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STAINLESS INDIA



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Stainless Steel Bus Body - Safe, Long Lasting & Environment Friendly



The use of stainless steel in public transport system has been widely accepted worldwide on account of its sterling features providing safety, aesthetics, light weight, fuel efficient and sustainable option. Today, stainless steel is increasingly being used in the construction of medium and long distance buses in the structural parts as well as side paneling, floor and luggage compartments.

It has been an established fact that use of stainless steel in a bus body guarantees better corrosion resistance and reduction in overall weight, offering

substantial savings in fuel consumption. Also due to its excellent impact toughness properties, stainless steel buses provide superior safety to the passengers in case of accidents and crashes. In the roll over tests of bus frames, stainless steel is considered to be a safe material when properly designed and manufactured.

From the environmental safety point of view stainless steel, which can be fully recycled, offers a "green solution" and therefore is the most

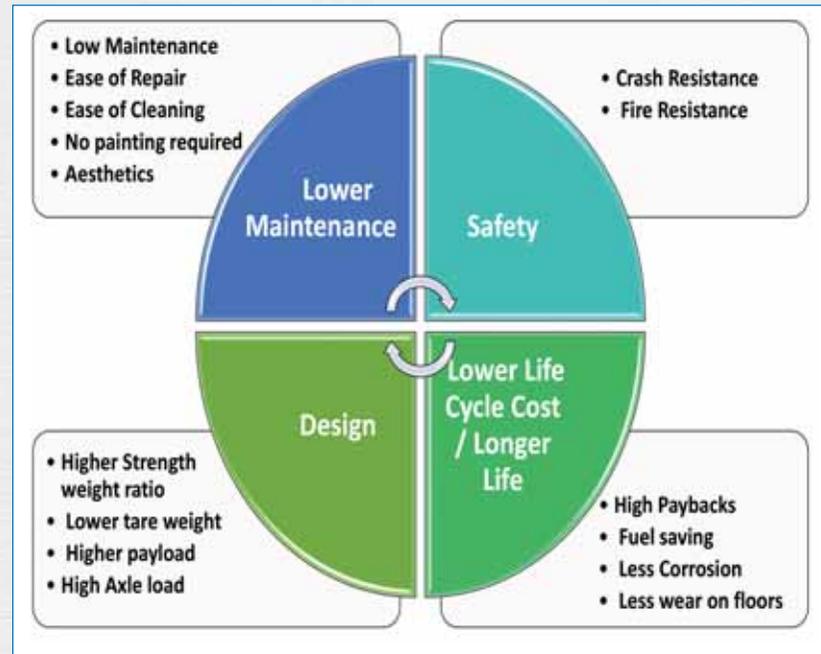
preferred material for sustainable development for the future transport.

In India, stainless steel is gaining traction amongst some of the major bus body manufacturers in the country.

The materials considered for fabrication of bus body in India are as follows:

- Tubular structures : 1.4003 / 200 series (~ JT)
- External panels (stretch and skirt panels): 304 / 200 series (~ J4) / 1.4003 (in painted condition) .
- Inner panels : Bright finish SS430, 304
- Luggage compartments / floors : Stainless Steel chequered sheet in 200 series (~ JT), 1.4003, 304

Advantages of Stainless Steel



Inner panels in SS 430



Tubular structure: 1.4003/ JT



Outer panels in 1.4003 / 409



Floor and footsteps in SS chequered sheets

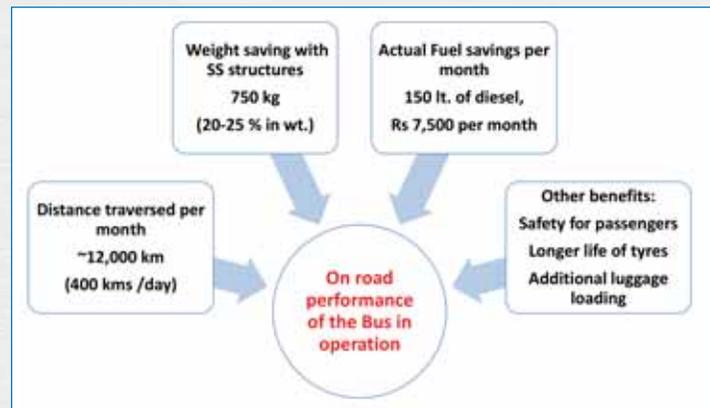
In a first of its kind development, a prominent bus body builder in South India has fabricated 2 nos. of fully custom made buses of stainless steel structure and panels. These buses have been plying on road since the last 3 months, and have traversed over a distance of 30,000 kilometer each. The on-road performance has been excellent till date. The bus owners are “extremely happy” and have decided to opt for stainless steel buses for their subsequent purchases.



SS Bus painted as per end-users requirement

India is the second largest market in the world for bus coaches and it is quite imperative that the safety and sustainable development will be considered as a key factor when selecting material for construction of these buses. ISSDA and its member companies have been promoting the use of stainless steel in bus body for more than a decade with partial success in stainless steel usage in panels and floorings. The advancement in new technology of bus building and fabrication has also encouraged the private bus body builders to move ahead with stainless steel made buses and offer the best possible solution to its customers.

ISSDA and its member companies are requesting the Government also to encourage use of safer, fuel saving, sustainable buses on Indian roads.



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Knowledge Sharing Session on Grinding and Polishing Techniques by M/s Grind Master Machines Pvt. Ltd.

M/s Grind Master Machines Pvt. Ltd., an associate member of ISSDA and a leading manufacturer of Belt Grinding and Polishing Machines for stainless steel Tubes, bars & cookware in India made a presentation on 8 July, 2015 at ISSDA office on the recent trends and cost effective quality usage in the area of Grinding and Polishing. Grind Master is known for its latest and “World Class” metal finishing technology.



Mrs. M. Kelkar, Director (Sales & Marketing), Grind Master tools gave an interactive presentation to various ISSDA members and discussed about new technology and

right practices when dealing in grinding and polishing with stainless steels.

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Workshop on Recent Trends and Usage of Stainless Steel in Petrochemical Industry



Mr. Sanjay PV from Sulzer India giving an overview.



Mr. Graham Sussex giving his presentation.



Mr. Graham Sussex interacting with the audience.

The Indian Stainless Steel Development Association (ISSDA) in association with the Nickel Institute (NI) & International Molybdenum Association (IMOA) conducted a workshop in Mumbai on the "Recent Trends and Usage of Stainless Steel in Petrochemical Industry". Dr. Graham Sussex, Consultant, Nickel Institute was the keynote speaker.

The workshop was held on Friday 28th August, 2015 at Hotel "SAHARA STAR" Mumbai. About 45 professionals from petrochemical & stainless steel industry attended the

workshop. Some of the major companies were Sulzer India, Jindal Stainless Ltd, IUP Jindal, Hisar Metals, Valbruna, Thyssenkrup etc.

The first presentation was made by Mr Sanjay PV from Sulzer India, giving an overview of the usage of Stainless Steel in Petrochemical Industry and its future prospect in India.

In his keynote presentation, Dr Graham Sussex focused on the different types of stainless steel used in petrochemical industry, the problems faced during usage of

stainless steel and the ways to overcome these problems.

The workshop was very well appreciated by the participants and they look forward to such workshops in future which are a good knowledge sharing platform for them. ISSDA is likely to get many queries from this industry sector.

"It has been a great knowledge gaining session by such renowned expert in the field" said, Mr. C P Joshi, Sulzer India.

A Knowledge Sharing Session on use of Stainless Steel for Architecture, Building & Construction

The Indian Stainless Steel Development Association (ISSDA) and Nickel Institute (NI) in association with The Institution of Engineers (India), Maharashtra State Center conducted a workshop in Mumbai on the "Recent Trends and Usage of Stainless Steel in Architecture Building & Construction". Dr. Graham Sussex, Consultant, Nickel



Institute was the keynote speaker. The workshop was held on Friday 31st August, 2015 at the Institution of Engineers (India), Maharashtra State Center seminar hall. About 55 professionals which included structural consultants, government officials, students and other industry people attended the workshop.

There was a keen interest among the audience on the availability of different surface finishes available in stainless steel. Questions were raised on the choice of selection of grades. Most of the participants raised concerns regarding the effect of welding and surface finishes on different kinds of

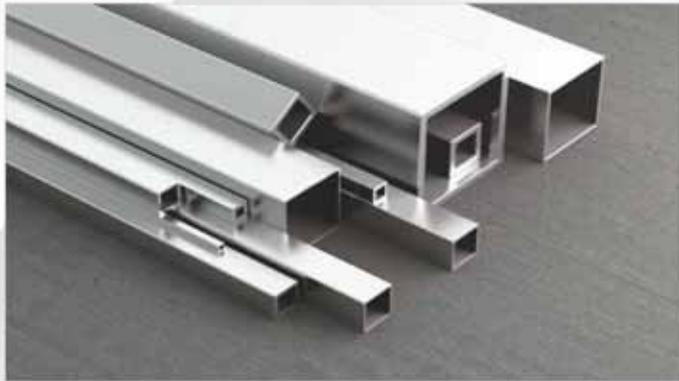


stainless steels available considering the fact that Mumbai is a coastal city. Also, queries were raised by representatives of Brihanmumbai municipal corporations regarding the use of stainless steel for water service pipelines since there has been excessive water leakage reported because of corrosion of existing carbon steel pipes.

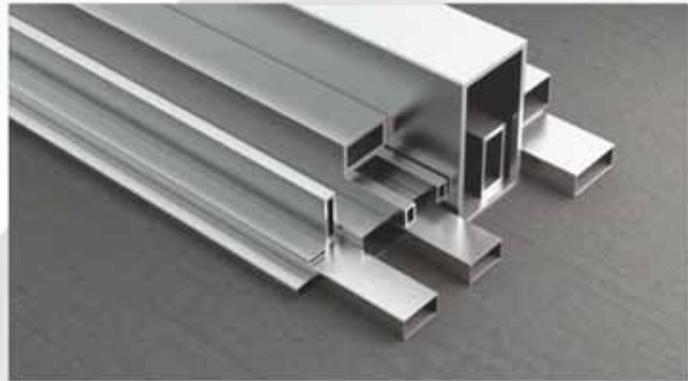
stainless is
our passion



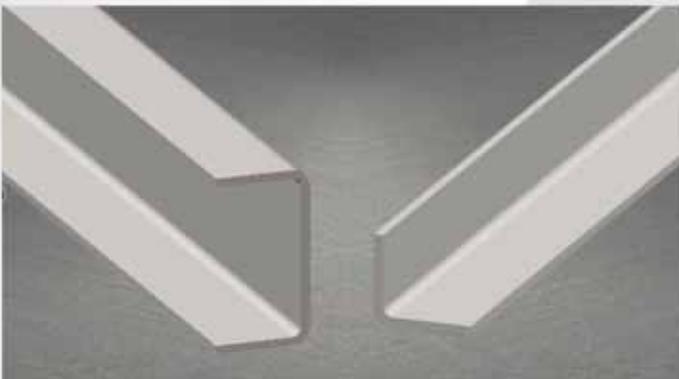
Introducing first time in India Stainless steel hollow sections with dimensions for SHS upto **400 mm X 400 mm**, RHS upto **500 mm X 300 mm** with thickness upto **15 mm**.



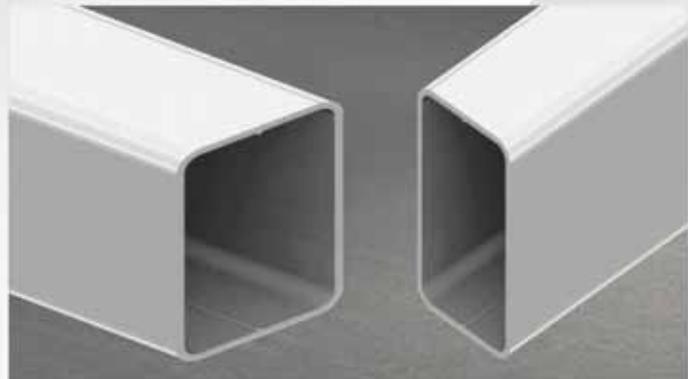
Welded Square Hollow Sections/Tubes
Size : 12 x 12 mm to 150 x 150 mm
Thickness : 1.0 mm to 6.5 mm



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
For "U" Profiles 50 mm X 80 mm X 50 mm to
110 mm X 280 mm X 110 mm
Thickness: 3.0 mm to 15.0 mm



Press Brake Tubes
Size: Square 100x100 mm to 400x400 mm &
Rectangular 100x150 mm to 500x300 mm
Thickness: 3.0 mm to 15.0 mm

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ISSDA Annual Review of Stainless Steel Industry and Its Demand & Future Growth



Mr. Rohit Kumar, Director, ISSDA giving presentation on stainless steel end use sector.

ISSDA held an annual review meeting of stainless steel industry to share the current and future growth prospects of the stainless steel end use. The Programme started in the evening with more than 40 delegates from across the national and international boundaries. It was held at Marigold Room, India Habitat Centre, New Delhi on 5th November, 2015. Mr. Robert Morris, past chairman of Nickel Institute and executive vice president, marketing and sales, base metals,

Vale Canada Ltd., was the guest of honor of the event.

The evening programme started taking shape with a heartwarming greeting and welcome speech by Mr. N C Mathur, President, ISSDA in the honor of Mr. Morris. Later, Mr. Mathur gave an overview on the status of Indian and Global stainless steel industry. He also summarized that in the coming year the stainless steel production and end use in the country is likely to see a good growth.



Mr. Robert Morris, Nickel Institute giving closing remarks

One of the prominent speaker, Mr. D K Agarwal, CME, Rail Coach Factory, Rae Bareli, presented the ongoing and future plans in stainless steel coach manufacturing at the rail coach factory, Rae Bareli. He also made audience aware of the other opportunities, where stainless steel can be introduced, ahead of likely expansion in the coach manufacturing in Indian Railways. Mr Richard Matheson, General Manager-Asia, Nickel Institute, also marked his presence with benevolent



Mr. D. K. Agarwal, CME, Rail Coach Factory, Rae Bareilly giving presentation.

presentations about the role nickel plays in stainless steel and how its use can result in cost saving by citing case studies based on life cycle cost analysis. He showed examples on use of Stainless Steel pipes for supplying water in the urban areas to bring down the water leakage rate and long term cost savings.

Mr Rohit Kumar, Director of ISSDA, presented an overview on the various end use sectors of stainless steel industry. He also acknowledged the support of ISSDA members for their help in spreading education on stainless steel. He also explained the ISSDA initiatives on ongoing standardization activity going on with Bureau of Indian Standards for various stainless steel products.

Mr. Robert Morris, the guest of honor, highlighted the efforts put by ISSDA and Nickel Institute together



Mr. N.C. Mathur, President, ISSDA, felicitating Mr. Robert Morris.



Mr. Rohit Kumar, Director, ISSDA, felicitating Mr. D. K. Agarwal.

in imparting knowledge on stainless steel in various end use sectors in the country. The evening ended with a vote of thanks followed by gala dinner.



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Adfit manufactures & exports fittings, Flanges & Branch connections in carbon steel, duplex and super Duplex, Cu-ni, Monel and inconel. Adfit manufactures its products in different sizes, range, type and schedule-class. Adfit regularly supplies its material to core industries such as refineries, chemical & petrochemical, oil & Gas, Water treatment plant, power plants, off-shore, ship building, EPC & other Engineering company.

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Structural Stainless Steel for Building & Construction : A Workshop in Kolkata

The workshop on "Recent Trends in Usage of Structural Steel and Stainless Steel in Architecture Building & Construction - A Make in India Initiative" was held on Friday 1st of September, 2015 at Hotel 'The Lalit Great Eastern' Kolkata. It was attended by professionals from local government bodies, architects, consultants and faculty from various technical institutes.

Architecture Building and Construction is emerging as one of the big users of stainless steel in the country however the spread of its usage to the eastern states of the country is limited and is nearly 4% of total usage. Kolkata is slowly



emerging as the hub for the activities related to building & construction and being a coastal city there is even a greater need to spread education on the use of stainless steel.

The presentation made by Mr. Graham Sussex, NI consultant, Mr. Jayanta Saha, INSDAG and Mr. Rohit Kumar, Director, ISSDA contained latest information on use of stainless steel as structural hollow sections, reinforcement bars, various applications on cladding roofing and interior designs as well as case studies explaining how stainless steel will ultimately save cost considering the long service life.



Design Awareness Workshop on Stainless Steel Industry (MSME units) at Kundli, Haryana

ISSDA was invited to speak at the Design Awareness workshop for the Stainless Steel Cluster (Haryana) under the Design Clinic Scheme of the Ministry of MSMEs, Government of India on 10th Oct 2015 at Kundli (Haryana) at HSIIDC Office Complex (Industrial Area Wing), Industrial Estate, Kundli (Haryana)

Innovative improvements in design enables a firm to improve as well as diversify products for everyday use, leading to reduced costs, increased utility and acceptability resulting in new business opportunities. Through design process, MSMEs can add value to

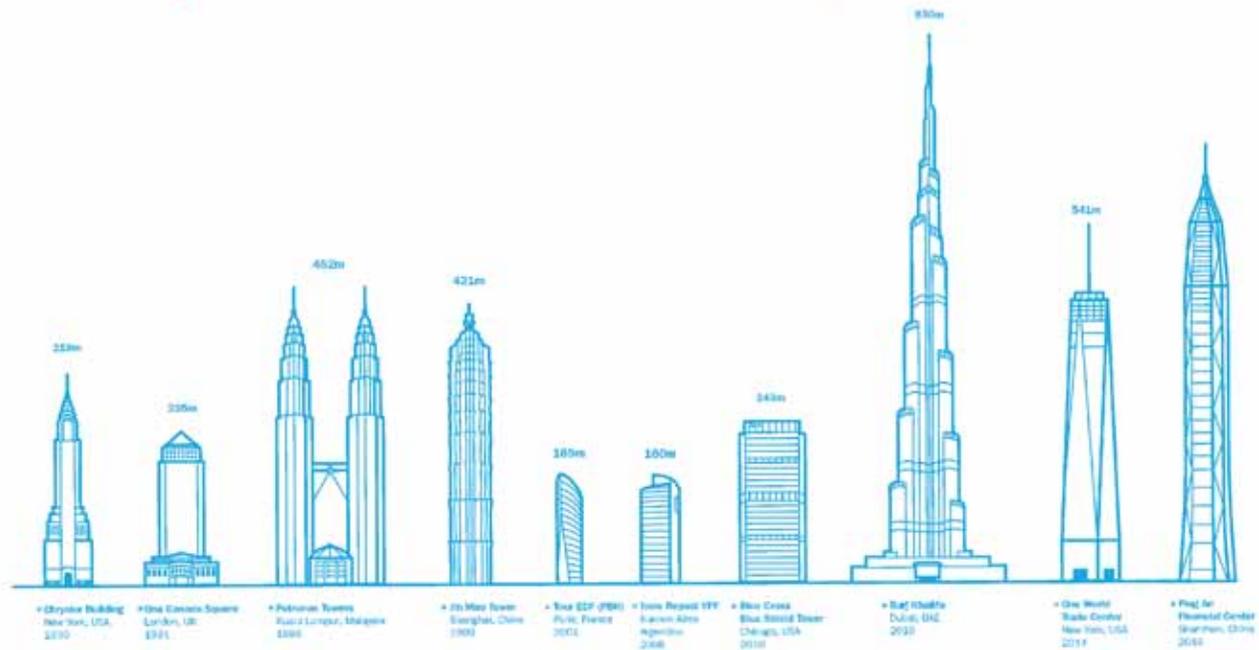
products, services, and in the process to their firms.

PHD Chamber of Commerce and Industry in association with Kundli Industries Association organized this workshop for stainless steel industry from 6-10 October, 2015.



Mr N C Mathur, President, ISSDA gave a detailed presentation explaining the current status of stainless steel industry in a global perspective. He also explained to the participants the need to diversify and increase the product range. He showed various new areas of application as well as likely growth areas where stainless steel usage will increase in near future. Mr Rohit Kumar from ISSDA further explained the need to select the right grade for right application along with the importance to adopt the right fabrication practices while dealing with stainless steel.

Building a world of functional beauty



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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.**

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Tubacex India Pvt. Ltd.



TUBACEX is a multinational group with its headquarters in Alava, Spain and a global leader in the manufacture of Seamless stainless steel and high-alloyed tubes, Pipes, Fittings, Bars and Hollow Bars. The company has an integrated production with the manufacturing mills in Spain, Austria, Italy, USA, India and China and a worldwide commercial presence with sales representation in 30 countries and several service centres all over the world. With the group sales over 700 Million Euros, 90% of the group



business take place outside Spain. Manufacturing range in tubular products goes from 3mm OD to 72" in Seamless with wide range of steel grades.

Tubacex group's main customers are leading companies in the Oil & gas, refining, petrochemical, fertilizer, power generation and metal-mechanic industries, with high quality standards and innovation and the need of increasingly sophisticated tubular solutions for the most challenging environments, in applications and products as Oil Country Tubular Goods (OCTG), tubes for subsea application (umbilical, risers, manifolds, flowlines), tubes for furnaces, heaters and re-heaters for the petrochemical industry, tubes for boiler equipment for the power generation industry and Heat exchanger, reactor and condenser tubes for the petrochemical and fertilizer industries. The group's manufacturing sites are ISO 9001, ISO 14001 and OSHAS 18001

certified. Tubacex group has recently opened the Asia & Middle East HQ in Mumbai

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- Ferritic - austenitic: Duplex and Super duplex

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They specialize in manufacturing of Stainless Steel Products from Bus Shelters, Advertising Panels, and Street Furniture to Fabrication of Industrial Products and are one of the leading specialists in this field.

In addition, they have supplied and installed over 700 bus shelters and MUPI advertisement poles in Delhi



& Mumbai. The Group has developed strategic plans for expansion into the stainless steel sector.

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Training Workshops on Use of Stainless Steel in Pulp & Paper Industry



Standing at the lowest per capita consumption of 9 kgs Indian Pulp and paper industry are poised to see a good growth in coming times. Some new expansion projects as well as demand for quality product has raised hope where nickel and Moly containing stainless are likely to see a good demand in this sector. The ongoing issues related to grade selection and maintenance on account of corrosion failures has been a prime concern of this industry.

Considering all above factors, Indian Stainless Steel Development Association (ISSDA) in association with Nickel Institute (NI) held a successful training workshop in two of the India's Largest Pulp and Paper manufacturing units on the usage and fabrication of stainless steel in pulp and paper industry. Training was conducted by Mr. Gary Coates, Technical Specialist, Nickel Institute. The workshop was held

on Monday 23rd November, 2015 at manufacturing facilities of Ballarpur Industries Limited (BILT) at Bhigwan, Pune and on Tuesday 24th November, 2015 at manufacturing facilities of KR Pulp and Papers Limited at Shahjahanpur, Uttar Pradesh. It was attended by senior officials and engineers of various departments of the units.

The entire session was divided into two parts. First session focused on stainless steels used in the pulp and paper industry, various types of corrosion experienced and right practices to reduce its occurrence.

The second session was on the review of various parts of pulp and paper mill with specifics to material use and also issues related to handling, forming and welding of stainless steels used in the pulp and the paper industry.

A lot of queries were handled by Mr Gary Coates and the participants showed great interest in this workshop conducted at their plant. Complementing the training session Mr. Anil Trakroo, GM (Engineering), BILT papers said that "We welcome Mr Gary Coates for such wonderful training sessions in future". Also the group of senior officials of KR Pulp and Papers commented that "We have gained a good insight on usage of Stainless Steel in our industry and we are sure the suggestions on grade selection will help us to cut corrosion related losses".



Attention Readers !

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