

STAINLESS INDIA



A MAGAZINE PUBLISHED BY

Indian Stainless Steel
Development Association
L-22/4, G Flr, 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.19 NO.4

A Magazine Devoted to Stainless Steel Applications

Published four times a year

April 2015

Duplex Stainless Steel Structures - Stronger, Lighter and Durable



Dome of the main assembly hall under construction

The Afghan parliament building will be the most prominent symbol of Indian efforts to help Afghanistan. The \$ 0.7 billion project, initiated in 2009, is part of India's \$2-billion aid to Afghanistan.

One of the highlights of the under construction parliament building would be its stainless steel dome of 15 meter diameter and 4.5 meter height, which would cover the main assembly hall.

This dome has been made purely from square and rectangular hollow sections of size 125 X 125 X 6 mm, 92 X 92 X 6 mm and 125 X 60 X 6 mm of duplex 2205 grade stainless steel. It weighs approximately 20 tonnes. Rajratna Ventures Ltd., the supplier of stainless steel hollow section, reported

that the designers were greatly impressed by the corrosion resistance, strength, durability and minimal maintenance requirements of stainless steel. Duplex stainless steel offers an attractive combination of corrosion resistance and strength making the structure lighter and durable.

The Central Public Works Department (CPWD), which is carrying out the work on India's behalf, is fully aware of the qualities of stainless steel as material of construction when building something as monumental as this project. Two decades ago, CPWD used stainless steel for focal domes of very prestigious Indian parliament library which was designed for a 125 years of service life.

INDINOX 2015 : One of the Largest Stainless Steel Exhibition

ISSDA participated in the integrated stainless steel expo 'INDINOX 2015' which was held on January 24-27 at Gandhi Nagar in Gujarat, India. This B2B expo had more than 1,000 stalls, which included more than 50 international exhibitors including producers and suppliers of raw materials, houseware, hardware, allied products and machinery. Organized by Indian Stainless Steel Development Organisation (ISDO) the expo attracted more than 50,000 visitors from all over the country. The other attraction at the expo was the display of various artistic usages of stainless steel.

In the same exhibition, SMR Events with Metal Bulletin Events organized an international conference on 25-26th January covering various topics related to stainless steel production, raw materials, fabrication, technological advancements in stainless steel making, marketing, etc.

ISSDA (Indian Stainless Steel Development Association), which is the apex body and the technical & market promotion arm of the Indian stainless steel industry in India, was the knowledge partner of this exhibition. A Knowledge pavilion was set up at the exhibition to educate visitors on various aspects of stainless steel properties and its usage in the pavilion.

Many architects, designers, traders, students and people from all walks of life interested in stainless steel and its different applications and various products displayed at the stall visited our stall. Big posters highlighting all the SSDA's around the world and various innovative applications of stainless steel was displayed in our stall. Visitors were informed that ISSDA, having wealth of information and technical resources, can help them to resolve their queries on stainless steel and its usage. Pamphlets of SS Online course introduced free by ISSDA in collaboration with



Dignitaries at the Dais during Inauguration Ceremony



ISSDA - ISDO Knowledge Pavilion



100 years of Stainless steel history displayed at the exhibition

ISSF were also distributed to people and guidance was provided to encourage them to do this course online.

The chief minister of the state of Gujarat Mrs. Anandiben Patel inaugurated the exhibition. Union

Minister for steel and mines, Government of India, Mr. Narendra Singh Tomar was also present on the occasion.

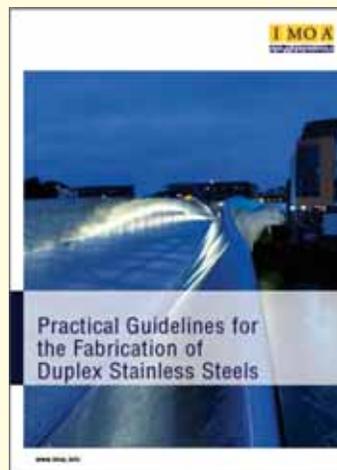


Various Artists Displayed their Work at the Exhibition

Continue from Page 1

As reported, it is expected that whole project will be completed by the end of September this year and the Afghanistan Parliament building will be functional by October 2015 for their last session.

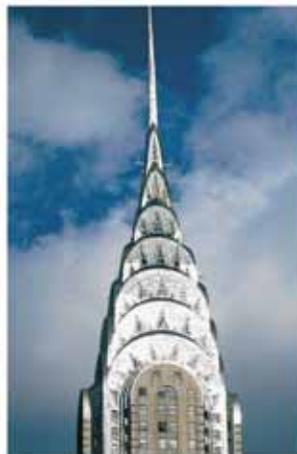
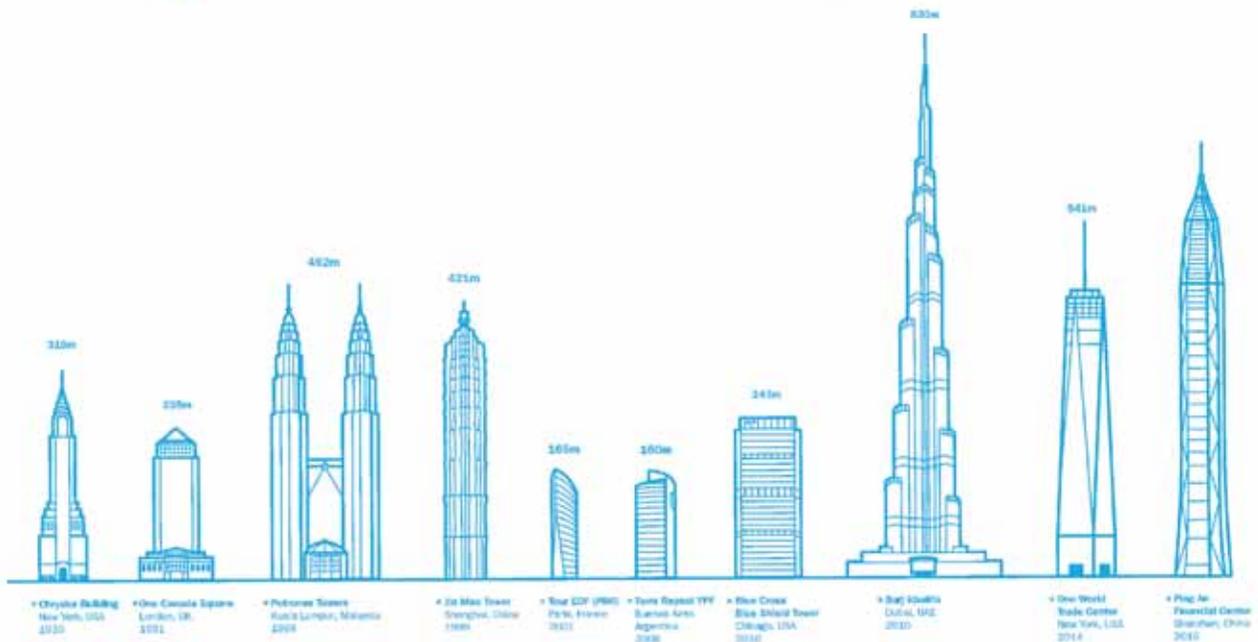
For more details contact:
Mr. Pankaj Sahu
Raajratna Ventures Ltd.
1001 Sakar -III, Near income Tax Office,
Ashram Road,
Ahmedabad - 380014 Gujarat, India
Ph: +91-079-27542104/104
Fax: +91-079-27543085
Email: domestic@raajtubes.com
Cell: +91 9909947438
Website: www.raajtubes.com



To know more about Duplex stainless Steels you are requested to download and read the document made available by International Molybdenum Association (IMOA) which can be accessed here

> http://www.imoa.info/download_files/stainless-steel/Duplex_Stainless_Steel_3rd_Edition.pdf

Building a world of functional beauty



Outokumpu - the global leader in the advanced material business with heritage going back over 100 years to the very invention of stainless steel.

Strong yet pliable. Resistant yet yielding. Useful yet decorative. An apparent contradiction. A synthesis of depth and surface.

A generous range of decorative stainless steel for building facades, high-speed and metro rail cars, elevators, street furniture, kitchen and utilities. The list of applications is growing ever longer.

The beauty of engineering

Gone are the days when stainless steel products were only there to do a job, looks be damned. Nowadays aesthetics play an important part together with a union of form and function.

So, if you are an architect or a designer, we hope to inspire you **to create a world that lasts forever.**

India.sales@outokumpu.com
Outokumpu.com



Stainless Steel the Right Choice for Modern Railway Infrastructure



Prof N K Goyal, President CMAI Association of India, Mr. Brian Parrott, Minister (Commercial), High Commission of Canada, Mr. Benedict L J Eijbergen, Program Leader, Infrastructure, World Bank India, Mr. Anil Swarup, Secretary Coal, Government of India, Honble Manoj Sinha, MoS Railways Govt of India, Mr. Nirmal C Mathur, President, Indian Stainless Steel Development Association, Mr. Mrityunjay Kumar, Country Director, Enterprise And Channel Business (India-SAARC), Juniper, Dr Shailendra Chouksey, Vice President, Cement Manufacturer's Association

To understand the nuances of the Railway Budget 2015-16, Governance Now, a publication on public policy from the SAB-TV Network Group, organized an industry interaction with Shri Manoj Sinha, Hon'ble Minister of State, Railways at the Imperial Hotel, Janpath on 27th March 2015 in Delhi.

The interaction Rail Budget: Reforms & Governance had participation from industry leaders and focused on the impact of Rail Budget 2015 on economy, governance and how it will trigger the reforms in the sector. The discussion also focused on the issues faced by the industry and what the government needs to do in future.

ISSDA was one of the industry partners in this event and Mr. N. C. Mathur, President, Indian Stainless Steel Development Association was one of the key panelists.

Speaking on the occasion Mr. Mathur said "we transport raw steel mostly via railways. However the finished steel products are transported mostly by road. Our association is a not-for-profit organization. We believe stainless steel coaches will be viable in the long run. We are also thinking for the long term. Keeping in tune with Swachh Bharat campaign, we have developed bio-toilets. We also look forward to participating in keeping station premises clean and providing hygienic food. We are eager to provide technical solutions", he added.

He also said that "Indian Railways is one of the largest user of stainless steel in the country and ISSDA will continue to help and encourage various units of railways to get benefitted from the use of this wonderful sustainable material."

Stainless Steel Production Reaches 41.7 Million Metric Tons in 2014

The International Stainless Steel Forum (ISSF) has released Figures for the full year 2014 showing that stainless steel melt shop production increased by 8.3% year-on-year to 41.7 million metric tons (mmt). China continues to grow and its share is more than 50% of

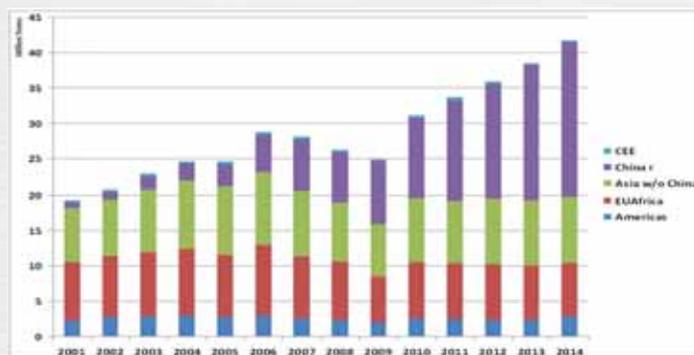
total world production. Production has increased in all regions except for Central and Eastern Europe.

A Graphical representation of the World Stainless Steel Melt Shop Production over last 15 years.

Stainless and heat-resisting melt shop steel production [000 metric tons]

Region	Quarter				Year 2014	+/- % y-o-y
	1/2014	2/2014	3/2014	4/2014		
Western Europe/Africa	2,164	2,116	1,682	1,608	7,570	1.0%
Central/Eastern Europe	71	72	70	64	277	-6.3%
The Americas	670	717	711	716	2,813	14.6%
Asia (w/o China)	2,371*	2,387*	2,374*	2,202*	9,333*	0.6%
China	5,084	5,603	5,336	5,670	21,692	14.3%
Total	10,359*	10,894*	10,173*	10,259*	41,686*	8.3%

source ISSF



One More Step Towards Clean and Green India



On October 2, 2014 Prime minister of India launched 'Swachh Bharat Abhiyan' (Clean India Campaign)

and urged citizens of the country from all walks of life to help in successful implementation of this mission. The mission includes building public toilets with waste disposal systems.

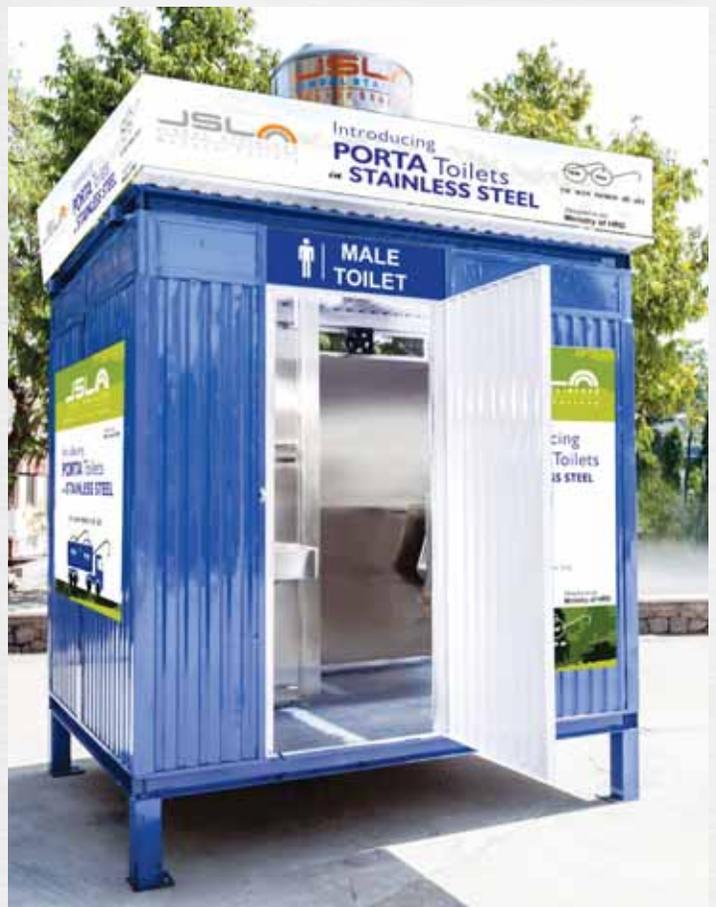
India is home to 1.2 billion people, one sixth of world population. The sanitation coverage in the country in public places in urban areas and household rural areas has always been a challenge. Even bigger challenge is to have access to clean, hygienic and liquid and solid waste managed facilities.

Stainless steel modular toilets provide an appropriate solution for this long-standing problem. In terms of structural strength, product life, maintenance, hygiene, eco-friendliness and scrap value, stainless steel toilets have proved to be better than fibre, mild steel or brick-and-mortar toilets. Due to the modular design, the toilets can be assembled on site, saving time and transportation costs.

Taking on the challenge posed in front of the country, stainless steel industry has come with easy to install individual, cluster and community toilet facilities built in stainless steel. Recently, Jindal Stainless Arc division has come up with some innovative solution.

These toilets are available in a range of single units and as community toilets of six and eight units, respectively. These toilets have the option of being upgraded to automated bio-toilets (similar technology for Indian Railways retention tanks fitted in coaches developed by DRDE & RDSO) which can convert human waste into gases and water with the help of special bacteria.

These toilets are considered to have a natural life of 25 years. Longer life and lower maintenance cost compensates the higher initial cost within few years of its use and turns out to be a cheaper alternative compared to other materials.





Stainless Steel can be easily cleaned with non-acidic, mild, chlorine free household cleaning products. Stainless Steels are world wide preferred for public bathroom surfaces exposed to urine, partitions, dispensers, sinks and other fittings because, unlike painted or plastic surfaces, it can be cleaned and sanitized using chemical free steam cleaning also.

Public installations are often prone to vandalism. Stainless Steel is known for its high impact resistance and is very much vandalism proof.



Very recently a similar modular toilet was installed in Delhi NCR region. One of the users said that “These Modular toilets are very user friendly and stainless steel helps us to keep it clean 24X7. We are extremely happy and feel lucky to be the first few users of this wonderful innovation”.

For further details, contact:

Pushpa Chowdhary
 Assistant Vice President
 International Sales & NPD
 JSL Architecture Limited
 12 Jindal Center, Bhikaji cama place
 New Delhi 110066
 d: +91-11 41462623
 e: pushpa.chowdhary@jindalsteel.com



STAINLESS STEEL IN SMALL QUANTITY

**YOUR QUANTITY
YOUR GRADE*
YOUR SPECS**

**JINDAL'S
STAINLESS
STEEL**

Large or small! Now you can get any requirement of Stainless Steel at your doorstep.

Your quantity. Your grade. Your specifications.

And the stainless steel you get is backed by the Jindal guarantee!



different finishes, customised etchings and mirror finish stainless steel are also available

** conditions apply*



SMS "SS" on 575758

Toll Free: 1800-103-1661



Plot No. 64, 2nd Floor, Udyog Vihar, Phase-4, Gurgaon - 122018
T: +91 124 4127700 F: +91 124 4127729
E: info.gurgaon@jindalsteelway.com

www.jindalsteelway.com

Welcome New Member



Bulk Milk Coolers for farms and collecting centres

Design, manufacture & sales of a complete range of Milk Coolers:

- * Open models from 300 to 2,000 liters,
- * Closed, cylindrical models from 2,000 to 8,000 liters.
- * Closed, elliptical models from 10,000 to 30,000 liters.
- * Vertical models from 10,000 to 40,000 liters.
- * Various milk cooling solutions like pre-cooling, instant cooling with Ice bank...

In their 2 manufacturing plants, 300 SERAP employees are producing the highest level of quality of Milk Coolers.

Our Goal: To participate in the improvement of milk quality and to share with our customers the benefit of our more than 50 years of experience in milk cooling.



Turnover: 40% on export with sales in 80 countries worldwide.

SERAP is the Specialist of stainless steel equipment with heat transfer for conservation & processing of fragile products.

INDIAN FACTORY-

**SERAP INDIA PRIVATE LIMITED
714 & 715, GIDC-MANJUSAR
TALUKA-SAVLI, DISTRICT-VADODARA
GUJARAT-391775**

**Route de Fougères
53120 GORRON - France
Tel: +33 (0)2 43 08 49 49
Fax: +33 (0)2 43 08 66 19
Contact: Sumeet KAKKAR
E-mail: skakkar@groupe-serap.com
www.groupe-serap.com**

Welcome New Member



AMPCO METAL, headquartered in Switzerland, is a leading international manufacturer and distributor of High Speciality

Aluminium Bronze and High Conductivity Copper Alloys like Beryllium Copper, beryllium free copper, Copper Chromium Zirconium, etc.

Its India operations has started at Pune since 2013 with a state-of-art 10,000 Sq. Ft. of warehousing and service center to offer cut to size and length material as per customers demand. They have recently started their machining setup which includes MAZAK VCS 430 and MAZAK QSM 250 to offer finished machine parts to customers.

OUR BRANDS & ITS SPECIALITY



Various Products of AMPCO

AMPCO® :- These are Aluminium Bronze available in horizontal continuous casting, extrusions, and forgings.

MPCO® Speciality - Our alloys are nickel free aluminium bronze which has high hardness,



exceptional wear & tear resistance and high mechanical properties

- AMPCO® 18, 21 & M4 Bending tooling's - Wiper dies inserts, Mandrels for **STAINLESS STEEL** and titanium tubes.
- AMPCO® 18 & M4 - Sliding parts - Wear plates, locator pins, bushes, etc.
- AMPCO® 18 - Millers - Anti spatters application used in welding fixtures.
- AMPCO® 25 - forming and welding rolls for **STAINLESS STEEL** and titanium tubes manufacturing.

AMPCOLOY® - High Conductivity copper alloys available in extrusions, and forgings. 2% Beryllium Copper - AMPCOLOY® 83, 0.5% Beryllium Copper - AMPCOLOY® 95, Beryllium Free Copper (CuNiSi)- AMPCOLOY® 940, Copper Chromium Zirconium (CuCrZr)- AMPCOLOY® 972.

AMPCOLOY® Specialty - Forged material with high hardness and excellent thermal and electrical conductivity.

- AMPCOLOY® 83, AMPCOLOY® 940 & 944, AMPCOLOY® 95 and AMPCOLOY® 972

For further details, contact:

Deven Mukherjee

Inside Sales

AMPCO METAL INDIA PVT. LTD.

(100% Subsidiary of AMPCO METAL S.A.-Switzerland)

Gat no.357/73, Plot no. 12 & 13,

Waghjainagar Road, Kharabwadi, Tal:Khed-Chakan

Pune - 410501 Maharashtra - INDIA

Tel : +91 2135 610 810

Fax : +91 2135 610 811

Mob : +91 84466 08000

Skype : ampco_mukherjee

Website : www.ampcometal.com

Welcome New Member

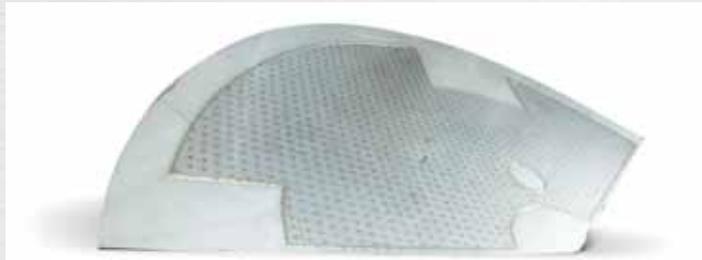


Omega 'leading in heat transfer technology'

Omega Thermo Products B.V. develops and applies state-of-the-art heat transfer

technologies to provide customers and end users with an optimum solution for their heat transfer applications.

Headquartered in The Netherlands, Omega supplies components, systems, and solutions, based on proprietary technology to a variety of industries including the water, beverage, food, chemical, paper & pulp, dairy, pharmaceutical and marine industries.



Omega IceHill Pvt. Ltd. (OIPL)

Omega, Netherlands have a local presence in India. Omega IceHill Pvt. Ltd. (OIPL) has been set up as a Joint Venture where in Omega has joined hands with IceHill Group to set up a manufacturing facility at Rudrapur in Uttarakhand.

This state of art facility is spread over 2000 Sq. Mtr. of constructed area. The key equipment for Laser Welding and Laser Cutting are supplied by Omega. These equipments are installed and commissioned under the direct supervision of technicians from Omega, Netherlands.

Products are manufactured using the latest available laser welding technology, the most automated laser welding system. The facility consists of two Laser Welding Machines, with capacity to weld up to 2000 mm width and length up to 8000 mm, and a Laser Cutting machine capable of handling matching job length and width. OIPL is committed to the highest quality service for your everyday and ASME product applications.

Omega is the largest producer of laser welded plate type heat exchangers in the world with millions of square feet in operation today.

Our product is available as fully fabricated assemblies and tank components or OEM's can decide to purchase our surface only for their own fabrication needs.

The precision of CNC laser welding and our experience of more than 20 years in the field of heat transfer has enabled us to lead the way in new product development and prototyping.

All heat transfer surface and assemblies can be designed, fabricated, and stamped to meet various codes, like PED, EN13445, AD2000, GOST-R, ASME Code Section VIII Div. 1.

Our productline is divided into two segments, engineered products and laser welded products.

Engineered products

- Falling film chillers • Immersion chiller • Ice bank
- Ice machine • Cooling panel • Clamp-on • Custom made heat exchangers • Plate coil • Heat recovery units

Laser welded products

- Beer tank plates • Wine tank plates • Dairy tank plates • Process tank plates • Dished heads

For Details Contact

S.J. Kapoor

V.P. Marketing & Corporate Affairs

Omega-IcehillPvt. Ltd.

8-12, Ground Floor, World Trade Centre

Babar Road, New Delhi - 110001

P:+91 11 23412782, 783

M:+91-98102-70858 | 99903-92111

E-@: sj.kapoor@omega-icehill.in

Web:<http://www.omega-icehill.in>

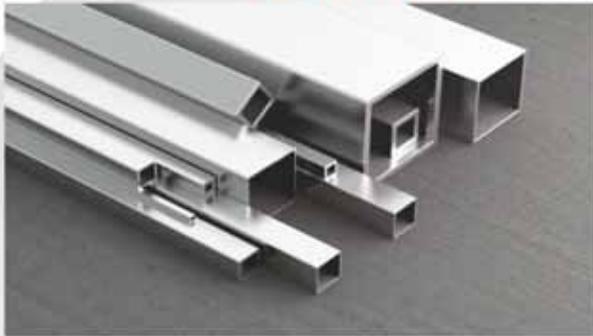
Web: <http://www.omega-group.nl>



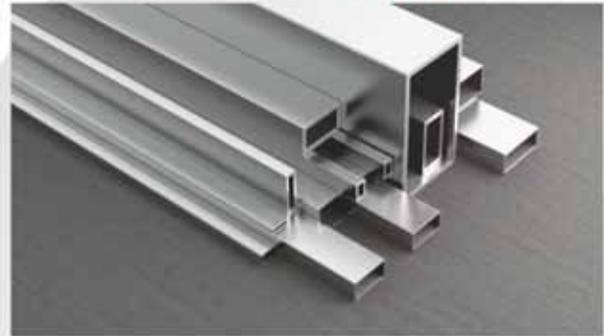
stainless is
our passion



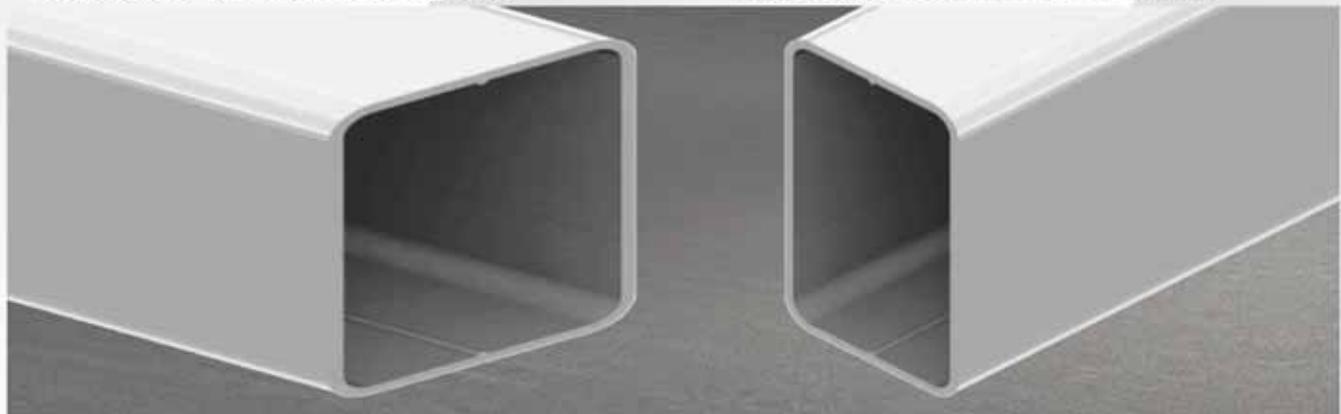
Introducing first time in India Stainless Steel hollow sections with dimensions for HSS upto **400 X 400 mm**, RHS upto **500 X 300 mm** with thickness upto **15.00 mm**.



Welded Square Hollow Sections/Tubes
Size : 12 x 12 mm to 150 x 150 mm
Thickness : 1.00 mm to 6.50 mm



Welded Rectangular Hollow Sections/Tubes
Size : 20 x 10 mm to 200 x 150 mm
Thickness : 1.00 mm to 6.50 mm



Size : Square 100 x 100 to **400 x 400 mm** & Rectangular 100 x 150 to **500 x 300 mm**
Thickness: 3.00mm to **15.00 mm**

A Group with International Reputation for its Quality Manufacturing of Stainless Steel Hollow Sections in Compliance with International Standards.

■ **ACHIEVEMENTS**

- Exporting to 17 countries across the globe.
- **ISO: 9001-2008, ISO: 14001:2004** and **OHSAS:18001-2007** certification for best manufacturing and operational practices.

TECHNOLOGY

- **TIG-PLASMA –TIG** welding technology for precision.
- State-of-the-art manufacturing facilities with advanced technology tube mills, online polishing machines and belt polishing machines.
- The Company has installed the '**Direct Cage Forming Mill**' which is first-of-its-kind capacity in Asia, to manufacture Stainless Steel Hollow Sections / Tubes.

AREA OF APPLICATION

- Construction and Architectural Design, Food and Pharmaceutical Industries, Offshore and Marine Industries, Metro Train, Railways and Bus Body Building, Process Machinerles, Nuclear Plants etc.

- Annual production capacity of 6000 MT.
- Raajratna Group has annual turnover of USD 200 million.
- We deal in Austenitic, Ferritic, Duplex and Lean Duplex materials and also manufacture welded tubes of special grades on demand.

Raajratna Ventures Ltd.

1001- Sakar-III, Near Income Tax Office,
Ashram Road, Ahmedabad - 380014 Gujarat, India
Ph.: +91-079-27542104/105 Fax : +91-079-27543085
Email : domestic@raajtubes.com, Cell. : +91 9909947438

Website : www.raajtubes.com

A Workshop on “Usage of Stainless Steel Rebar and Structural in Architecture, Building & Construction”

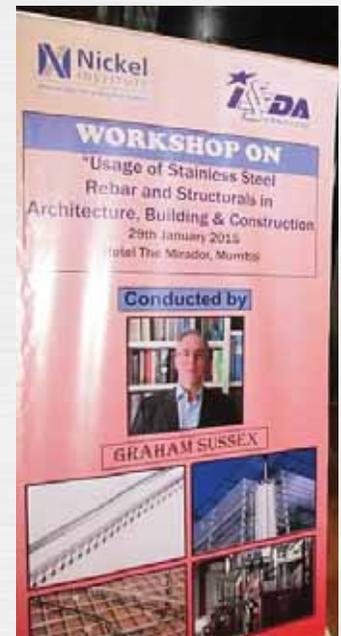
The workshop on ‘Usage of Stainless Steel Rebar and Structural in Architecture, Building & Construction’ was organized at Mumbai on January 29, 2015. It was attended by architects, builders, interior designers, manufacturers and dealers of stainless steel.

The workshop was organized by ISSDA in association with the Nickel Institute. Presentations were made by Mr Graham Sussex who is a renowned expert on the subject. His presentations covered the worldwide trend on use of stainless steel rebar and how using it

can be a saving for a lifetime. He also highlighted the various aspects of using the stainless steel structural and hollow sections for architectural applications specially in coastal and corrosive environments

Mr Sussex’s presentation with latest information including slides and images were very informative and interesting. His interaction with audience by attending to their queries made the presentation quite lively.

The presentation was also extremely useful in strongly projecting stainless steel as a sustainable material. You can access all the presentation made at our website www.stainlessindia.org.



Attention Readers !

You can receive your personal copy of ‘Stainless India’ by sending your complete postal address and contact details to:

nissda@gmail.com

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.