

STAINLESS INDIA

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Stainless Steel Support Structures for Durability and Longevity



Stainless Steel structural elements have become increasingly important and popular in cutting-edge design of structures. Stainless Steels corrosion resistance and its unique properties such as high strength to weight ratio, ability to make light weight structures and enhanced safety has enabled it in becoming a popular choice of material giving durability and longevity to structures.

Today, various industries are in need of a structure which has minimum problem of maintenance and a better campaign life. Load bearing Structures made in steel have to face severe problems of corrosion and therefore it needs protective coatings (e.g; paint) to prevent structural deterioration. This requires regular maintenance of structures resulting in loss of productivity and increase

Image Courtesy : RAAJTUBES



in maintenance costs. In any industry productivity and safety remains a major focus area and both need to go hand in hand. Therefore, it becomes essential that you select a material which ensures safety as well as long service life.

Recognizing above mentioned needs of the project, Reliance Industries Ltd., the largest private sector corporation in India, hired a team of structural engineers to design a carbonate tank supported by structures of stainless steels to ensure good campaign life crucial for their production chain.

For a new facility development on site, Reliance Industries Ltd. joined hands with **RAAJTUBES** for making structural section support for the tank. The structure supports the weight of the tank during top to bottom type of erection. This roof structure is a typical truss structure in a radial arrangement. It spans a diameter of 16500 mm weighing almost 15 tons.

Different grades of Stainless steels are selected in different combinations of strength and corrosion resistance depending upon the severity of location, temperature, pressure and cyclic loading requirements. For this project dual grade 304 austenitic stainless steel was selected for its ability to have high strength and ductility together with excellent corrosion resistance. High strength of dual 304 stainless steel enabled designer to design lighter structures. **RAAJTUBES** fabricated this whole structure with rectangular hollow section in combination with stainless steel products like flat bars and plate. The final structure was made and shipped in readymade condition and it required only to assemble the sub-assemblies by fastening and other joining methods.

Stainless steel sections for load bearing critical structures are fast gaining popularity. Apart from its longevity and maintenance free service life it offers

added advantages of safety such as ability to retain its structural strength even at elevated temperatures in case of an accidental fire. In seismic zones, designers consider higher strain levels and this stainless steels, having the ability to work harden, offers higher levels of strength along with required ductility.

To know more about how to design with stainless steel you can download the publication "Design Manual for Structural Stainless Steel" third edition from <http://www.steel-stainless.org/DesignManual>

The contents of this manual relate to an in-depth study carried out by the Steel Construction Institute on the structural application of stainless steel for onshore and offshore structures.

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Stainless Steel Production for 2015 was 41.5 Million Metric Tons

The International Stainless Steel Forum (ISSF) has released figures for the full year 2015 showing that stainless steel melt shop production decreased by 0.3% year-on-year to 41.5 million metric tons.

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

Region	Quarter				Year 2015	+/- % y-o-y
	1/2015	2/2015	3/2015	4/2015		
Western Europe/Africa	2,007	2,058	1,673r	1,780	7,518	-0.7%
Central/Eastern Europe	64	69	65	61	259	-6.3%
The Americas	768	685	693	601	2,747	-2.3%
Asia (w/o China)	2,366r	2,318r	2,392r	2,385	9,461	1.4%
China	5,015	5,852r	5,371	5,324	21,562	-0.6%
Total	10,220r	10,982r	10,195r	10,152	41,548	-0.3%

Fabricators Training Programme in Multi Cities

Stainless steels can be fabricated by methods similar to those used for carbon steels and other common metals. However, changes may be necessary to the extent that they differ in yield strength, rate of work hardening, welding and finishing practices. It is very important that right fabrication practices are adopted while dealing with stainless steel. Also time to time a person working or dealing on shop floor should have proper knowledge on basics of stainless steels.

Over the years, ISSDA has been doing various workshops and training people doing fabrication in stainless steels. Today, training is needed to the small fabricators, in many of the major cities of India, doing fabrication of products such as handrails, chairs, tables, utility items, doors and windows, cladding etc in order to improve their product quality and productivity to match the international standards.

In continuation to our efforts on fabricators training programmes, ISSDA member companies have also started to conduct fabricator training programmes in various cities of India. ISSDA, with its technical knowledge base, is participating and imparting knowledge to fabricators in these programme on best fabrication practices.

ISSDA has so far helped in training a cluster of fabricators in cities of Gurugram, Pune, Noida and Chandigarh. These programmes are open to and attended by fabricators dealing in both stainless steel and mild steel.

In these programs, ISSDA emphasizes on basics of stainless steel, right practices of fabrication and discussed their technical concerns.



ISSDA Participation at 2nd Railways Reforms & Governance Conclave 2016



Shri Suresh Prabhu Hon'ble Union Minister of Railways addressing the audience

To understand the role of railways as more than a transporter, Governance Now, India's premier governance magazine from Sri Adhikari Brothers (SAB) TV group organized its 2nd Railways Reforms & Governance Conclave 2016 in March 2016 at The Imperial hotel, New Delhi. Shri Suresh Prabhu Ji, Hon'ble Union Minister of Railways & Shri Manoj Sinha Ji, Minister of State for Railways were also present at the Programme.

The interaction had participation from industry leaders and focused on redefining the role of railways as the hub of economic development and discussed the impact of Rail Budget 2016 on

economy, governance, developing infrastructure and technologies and how it will trigger the reforms in the sector. The discussion focused on how industry and government can ensure pacts that are mutually beneficial.

ISSDA was one of the industry partners in this event and Mr N C Mathur, President; ISSDA was one of the key panelists.

Speaking on the occasion, Mr Mathur said "Indian Railways is one of the most important sector for stainless steel industry. Long distance coaches and wagons carrying ores and minerals are currently made in stainless steel

and ISSDA welcomes Indian Railways announcement to further convert all its coaches to SS LHB design. Apart from that he also emphasised the role of stainless steel for development of sustainable infrastructure for railway platforms and other passenger amenities. He added that SS is a better choice of material when in contact with food, water or where human safety is a concern.

He also submitted a technical document to Shri Suresh Prabhu Ji, Hon'ble Union Minister of Railways on why SS is a better choice of material for various applications in Indian Railways.



From (L-R) Mr. R.K. Bahuguna, Mr. N.C. Mathur, Mr. Neel Ratan, Mr. Sanjay Das, Mr. Adesh Sharma, Mr. Shailendra Chouksey, Dr. A.K. Manocha, Prof. N.K. Goyal & Mr. Sanjay Gupta.



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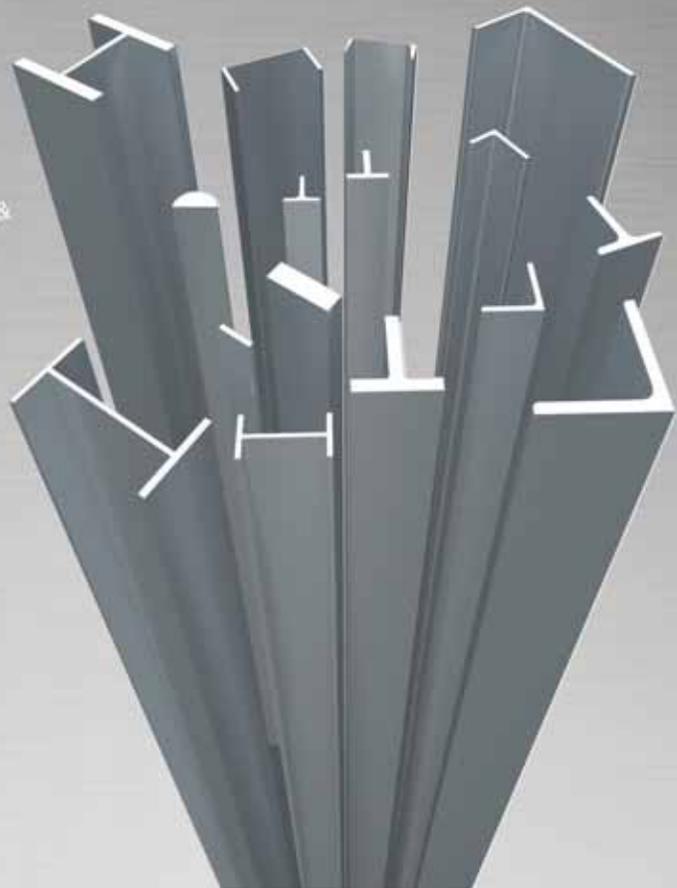
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Seminar on Stainless Steel, Special Steels and Super Alloys held at India International Centre, New Delhi



From (L-R) (Mr Sushim Bannerjee, Director General, INSDAG, Mr N C Mathur, President, ISSDA and Dr. D K Likhi ,CMD, Mishra Dhatu Nigam Ltd

Indian Institute of Metals, Delhi Chapter, organized a one Full day Seminar on 'Stainless Steels, Special Steels and Super Alloys' at India International Centre, Max Mueller Marg, New Delhi on 02 April 2016. The Seminar was organized in association with ISSDA (Indian Stainless Steel Development Association) and our President, Mr N C Mathur, was one of the key speakers of this event. Seven eminent Speakers from Stainless Steels, Special Steels and Alloys Industries made their presentations on the topic.

Mr. N C Mathur in his presentation highlighted various activities & capabilities of ISSDA and focused on Growth of Stainless Steel Industry and its End Use Transformation in India. He analyzed the growth of Global, Regional and Indian Stainless steel production. He emphasized on the fact that Indian Railways will be the main growth driver for enhanced consumption of Stainless steel in India, in addition to Smart Cities and huge infrastructure expenditure. He concluded that looking at anticipated high growth rate in Indian Economy; the stainless steel consumption is expected to grow by 8 - 10% in the next 2/3 years.

About 50 persons participated in the programme, including a few students from IIM Student Chapter, Dehradun.



Mr K L Mehrotra felicitating Mr N C Mathur, President, ISSDA



A Section of the audience.



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SHOW - 2016

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Hitachi launches Air Conditioners with Self Cleaning Stainless Steel Filters

Innovation in air conditioning technologies continues, with much recent emphasis placed on energy efficiency. Production of the electricity used to operate air conditioners has an environmental impact, including the release of greenhouse gases.

In lieu of this, today, saving on energy costs is a decisive criterion when choosing an air conditioning unit. Today, Hitachi's products stand out because of continuous innovation towards improving energy efficiency and providing a sustainable solution.

Till now we have seen all split air conditioners using the fine plastic air filters to protect the entry of dust in indoor unit. Here, Hitachi has replaced plastic filters with fine stainless steel filters which are able to filter far more particles from the air and makes subsequent cleaning much easier. The Hitachi stainless steel filter helps in improving the indoor air quality by suppressing the growth of bacteria.

The benefits of using stainless steel filter over plastic filter are as follows:

- 1. Ever Clean:** The stainless steel filter prevents dust accumulation and prevents the breeding of bacteria that keeps the odour away. Stainless steels are known for its ability to resist bacterial growth on its surface.
- 2. Long Life :** The stainless steel used in the stainless clean system is of high quality and extremely resistant to corrosion resulting in durability and hygiene.
- 3. Ever Powerful:** Stainless steel filters are easy to clean and remains clean for longer period thereby it maintains the same performance like that of a new air conditioner and helps in delivering better quality of airflow.

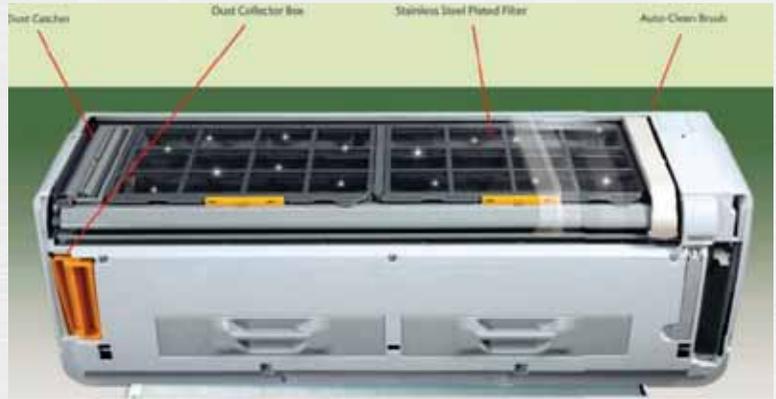


Image Courtesy : Hitachi

The stainless steel used here are of high quality and extremely resistant to corrosion resulting in durability and hygiene. We are hopeful that other leaders in air conditioning industry will understand the advantage of using stainless steel for not only benefit of customers but the environment also.

As per the study done by Hitachi team, the stainless steel filters attach 54% less dust as compared to conventional plastic filters.

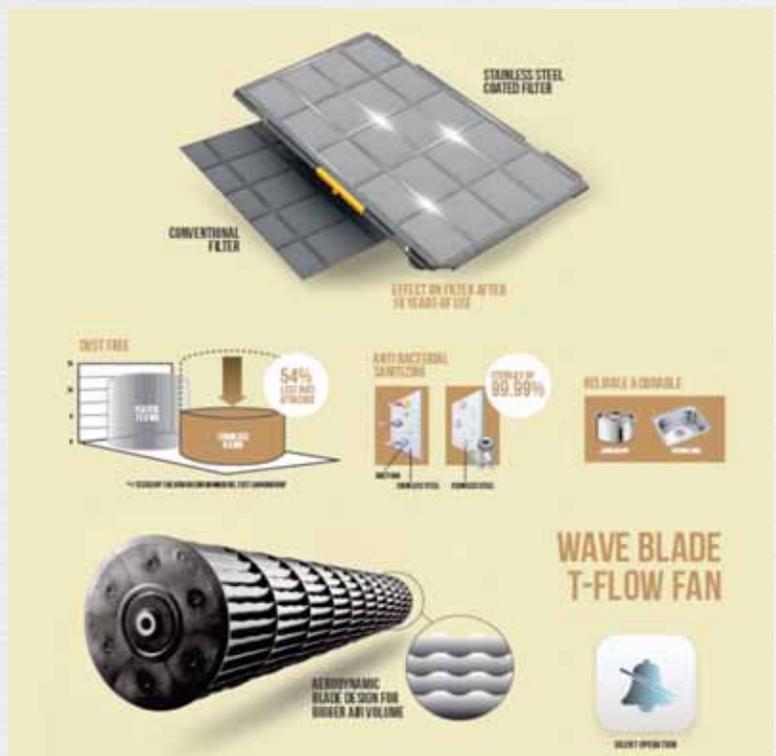


Image Courtesy : Hitachi

Would you like to feature your stainless steel products/services in Stainless India? Send us your write up along with attractive color images.

Knowledge Sharing Session at Railway Workshop



Over the last two decades Indian Railways has adopted stainless steels for construction of its mainline coaches and express trains of LHB design. All three main coach manufacturing units ICF Chennai, RCF Kapurthala and RCF Rae Bareli are now fully equipped to produce stainless steel made coaches. These coaches are expected to have longer life but over the long use certain wear and tear occurs requiring maintenance to keep it fit and running. Besides the production units, Indian Railway has workshops all over India which have been doing the periodic maintenance, repairing of steel coaches for last several decades. Some of these workshops have also started doing periodic maintenance of stainless steel built LHB coaches. ISSDA and its member companies have been conducting regular programmes at these workshops to increase awareness on stainless steels. A good Fabrication repair practice is equally important so that stainless steel performance is not affected.

Recently, an awareness program was conducted at the Western Railway Lower Parel, Mumbai workshop facility. This workshop is one of the largest workshops for repairing Indian Railway Coaches including stainless steel ones. The programme was designed to impart the knowledge on basics of stainless steels used in Indian Railways, the best fabrication practices including cutting, welding and finishing. A special practical training session was also conducted on good welding practices with the help of L&T-EWAC. Two different batches of supervisors and people, responsible for repairing and maintenance, joined the knowledge sharing session. Supervisors discussed in detail about their concerns and the areas of improvements. ISSDA will continue to be a part of similar knowledge sharing sessions to ensure the quality repair and maintenance of stainless steels coaches and address the technical issues.

Technical knowledge sharing session by ISSDA at RCF Rae Bareli

The Indian Railways (IR) is the largest railway system in the world under a single ownership. With stainless steel providing aesthetic, safe, comfortable and fast moving coaches for passengers, the use of stainless steel in rail transportation is going to increase significantly in the largest railway system in the world.



In continuation to our constant interactions with Railways on sharing knowledge on stainless steel, ISSDA conducted a knowledge sharing programme on various aspects of stainless steel including good fabrication practices on 21 December, 2015 at RCF, Rae Bareli.

It was a two hour programme where ISSDA made presentations giving an overview of stainless steel industry and covered basics of stainless steels and its grades, cutting, welding and best fabrication practices.

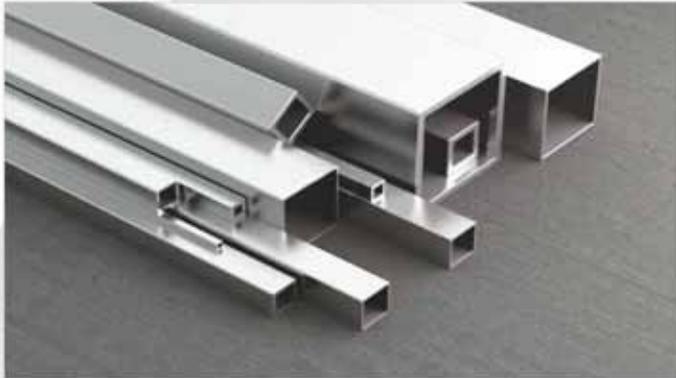
Mr K R Ananthanarayanan, Consultant & Mr Rohit Kumar, Executive Director, ISSDA were the two speakers who covered these topics and answered the queries raised by the participants. More than 40 people from various departments including mechanical design, engineering, electrical divisions, purchase and finance were present. After the completion CME Rae Bareli, Mr. D K Agarwal thanked ISSDA for conducting the knowledge sharing session and requested to continue doing such programmes in future.



stainless is
our passion



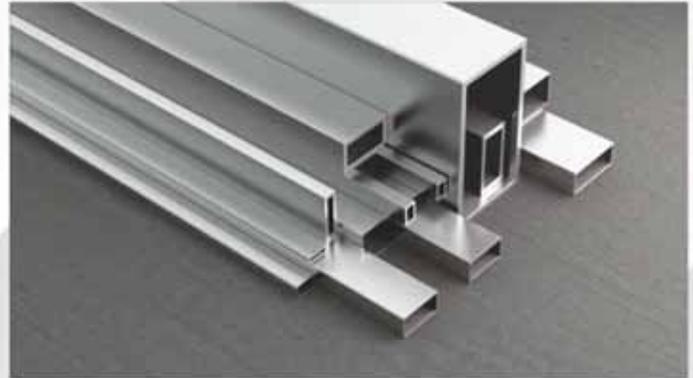
Introducing first time in India Stainless steel hollow sections with dimensions for SHS upto **400 mm X 400 mm**, RHS upto **500 mm X 300 mm** with thickness upto **15 mm**.



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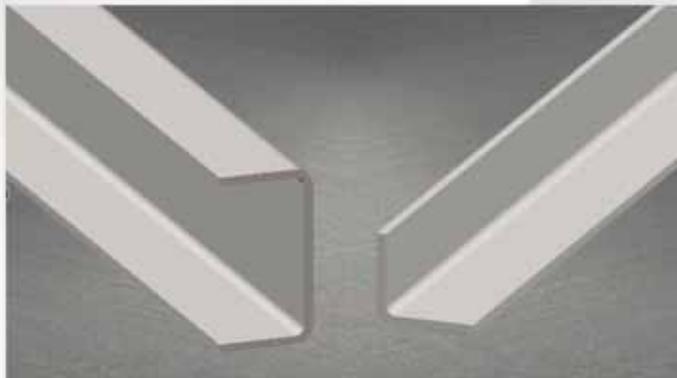
Thickness : 1.0 mm to 6.5 mm



Welded Rectangular Hollow Sections/Tubes

Size : 20 x 10 mm to 200 x 150 mm

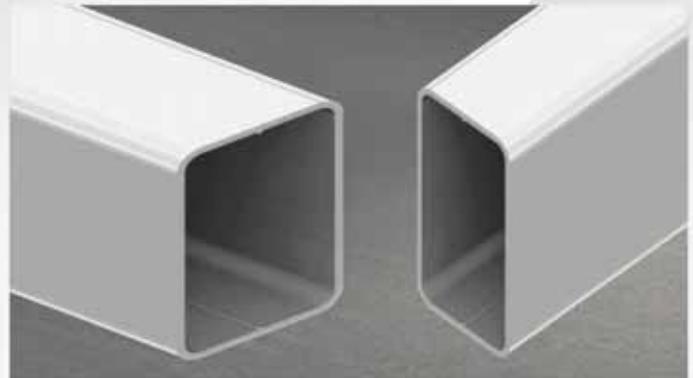
Thickness : 1.0 mm to 6.5 mm



Raaj Profiles

Size: For "L" Profiles 50mm X 50mm to 200mm X 200 mm
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110 mm X 280 mm X 110 mm

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Ambica Stainless Steel Limited' changes its name to "Aamor Inox Ltd"



Anand Gupta
CEO of Aamor Inox Ltd.

Anand Gupta, CEO of Aamor Inox Limited, recently announced the change of the company name. Commenting on it, he said: "Our new name reflects our love and passion for special steels and solidifies Aamor-Inox as a global brand." Headquartered in New Delhi, India, Aamor-Inox's fully integrated steel melting facility (spread over 1.45 million square foot) comprises of end-to-end manufacturing facilities from scraps to finished bars. It consists of the steel melt shop, refining unit with AOD convertor, continuous billet casting, ingot casting, hot rolling mills, heat treatment facilities & cold finishing of rounds, hex/ squares, angles & flats, in a variety of steel grades. Aamor-Inox will continue its 45-year tradition to serve its vast customer base in the aerospace & aircraft, shipbuilding & marine, oil & gas, and petrochemical & chemical industries spread over 60 countries worldwide. Aamor-Inox is fully equipped to process 75,000 tons of stainless steel bars per year, which makes it one of the largest privately held bright bar companies in India, while keeping it small enough to meet their customer's individual needs.

OUR NAME COMES WITH A
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45 years on, we would like to re-introduce ourselves. Over the years we have built a reputation for an uncompromising and fierce dedication to our clients. And that's not going to change. As a progressive group we will create more value through our entrepreneurial spirit.

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Employment News

Dear Readers, We are starting a new column on demand from ISSDA members. Human resource is highly essential constituent in the development and growth of the company. HR should have potential to perform a specified work in a skilled manner, but the atrocious circumstances leads to lack of qualified personals and hamper growth of Stainless Steel Industry therefore we are initiating this employment segment in our magazine.

As the circulation of our magazine is directed towards the people directly or indirectly related to stainless steel, it would act as a strong link for both the employee and employer in the industry.

If any of our members need any further information or is interested to publish job vacancies, in upcoming issues of "STAINLESS INDIA", can contact us at nissda@gmail.com without any hesitation.

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