installing stainless steel sprinkler system pipes to ensure safety of buildings.

Installation : Stainless steel press fit system is easy to install and easy for the workers to get trained on. In fact, it

results in saving the installation time by 75% as compared to threaded GI piping system. Also, the system is foolproof, as the chances of the plumber committing manual errors is minimal. Typically, a bathroom can be completed in 4-6 hours as against the normal time of 2-3 days in a conventional piping system.



For further details, please contact :

Mr Pravin Goel
Business Head-Plumbing Systems
JSL STAINLESS LTD
Jindal Centre, 12, Bhikaiji Cama Place,
New Delhi 110 066.
Email: pravin.goel@jindalsteel.com
Mob : 91-98107 06415

Nirali offers Stainless Steel Urinals and Commodes

Jyoti (India) Metal Industries Pvt Ltd, manufacturers of the world famous Nirali Kitchen Sinks have achieved global standards in manufacturing stainless steel kitchen sinks. Its state of the art facility is equipped with high technology machines and today is the largest stainless sink manufacturing unit in India. The company is guided by one underlying principle: Quality.

The factory manufactures forty nine models in one hundred and nine sizes to suit the needs and budget of every household. Another feather to the company's cap is that Nirali Kitchen Sinks has extensive exports to Europe, USA, including Nepal, Vietnam, Kenya and Sri Lanka. The company has earned the BS EN ISO 9001:2000 certificate instituted by the BSI and also ISO 14001:1996 for adhering to eco-friendly manufacturing processes and policies.

21st century looking commodes and urinals for 21st century needs. Stylish, functional and aesthetic, these commodes come in seamless, matt finish and are easy to maintain and

unbreakable. Made of high quality stainless steel grade 304 with 1mm thickness, they ensure zero corrosion and no stains even after years of use. It is available in 5 different sizes in 5 different models.



For more details :

Jyoti India Metal Industries Pvt.Ltd
Village Shaivali Palghar – Manor
Road, Palghar (East) 401404,
Maharashtra (India),
Tel : 91-22-2431 5500 (10 lines),
Fax: 91-22-2436 2543
nirali@nirali.com, www.niralisinks.com



Now offering

Stainless Steel & Nickel Alloys Profile (shaped) Wires Copper & Copper Alloys Profile (shaped) Wires Stainless Steel & Copper Alloys Precision Strips

Raajratna Metal Industries Limited is an ISO 9001-2008 accredited company by TÜV NORD manufacturing of Stainless Steel Wires for the various applications and supplying it's production to more than 50 countries across the globe since the year 1990 with an annual production capacity of 30,000 Mt.

Profile (Shapes) Wires

Our Standard range of Profiles : 2.00 to 45.00 mm² Cross Section with a maximum Width of 15.00 mm.

The Shapes are produced on an Universal Cold Rolling Mill with the following highlights :

- Continuous dimensional checks with CONTACT type measuring system during rolling for highest accuracy
- Close Dimensional controls up to ± 0.010 mm both on Width & Thickness can be achieved as per customer's requirement
- Dimensional checks of the finished shapes is done on the most latest Profile Projector



Shapes

Following shapes can be produced as per customer's requirement :

- Flat / Rectangular Shapes : Thickness : Min. 0.60 mm to Max. 6.00 mm with Round or Flat edges
Width : Min. 2.00 mm to Max. 15.00 mm
- Square Shapes : Min. 1.30 mm to Max. 6.30 mm with Round or Flat edges
- Triangle, Oval, Half Round, Hexagonal, Tear Drop, Diamond shapes with maximum width 15.00 mm
- Other special complex profiles can be produced as per the drawings
- We can also supply profiles from Annealed to Hard condition



Raajratna[®] Metal Industries Limited

Manufacturer of Stainless Steel Wires, Bright Bars, Reinforcement Bars & Profile Wires

909, Sakar-III, Nr. Income Tax, Ahmedabad-380 014. Gujarat (India)

Phone : +91-79-27543681 / 82 / 83 / 84 ♦ Fax : +91-79-27543085 / 26568085

E-mail : domestic@raajratna.com ♦ Website : www.raajratna.com



BHANDARI

BHANDARI ADDS PIPE FITTINGS

Bhandari Foils & Tubes Limited is a leading manufacturer of Stainless Steel Products – **SS Coils, Foils, Pipes & Tubes** over the past two decades. To move another step forward and closer to being the one-stop supplier and manufacturer of all stainless steel piping and tubing products, we have also started manufacturing **Stainless Steel**

/ Carbon Steel / Alloy Steel Pipe Fittings in our plant since April 2009.

A separate manufacturing division has been created within the present complex. **We are an ISO 9001:2008, PED 97/23/EC, AD 2000 MERKBLATT WO Certified Company & also approved by Engineers India Limited (EIL).**



Presently the Company having 4 separate manufacturing units in Dewas. The company has setup a New Plant at Siya Dist. Dewas (M.P). Bhandari are certified for nuclear applications.

Pipe fittings (IBR Certified)

Manufacturing	– SS / CS Fittings Division
(Bends / Elbows / Tees / Reducers / Stub ends)	
NB Size	– 1/2" to 24" NB
Thickness range	– Sch.5 to Sch.80
Type	– Seamless & Welded
Finish	– Polished & Unpolished
Capacity	– 2400 MT per year
Standards	– ASTM, ASME, DIN, JIS or any other International standard

Tubes Size / Specification

Outside Diameter	– 8" to 16" NB (200 NB – 400 NB)
Thickness Range	– 2 mm to 12 mm
Length	– 12 Meters Maximum
Type	– Welded
Finish	– Pickled / Polished
Capacity	– 24000 MT per year
Standards	– ASTM, ASME, DIN, JIS or any other International standard

Works & Head Office :

BHANDARI FOILS & TUBES LIMITED
Plot No. D1 - D4, Phase-I, Industrial Area, A.B. Road, Dewas - 455 001
Madhya Pradesh, India
Tel No: +91 7272 258202/03 259160/61, Fax No:+ 91 7272 258663
Email: sales@bhandarigroup.in, Visit us at: www.bhandarigroup.in

Siya Unit :

BHANDARI FOILS & TUBES LIMITED
SIYA Industrial Area
Dewas - 455 001, Madhya Pradesh,
India

Workshop on 'Sustainable Stainless Steel for Building & Construction' on June 17, 2011, Pune

ISSDA is organising a half-day workshop on 'Sustainable Stainless Steel for Building & Construction' on June 17, 2011, in Pune.

This workshop will help Engineers, Architects, Interior Designers, Developers of Real Estate, Government Departments, Municipalities and others in the construction business on how to select the right grade of stainless steel, and **to differentiate a good product from a bad one.** Ways to identify

substandard materials and shortcuts taken in fabrication methods would be explained. If you ever wondered why some fabricators ask for double the money than the lowest bidder, you will get your answers here.

This workshop will also help fabricators learn in a very practical way how to fabricate high quality stainless steel products with excellent finish for building & construction. This workshop is ideal for those who are already doing some

fabrication and want to improve their product. It is also very good for those who wish to enter this business.

Venue: Hall Chancery-II, Hotel Aurora Towers, 9 Moledina Road, Pune 411 001
Time : 0930 to 1400 hrs.

Interested persons may contact ISSDA at *email: nissda@gmail.com* or call 0124 4375 501, 02 or 03.

There is no registration fee for participating in this workshop.

The discussion surrounding energy and climate change has made people more aware of the threats facing our operating environment – Planet Earth. Global warming and future energy supply imply changes with multiple economic, social and environmental impacts. International organizations, companies and citizens are looking for ways to avoid these changes and have begun to critically evaluate the carbon footprints caused by their operations. The need for a low-carbon society has been recognized and the transition process has started.

Stainless steel is a material that does not release corrosion products into the environment, needs no painting, highly corrosion resistant, lasts for several decades and is 100% recyclable. Note that stainless steel is recycled even more than glass or paper. Because of these attributes, stainless steel is perceived as a very green material. But like any other metal stainless steel production process is both material and energy intensive. In order to enhance the Green Credentials of stainless steel, producers worldwide are trying to minimize the carbon footprint of stainless steel production process to the minimum. A leader in minimizing the carbon footprint of stainless production is Outokumpu, which through its committed, continuous and systematic development, makes stainless steel using the lowest levels of resources and energy.

According to a recent LCI (Life Cycle Inventory) study, all Outokumpu

stainless steel products have a smaller CO₂ footprint than average European steel products. In the study, CO₂ footprints were established for six common stainless steel products. In these groups, the identified minimum values were those of Outokumpu products.

Highlighted below are some of the important actions undertaken by Outokumpu to minimize the carbon footprints of its products:

(a) Recycled Content of stainless steel

Worldwide, the scrap content of the charge in all stainless steel making furnace is 60% but the scrap content in Outokumpu stainless steel is approximately 90%.

The use of higher percentage of scrap in melting gives two environmental benefits. First, less of the earth's crust needs to be excavated for ores of virgin metal. Second, the excavated ore needs to be processed through high energy consuming route to obtain the metal. Direct use of scrap needs much less energy for making stainless steel because the metals are already there in the extracted form, but merely present as alloys in scrap or discarded material.

As a result of the use of high percentage of recycled steel, direct CO₂ emissions (carbon dioxide) by Outokumpu melt shops are more than 90 % lower than in steel production based on virgin materials.

(b) Emissions and energy demand

Electricity is the main energy source for Outokumpu. The company's biggest production sites are located in the Northern Europe and the UK which enables procurement of environmentally friendly low-carbon electricity (read renewable or nuclear energy).

An important factor in reducing the carbon footprint is that Outokumpu uses low-carbon renewable electricity to the extent of 82% and only 18% on fossil fuel.

Consistent efforts pay rich environmental dividends:

In the last ten years, Outokumpu has managed to reduce direct CO₂ emissions by 25% per ton of steel produced. This clearly exceeded all the targets that were set in the Kyoto Protocol.

	Fossil	Renewable	Nuclear
European average (2008)	55%	16%	29%
Outokumpu (2008)	18%	48%	34%

Visit www.outokumpu.com or write to yatinder.suri@outokumpu.com for more information.

HOW NICKEL IMPROVES FERRITIC & MARTENSITIC STAINLESS STEELS

by Gary Coates & Licheng Zhang, Nickel Institute
Presentation hosted on www.stainlessindia.org

Mr. Gary Coates, Consultant and Mr. Licheng Zhang of the Nickel Institute made a very interesting presentation titled "**How Nickel Improves Ferritic & Martensitic Stainless Steels**". This was made at the Fourth China International Modern Ferritic Stainless Steel & Modern Martensitic Stainless Steel Conference in 2011. The presentation highlights the role played by nickel in ferritic, martensitic and precipitation hardenable (PH) stainless steels.

It is well known that poor toughness is the biggest drawback to ferritic stainless steels. The major beneficial effect of nickel is to increase the toughness. Increase in toughness improves yields during mill production, improves formability and enhances weldability.

The presentation also clarifies misconceptions prevalent about the role of nickel on corrosion resistance of stainless steel – such as chloride SCC, pitting / crevice and general corrosion.

The presentation also explains the role played by nickel in enhancing the mechanical properties (toughness) weldability and corrosion resistance of some nickel-containing martensitic and precipitation hardenable stainless steel.

Have a close look at this presentation and benefit from the insight it offers!

On the homepage of ISSDA website (<http://stainlessindia.org/>) under the icon "**What's New**".



Schmolz + Bickenbach Group is a global leader in stainless steel long products in addition to specialized steels, engineering & tool steels. Schmolz + Bickenbach India's warehouse was inaugurated by the CEO of Schmolz + Bickenbach Group at MIDC Ambarnath on 8th of February 2011. All key customers & associates of Schmolz+ Bickenbach India were present to grace the occasion.

The opening of this warehouse-cum-service centre signifies the importance this Group attaches to India as a fast growing economy. Through this centre, the Group hopes to provide better and faster services to customers in India.

This new warehouse would also serve as a service centre for customers. Initially, cutting operations would be carried out, and shearing & machining operations at a later date.

Schmolz + Bickenbach's mills are located in the various parts of the world. The Group consists of Ugitech S.A. France, Deutsch Edelstahlwerke (DEW) Germany, Finkl & Sons USA, Swiss Steel, Switzerland and Sorel Forging, Canada. The total production capacity of the Group is two million tons, which makes the group one of the largest producers and distributors of special steels in the world.



Photo caption: Facing the camera from the left: Mr. Benedikt Niemeyer, CEO of Schmolz + Bickenbach Group, Mr. Jürgen Horsthofer, Member of the Board, Deutsch Edelstahlwerke. Mr. Raju Tolani, Director — Schmolz+Bickenbach India Pvt. Ltd, his back to the camera.



Warehouse Address :

V-102, M.I.D.C.
Addl.Ambarnath
Jhambivali Village,
Ambarnath
Tel: 91- 251 2621902

The product ranges from 0.1mm wires to 1000mm diameter Forged bars in various grades of Austenitic, Ferritic, Martensitic, Duplex stainless steels and nickel alloys. The facilities include modern technology to produce ESR &VAR Grades for most stringent applications.

Office Address :

Schmolz+Bickenbach India Pvt Ltd
303, A-Wing, Hiranandani Estate
Off.G.B. Road
Thane (West) 400 607
Tel : 91- 22 6146 0460,
salesindia@schmolz-bickenbach.com

DMRC earns Rs 2.4 cr through carbon credits

Delhi Metro Rail Corporation (DMRC) was the first railway project in the world to be registered by the United Nations under the clean development mechanism (CDM) which enabled it to claim carbon credits. "This was the first time in the world that the United Nations Framework Convention on Climate Change (UNFCCC) had registered a project based on regenerative braking". Under the regenerative braking process, whenever trains on the Metro network apply brakes, three - phase traction motors installed on these trains act as generators to produce electrical energy which goes back into the over head electricity (OHE) lines. The regenerated

electrical energy supplied back to the OHE is used by other accelerating trains on the same service line, thus saving overall energy in the system as about 30 percent of electricity requirement is reduced.

DMRC has earned Rs 2.4 crore in the year of 2008 & 2009 by selling certified emission reductions (CER) under carbon credit scheme by the Japan Finance Carbon Ltd. DMRC hopes to channel the funds generated by the sale back into its carbon credit programme, as well as into research and development of technology for reducing greenhouse emissions.

Starting from chassis upwards, DMRC coaches are built in stainless steel. The stainless steel coaches are lighter in weight and use environmentally friendly process as stainless steel is 100% recyclable material. In stainless steel production, 60% of the charge is recyclable material which includes stainless steel scrap. At the end of life 100% of stainless steel gets recycled.

High tech approach of DMRC to use latest technology which includes the choice of coach material and regenerative braking process has minimized the effect of greenhouse gases and thereby earning carbon credits.

FIRST TIME IN INDIA

**Corrugated
Stainless Steel
Water tanks
1000 - 40000 Ltrs.**

**aqua
PRIDE**
STAINLESS STEEL WATER TANKS



From The Makers Of **EASY**
Stainless Steel Water Tanks

Call 9445003596
9445040166

 **Sreevatsastainless**
PRODUCTS (P) LTD



Marketing Office:

Sreevatsa Stainless Products (P) Ltd.

'Sri Malola', 174G, Habibullah Road, T. Nagar, Chennai 600 017

Telefax: 044 28143552 / 044 43502454

Mobile: 94450 03596 / 9445 40166

Works:

Sreevatsa Stainless Products (P) Ltd.

S 28/2A, Sakthi Garden Main Road,

Thiruverkadu Pattai, Seneerkuppam, Poonamallee, Chennai 600 056

Phone: 044 26802172 / 73 / 74

WEBSITE

www.easytanks.in
www.aquapridetanks.com

E-MAIL

easytanks@gmail.com
aquapridetanks@gmail.com

S Chandrasekaran new ED of Salem Steel

Mr. Swaminathan Chandrasekaran (55), has assumed charge as Executive Director of SAIL, Salem Steel Plant on May 2, 2011. He took over from Mr. Pankaj Gautam, Executive Director, who is on transfer to SAIL, Bhilai Steel Plant as Executive Director (Works).

He is a Mechanical Engineer from Annamalai University, began his career as a graduate engineer in SAIL, Rourkela Steel Plant (RSP) in 1979. He worked in various capacities and rose to the rank of G.M. Incharge (Steel), Rourkela Steel Plant. Prior to joining Salem Steel Plant, he was the Executive Director of Alloy Steels Plant, Durgapur.



S. Chandrasekaran

Mr. Chandrasekaran has taken over the reins of Salem Steel Plant at a crucial juncture with rich experience in steel melting.

At this significant point of time, after commissioning of steel melting facilities, Salem Steel Plant is poised for reaching greater heights under his leadership.

NYK's Technical Seminar Held in Mumbai

Nippon Yakin Kogyo Co. Ltd., (NYK) founded in 1925 in Japan, is one of the world's premier manufacturers of high performance nickel alloys and stainless steel. On February 19, 2011, NYK conducted a technical seminar on 'Advances of High Performance Nickel Alloys & Stainless Steel' in Mumbai. The seminar was organised to introduce NYK's product range, explain its capability of producing and supplying high quality nickel alloys and stainless steel and its quality technical services to the Indian manufacturing industry.

NYK's range of product includes plates, sheets, and strips of corrosion and heat resistant Ni alloys and Fe-

Ni alloys - Hastelloy, Inconel, Incolloy, Monel etc., and stainless steels such as duplex, super duplex etc. Since the commercialization of 18-8 stainless steel in 1935, the company has continued to research ways of manufacturing high-grade super alloys and stainless steel from nickel ore. It is now expanding confidently its business field to manufacture high-performance alloys for new applications together with conventional stainless steels applying sophisticated production technologies they have acquired through years of stainless steel manufacturing. To know more about the company and its product range visit their website: www.nyk.co.jp/en.

Expansion of Salem Steel Plant

The Rs. 1900 crore expansion programme of Salem Steel Plant to become integrated steel plant envisaged setting up of Steel Melting Shop with the facilities of 55 MT EAF, 60 MT AOD Converter, 60 MT Ladle Furnace, Single Strand Slab Caster and Slab Grinder. Major facilities in the SMS Complex have all been put in position and the stainless steel slabs have since started rolling out. With this major expansion, the capacity of saleable steel production will go up from the present level of 175,000 MT to 340,000 MT.

Alongside the establishment of the steel melting facilities, the CRM complex has also been expanded to augment additional facilities. A new state-of-the-art Slitting Line was inaugurated in October

2010. The 70,000 TPA capacity Slitting Line supplied by FAGOR, Spain is designed to produce multi-slit coils meeting the customised requirements of niche stainless steel market segments.

A new Annealing & Pickling line (the third line in the Salem armoury) with a design capacity of 500,000 TPA was inaugurated in December 2010. This new Annealing and Pickling line with Level II Automation, supplied by Andritz, Austria, will process the entire lot of stainless steel hot rolled coils from Hot Rolling Mill and produce about 194,000 tonnes of Hot rolled annealed and pickled coils in No.1 condition. An Acid Recovery System to eliminate hazardous waste generation and DENOX system for ensuring clean stack emissions have also been inducted as part of this expansion.

H.K. Arora joins ISSDA as Director (Promotion)



On April 1, 2011, Mr. H.K. Arora joined ISSDA as Director (Promotion). Mr. Arora brings with him a wealth of experience in various aspects of

the stainless steel industry and is a valuable asset to the Association. With his help, ISSDA would be able to honorably execute its responsibilities to the Indian stainless steel industry and market.

Mr. Arora was associated with Salem Steel Plant (SAIL) for 27 years in various capacities and superannuated two years ago as Dy. General Manager. Prior to joining Salem Steel (SAIL) he was associated with Bharat Heavy Electricals Limited, Haridwar from 1972 to 1976 and Engineers India Limited, New Delhi from 1976 to 1981.

Mr. Arora is a graduate metallurgical engineer from the University of Roorkee. He also holds a Diploma in Business Management from the National Institute of Labour Education & Management, Chennai. Mr. Arora is actively associated with the Indian Institute of Welding.

DISCLAIMER

Drawings/photographs of equipment, machinery, products and services in STAINLESS INDIA are for illustrative purposes only and their inclusion does not constitute or imply any endorsement of the items or the companies that manufacture or distribute them by ISSDA and its staff.

Utmost effort is put into ensuring that there is no infringement of copyright or IPR. In spite of our best efforts, sometimes incorrect information creeps in, mainly because we have faith in those who contribute articles / images for us. Any such error, if at all, is deeply regretted. If point out, we have no qualms in admitting our error and publish an apology in an effort to appease the aggrieved party.

Welcoming new members....

Established in 1995, the Dorset Group is an ISO 9001: 2008 company- a well-known name in industry of architectural hardware and high security locking solution for providing a complete range of products to style homes, offices, hotels, hospitals, etc. The company's motive is to provide designers & building owners with versatile collection of doorware, locking mechanism & glass fixtures & fittings conveying contemporary aesthetics & are manufactured to technological accuracy of the highest standard.

Apart from adding new segments to its existing collections, Dorset has raised its quality standards & expanded its international presence with a Joint Venture with Kaba Holdings AG of Switzerland to bring into Indian market a spectrum of mechanical, high end mechatronic & access control systems for all business verticals.

The company has widened its range by introducing a complete new range of luxury faucets & bath fittings in eloquent designs with pioneering features, revolutionizing the bath section in the domestic market, thus escalating Dorset's portfolio to comprehensive building products Brand.

dorsët



Rajesh Bansal, MD

Armed with technologically advanced manufacturing facilities spanning over four units, Dorset's commitment to perfection is evident in regular innovation, clubbed with intensive cost analysis to provide sophisticated designer products at affordable prices. Dorset is a preferred supplier in the business due to its all-encompassing building products range as well as unparalleled efficiency in providing revolutionary solutions in record lead time.

Dorset building solutions include a versatile collection of Architectural Hardware - door handles in Brass, Zinc & Stainless Steel; State-of-the-art Locking systems - Mortise Locks, Night Latches, Cylindrical locks, Europrofile Cylinders; & Door hardware - Door closers, Floor springs, Glass fittings, Tower bolts, Hinges, Patch fittings. The company is

one of the patrons of Swarovski crystals which are an integral part of its luxurious door handle designs & also offers customized solutions for all types of doors.

Dorset insists on rigorous craftsmanship & constant innovation, the ideologies that have been synonymous with the brand's identity in design & manufacture of hardware. Our efforts at Dorset remain to gratify both the aesthetic & practical requirements of the user by mastering the science & sentiment in design.

Contact Details:

M/s Dorset Group
A-88, Road No.2, Mahipalpur Extn.
New Delhi-110 037
Tel:11-46138800, Fax: 011-46138880
E-mail:rajeshbansal@dorsetindia.com
www.dorsetindia.com



17-19 JULY, 2011 Pragati Maidan, NEW DELHI (INDIA)

INVITED VISITORS

Exporter, Traders, Distributor, Buying House, Retailer Supplier, Hotel & Restaurant, Corporate, Hospitalities,



EXHIBITORS PROFILE

Utensils, Kitchenware, Kitchen tool & Cutlery, Restaurant & Hotel ware, Tableware, Petware, Cookware Gift Items, Raw Materials Accesories

Expected Trade Visitors 50,000 From India's 500 Cities • Expected Exhibitors - 250

Main - Sponsor



Co- Sponsor



Gold- Sponsor



ORGANIZE BY:
STEEL MARKET INFO
स्टील मार्केट इन्फो

Address: IInd Floor, Nirmal Tower, Chopasani Road, Jodhpur - 342 003 (INDIA)
E-mail: event.steelmarketinfo@gmail.com | **Website:** www.steelmarketinfo.com
Tel: +91-291-2441514 | **Fax:** +91-291-2632533 | **Cell:** +91 - 9314713809



Ozone Architectural Products - State-of-the-Art Manufacturing Facility

Ozone Overseas Ltd. is an established player in the field of Stainless Steel Architectural Hardware. To become a complete solution provider in architectural customized solutions Ozone has set up a manufacturing unit – Ozone Architectural Products at Kala Ambh, Himachal Pradesh.

The manufacturing unit is equipped with state of art CNC Bending, Shearing and Cutting Machines. The factory also has a large number of CNC turning and machining centers. It is spread in an area of 9000 sq mts with two operational phases. Phase III of the unit is under development and is expected to be ready by April 2011.

The automated polishing facility of Ozone Architectural Products provides an edge in ensuring a quality and uniformity in pipe and flat polishing. This process is duly supported by traditional buffing and polishing machines to meet the customized finish requirements of clients.

DesignTeam : The strength of Ozone Architectural Products lies in its dedicated team of product designers who are backed by highly qualified and experienced engineers in production. The design team can understand the requirement of architects and interior designers and design a product which meets the aesthetic as well as commercial parameters of the product.

Projects:

Ozone Architectural Products has emerged as a leading fabricator of Urban Street Furniture. In a short period the company has done some prestigious projects like:

- Fabrication, supply and installation of stainless steel **Bus Queue Shelters** for Delhi Transport Corporation.
- Balcony **Railing** for Common Wealth Games Village which is an exclusive Sleek Design patented by Ozone.
- Around 1700 information and way finding **Signage** installed all over Delhi for various civic agencies and corporates.

The company has also designed a customized three side facing tripod signage for DMRC installed at selected Metro Stations.



Bus Queue Shelters for Delhi Transport Corporation



Benches installed at Bharat Diamond Bourse



Balcony Railing at C W G Village



Signage installed for various Civic agencies and Corporates

Products: The strong design and build capability makes Ozone Architectural Products one of the leading players in providing standard and customized solutions in:

- Urban Street Furniture** : Bus Shelters, Benches, Dustbins, Bollards.
- Signage** : Advertisement boards, Way finding boards, Road signage, Information signage, Customized designs.
- Railings**: Structural Staircase, Spiral Staircase, Customized and Standard Designs.



Signage for Metro Station

Contact Details:

M/s Ozone Architectural Products
40, Bali Nagar, New Delhi – 110 015
(India), Ph: +91-11-4557 6677
Fax: +91-11-4557 6688
Email: ozone@ozone-india.com
Website: www.ozonearchitectural.com



Make Stainless Steel Shine with FEIN Tools

From the inventors of World's First Power Tools from Germany



FEIN: 143 Years of experience and specialist for solutions in Stainless Steel Application.

FEIN Presents new Stainless Steel range for machining surfaces, pipes, profiles, corners and edges which requires highest standards in precision, surface quality and finish. The products range in Stainless Steel includes Compact Angle Grinder for Stainless Steel Application, Polishers, Straight Grinders, Pipe Polishers and Belt Grinder to suit the toughest Stainless Steel Application.

Applications:

- Surface preparation for stainless steel
- Cleaning of sheets / tarnishing /scratches
- Removal of weld seams and material removal
- Deburring
- Polishing to a Satin finish
- Polishing to a Mirror finish
- Notching
- Pipe sanding & Polishing
- Grinding mitre joints and coarse sanding
- Very fine grinding

FEIN Power Tools India Private Limited

Corporate Office & HQ:

69, Arcot Road, Kodambakkam, Chennai 600 024, India.

Phone: +91 44 4357 8680 - 683 Fax: +91 44 2483 7788 E-mail: info@fein.in

Key Account Manager : 9500056124

Website: www.fein.in



Stainless steel saves the Vasa ship for at least 100 more years



On August 10, 1628, the Vasa ship sailed on its maiden voyage. But it became a short trip. The ship sank before it had left Stockholm harbour in Sweden. When the Vasa was salvaged and restored with care 333 years later, in 1961, she was a piece of untouched history. The Vasa Museum is one of Stockholm's most popular tourist attractions, with more than 1.1 million visitors every year.

The bolts currently used in the ship have been in place since the salvage operation in 1961, but the iron used in them is corroding and damaging the timber – and the bolts are no longer able to hold the ship together too well. In a long-term cooperation between Sandvik and Vasa, Sandvik Materials Technology is contributing with its expertise in materials technology and also with the materials for the new bolts. The research and development cooperation between Sandvik Materials Technology and Vasa is about replacing more than five thousand long iron bolts in the Vasa to specially designed bolts in one of Sandvik's own, patented material SAF 2707HD®, an advanced stainless material

used in the most demanding environments in the oil and gas industry.

The replacement bolts had to meet very strict requirements for the material had to last a long time, be non-corrosive, safe and strong, yet flexible enough to fit into the holes that could get deformed over time. Each stainless steel bolt is made up of 7 or 8 separate items, including tube, bar, nuts, washers and springs and can vary in length, with some up to 2 metres long.

Replacing the bolts is quite a complex and time consuming procedure as it has to be undertaken while the Vasa Museum is open to visitors. The bolt replacement should also not be too noisy and it must not lead to any movement of the ship that could jeopardize its structure. The plan is to replace approximately 1000 bolts per year. In some cases, the surrounding wood is in bad condition and must first be cleaned and repaired before the new bolt can be inserted. The rusty iron bolts are gently drawn out from the ship with a mechanical tool. Then the bolt hole is cleaned and

possible rust and mud from the seabed is removed and the same mechanical tools are then used to mount the new stainless steel bolts.

"It is an honor for us to be able to contribute to preserve the Swedish national treasure for at least another 100 years. We develop advanced and unique materials for the most demanding applications in close cooperation with our customers", said Peter Gossas, President of Sandvik Materials Technology.

In 2010 Sandvik completed 50 years of its operations in India. In 2012, Sandvik Sweden will celebrate its 150th anniversary.

Contact details :

M/s Sandvik Asia Ltd
Sandvik Materials Technology
Mumbai-Pune Road, Dapodi
Pune 411 012, Maharashtra
Tel : 91-20-3063 4561
email: steel.india@sandvik.com
Web : www.smt.sandvik.com

All-India ABC Workshops by the world's leading expert on stainless steel



Catherine Houska
Consultant, Nickel Institute

ISSDA is organising a series of five workshops this year on the applications of stainless steel for the architecture, building & construction (ABC) sector.

The workshops will be held at Delhi, Mumbai, Bangalore, Chennai & Kolkata during the week starting Monday October 10, to Friday October 14 on consecutive days in the order of cities listed above.

Ms Catherine Houska, consultant to Nickel Institute will be making

presentations in these workshops. The workshops are open to architects, builders, interior designers, engineers, civil authorities, urban planners, infrastructure personnel from airports, highways, sea ports, railways and other facilities and stainless steel industry personnel. Participation will be by invitation.

For details, please contact ISSDA.
nissda@gmail.com

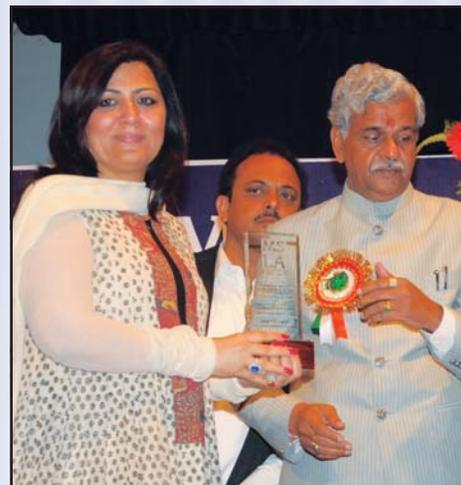
On 25th December 2010, Mrs Renu Kochhar was declared the **"BUSINESSWOMAN OF THE YEAR"** at the Madhavrao Scindia Leadership Awards (MSLA) in Kanpur. Mrs. Renu Kochhar is Managing Director of the 4,500 crore company, Viraj Profiles Ltd, which produces over 50 grades of stainless steel including bright bars, wire rod and wire, fasteners, flanges and profiles.

Mrs Kochhar attributed her success to her husband Mr Neeraj Raja Kochhar, Chairman and Managing Director, who has unconditionally supported her throughout her career and accepted the

award on behalf of her Virajian Family without whom such success would not have been possible.

From manufacturing to marketing, she was the driving force behind the successful launch of the profile product range internationally and received an award from SEEPZ in 2009. Her talent and experience combined with compassion towards the employees, whom she refers to as her Viraj family, has led to her current portfolios of Human Resources, Corporate Communication and Corporate Social Responsibility (CSR).

ISSDA congratulates Mrs. Renu Kochhar on receiving this prestigious award and wishes her good luck in all her future endeavors.



Mrs Renu Kochhar, Viraj Group receiving the award for Business Woman of the Year from Hon'ble Minister Shri Sripakash Jaiswal

Viraj Profiles Ltd ranks 2nd in the world for stainless steel long products

Mr. Neeraj Raja Kochhar is the promoter of the 1 billion U S Dollar Viraj Group. Viraj Profiles Ltd is currently ranked No. 2 in the world in the stainless steel long products segment. Its products are exported to over 80 countries worldwide, and key markets include Germany, the USA, Turkey and Korea.

Source : Stainless Steel Focus, Issue No. 03/2011 (437), ISSN 1478 -1824

Innovative Stainless Steel Philatelic Display Frame for India Post

INDIPEX 2011, the World Philatelic Exhibition was organized by **India Post, Government of India**, in association with the Philatelic Congress of India. The Federation International Philatelic (FIP) extended its patronage and the Federation of Inter-Asian Philately (FIAP) its auspices, for conduct of the Exhibition. This exhibition was held in Pragati Maidan Exhibition complex, New Delhi from 12th to 18th February 2011.

1,400 frames made out of stainless steel 304 with hairline finish were used for displaying this rare collection of stamps from around the world. The design of the frame was made by the team at the Shenoy Innovation Studio, Industrial Design Centre, Indian Institute of Technology, Bombay.

The design brief given to the team by Secretary, India Post, Government of India and INDIPEX 2011 was clear and simple: It should be novel and made of world class material. The stainless steel display frames fully met the vision of the organizers. The frames were fabricated by M/s Jindal Architecture Limited. Each of these stainless steel frames weigh 40 kgs.

INDIPEX 2011 exhibition aimed to bring the international philatelic community



together to celebrate philately, and will provide a unique platform for interaction between all the philatelic stake-holders, viz. the collectors, the dealers, the philatelic journalists and publishers, the designers and security printers, and the postal administrations who issue stamps and stationery. The exhibition showcased some of the finest and rarest stamp collections from around the world. Stamps reflect the history, culture, ethos and concerns of nations and people, which make stamp collection as a hobby interesting and educative.

There was participation from over 70 countries, 500 foreign delegates and about 5,000 school children along with other visitors daily.

For details of the design, prototyping and manufacturing process, please contact:

Prof. B. K. Chakravarthy
Industrial Design Centre, IIT Bombay
Powai, Mumbai - 400 076, INDIA
Tel.: +91 (22) 2576 7860
Fax: +91 (22) 2576 7803
E-mail: chakku@iitb.ac.in