

# STAINLESS INDIA



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## ABC Workshops held in five major cities



**Catherine Houska, Consultant, Nickel Institute**

Workshops on 'Applications of Stainless Steels for Architecture, Building and Construction' were held at Delhi, Mumbai, Bengaluru, Chennai & Kolkata from 5<sup>th</sup> to 10<sup>th</sup> December, 2011. Attended by architects, builders, interior designers, govt. agencies responsible for urban and infrastructure development, fabricators, manufacturers and dealers of stainless steel, the workshops were an unqualified success.

The workshops were organized by ISSDA in association with the Nickel Institute. Presentations were made by Ms. Catherine Houska, a world renowned expert on the use of stainless steel in the ABC sector and a consultant to the

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## International Stainless Steel Forum (ISSF) launches 100 Years of Stainless Steel website to celebrate a century of innovation

This year the global stainless steel community will be celebrating a century since stainless steels were first created, patented and produced. Over that time, stainless steel has grown to be an integral part of our modern world. To celebrate the anniversaries, the International Stainless Steel Forum (ISSF) has launched a new website – [www.stainlesssteelcentenary.info](http://www.stainlesssteelcentenary.info) – dedicated to the history of stainless steel and its innovative applications.

The website features a countdown to the opening of a travelling exhibition about stainless steel which will be launched in Beijing (China) on 15 May 2012. After Beijing, the exhibition will move to a number of other locations around the world. A full list can be found on the events page of [www.stainlesssteelcentenary.info](http://www.stainlesssteelcentenary.info).

As well as the list of celebratory events, the website features many interesting facts about stainless steel, stunning images of stainless steel applications from the past century, and a detailed history of this amazing material. The site provides a wealth of resources about stainless steel and forms a vital accompaniment to the 100 Years of Stainless Steel exhibition.

The website and exhibition will utilize the 100 Years of Stainless Steel logo which was specifically developed for the celebrations. As well as appearing on the website and throughout this exhibition, the logo can also be utilized by registered companies and publications who are planning special events to mark the centenary. (To register as a supporter, please contact ISSF)



The logo represents the number 100 and reflects the brightness of stainless steel and the thin, subtle and elegant applications that can be created from this innovative material. Both flat and long stainless steel products are represented in the logo.

The International Stainless Steel Forum (ISSF) is a non profit research Organisation, which serves as the world forum on various aspects of the international stainless steel industry.

Members of ISSDA can use this logo. Please contact Ms. Jo Claes : [claes@issf.org](mailto:claes@issf.org) for the **terms and conditions of the use of this logo.**

## HIGH SPEED BULLET TRAINS COMING TO INDIA

The *Shinkansen* also known as the “Bullet Train” is a network of [high speed railway](#) lines in [Japan](#). Starting in 1964, the network has expanded to currently consist of 2,387.7 km of lines with maximum speeds of 240–300 km/h. The name ‘bullet train’ was given because of the shape and speed of the train.

High speed train TGV, inaugurated in 1981, is the fastest conventional train developed in France, reaching a speed of 320 km/h. It was developed by GEC-Alstom and SNCF. TGV is the short form of *Train à Grande Vitesse*, meaning *high-speed train*. The TGV network, centred on Paris, has expanded to connect cities across France and in adjacent countries.

China has recently unveiled its fastest train, capable of hitting 500km/h. The train, a test version that is not yet ready to enter commercial service, is a marker of China’s ambitions to lead the world in ultra-fast train technology. It was built entirely by domestic companies without any foreign input. With an elongated nose like that of a fighter jet, it was clearly designed with the speed in mind.

Now the Indian Railways is also planning to make India proud by introducing high speed bullet trains in India.

The Indian Railways believes that Japan, which is the originator of the technology



of high speed train can show India the way as both nations face similar situations as far as population density and station-to-station distances are concerned. For this purpose, setting up of a ‘high speed rail authority’ is also being considered.

It is estimated that dedicated high-speed corridor will cost about Rs. 100 crore per Kilometer. A majority of high speed trains like the bullet and TGV are made of austenitic stainless steel for light weight and sturdy construction. This opens the door for using stainless steel in railways for the high speed trains and also the stations to be developed.

Railways have selected six corridors for conducting feasibility study for running high speed bullet trains to run at a speed of 300 Km per hour. These corridors are identified as follows:

**Pune – Mumbai – Ahmedabad**

**Hyderabad – Vijayawada – Chennai**

**Delhi – Chandigarh - Amritsar**

**Delhi – Agra – Lucknow – Varanasi - Patna**

**Howrah - Haldia**

**Chennai - Bangalore – Coimbatore – Ernakulam – Thiruvananthapuram**



## High grade stainless steel railings for 18 Kilometers of Mumbai Skywalks



The **Mumbai Skywalk Project** is a series of [skyways](#) for pedestrian use in the [Mumbai Metropolitan Region](#). The skywalks connect [Mumbai's suburban railway](#) stations or other high-concentration commercial areas with various heavily targeted destinations. The purpose of the skywalks is safe and efficient dispersal of commuters from congested areas to strategic locations, such as bus stations, taxi stands, shopping areas, etc., and vice versa.

Mumbai's suburban railway already has one of the highest passenger densities

of any urban railway system in the world. With almost 7 million passengers using the system daily, as well as the associated transport interchanges in their vicinity (bus stations, taxi stands, auto-rickshaw stands, car parks, etc.) make the suburban railway stations the most congested areas of the city. The problem is further aggravated by the presence of hawkers and parked vehicles, making the commute hazardous for pedestrians. The [Mumbai Metropolitan Region Development Authority](#) (MMRDA) conceived of the Skywalks in response to these problems in 2007.

JSL Architecture Ltd has designed, fabricated and installed over 18 kilometers of elegant stainless steel railings on Skywalks all across the city of Mumbai, at some of the most important railway stations like Goregaon, Santa Cruz, Vile Parle, Vasai, Kandiwali, Grant Road, Wadala, Bhayander, Dahisar, Cotton Greens, Khargar, Mera Road etc., right up to Ambernath.

### *Design of railings specific to each Skywalk*

The design, fabrication and installation at each of these sites is unique due to the type of elevation required, traffic density and the chaos of Mumbai that is around that spot. The design takes into account the sensitivities of the architect responsible for that particular project, depending on the nature of the civil works.

### *High Grade Stainless Steel 316 common for all Skywalks*

These Stainless Steel Railings are in 316 Grade and of different designs measuring up to 1,200 m on each walkway. Grade 316 was chosen because Mumbai is a coastal city. The winds from the sea have high levels of chlorides. Chlorides can cause severe pitting even in standard grades like 304. Whereas type 304 has

*Continued on page 4*





Continued from page 3

nominally 18-20% chromium and 8-10% nickel, type 316 has 16-18% chromium and 10-14% nickel. In addition, it has 2-3% molybdenum which enhances the pitting resistance of 316 to chlorides in the air.

Wherever heavy welding is expected, type 316L, which has low levels of carbon (0.03% maximum) is used to retain high levels of corrosion resistance in at the joints.

#### **Highly polished railings have better corrosion resistance**

The surface finish of most of the railings has been kept glossy for minimizing corrosion attacks so that maintenance requirement is minimized. Also the design is quite sturdy to handle the heavy traffic load.

JSL Architecture Limited is an ISO 9001:2008 & ISO 3834-2 certified company, a wholly owned subsidiary of Jindal Stainless Limited; a stainless steel major of India under the flagship of O P Jindal Group.

JSL Architecture has taken the initiative to promote stainless steel products and technology solutions to cater to the emerging market of Architecture, Building, Construction (ABC) sector & industrial applications, mainly Railways in India,



and produced several path breaking stainless steel products, so far, which are in high demand.

For details click [www.jsllarc.com](http://www.jsllarc.com) or mail to [queries@arc.jindalsteel.com](mailto:queries@arc.jindalsteel.com)

## **Stainless Steel Plays a Role in Transforming Quality of Life**

In 1975, the Government of Karnataka enacted the 'Karnataka Prohibition of Beggary Act'. Now this Act is being seriously implemented. Stainless steel is playing an important role in the enhancement of the life of the poor and helpless people in the state.

The Karnataka State Government has set up over 14 Relief Centres in different parts of the State for receiving, housing and rehabilitation of the less fortunate people and giving them hope of realizing a better life. These are known as *Nirashritara Parihara Kendra* - translating as "Centre for Relief to the Helpless."

Persons, both male and female, housed at these Relief Centres are trained in various trades to begin a new life of dignity. A Central Relief Committee based in Bangalore, as the nodal agency for administration of all these Centres in the State, initiated measures to improve the quality of life of inmates in response to a report of the State Human Rights Commission, focusing on the need to clean up the 'facility' at Bangalore and improve its functioning.

Radical steps were taken to ensure proper monitoring of healthcare of the inmates at these Relief Centres. Industrial laundry machines were installed for washing clothes. In order to provide the inmates with wholesome



food, the International Society for Krishna Consciousness, (ISKCON), Bangalore, joined hands with the Government.

Most importantly, to make the kitchen and dining area more hygienic, stainless steel was used extensively for dining tables, stools, service trolleys, serving pans etc. **Stallion played a very important role in convincing the authorities about the benefits of generously specifying stainless steel for many items in this project.**

All the products were supplied in Grade 304 by **Stallion**. The Social Welfare Department, Government of Karnataka, has initiated the process to equip all other

Centres with a similar set of stainless steel furniture and kitchenware.

This radical move by the Karnataka government for the benefit of the helpless proves beyond doubt that stainless steel is very much a material of basic necessity and not just exclusively for decoration and aesthetic appeal.

For details, contact:

**Stallion Group of Companies**

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Website: [www.stallionind.com](http://www.stallionind.com)

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## Medical Council Votes for Stainless Steel

**Karnataka Medical Council (KMC)** is an autonomous professional body where registration of doctors in the State is mandatory. KMC is the nodal body coordinating developments and events in the Medical field in Karnataka.

With the healthcare sector undergoing rapid development, KMC could foresee a need for building up better infrastructure in Bangalore. With a vision to prepare the Council to meet future challenges, a new building was constructed. Following the prevalent trend, the KMC Governing Council, comprising of five government nominees headed by President Dr. Chikkananjappa, initially planned to furnish the Auditorium at the KMC's new building with mild steel furniture sourced from China.

However, Stallion managed to step in at this juncture and was successful in proving to them the utility, anti-bacterial properties and beauty of stainless steel. On seeing samples of stainless steel furniture at Stallion, the Council decided against visiting China as it would not only save the cost of travelling but would get a better material in terms of aesthetics, durability and maintenance.

With the first installation, their confidence in stainless steel grew manifold. Soon other furniture like benches for dining area, coffee tables, podium, grills, railings for boundary wall and staircase, signage, main gate, canopies, internal supporting structure for pergola, etc., at this location, were all made in stainless steel.

It is significant that the main signage and outdoor gate were made of type 304 stainless with single-side embossing with honeycomb pattern. Gold coloured PVD coated 304 was used for the signage on tables lined up on the dais of the auditorium.

The medical fraternity in Karnataka as also across other States is bound to change over to stainless steel as all top Doctors and decision makers visit the KMC Office and Auditorium frequently for Meetings and Conferences.

**The Indian stainless steel industry can expect a volume growth in usage of this material in Hospitals and Clean-rooms.**

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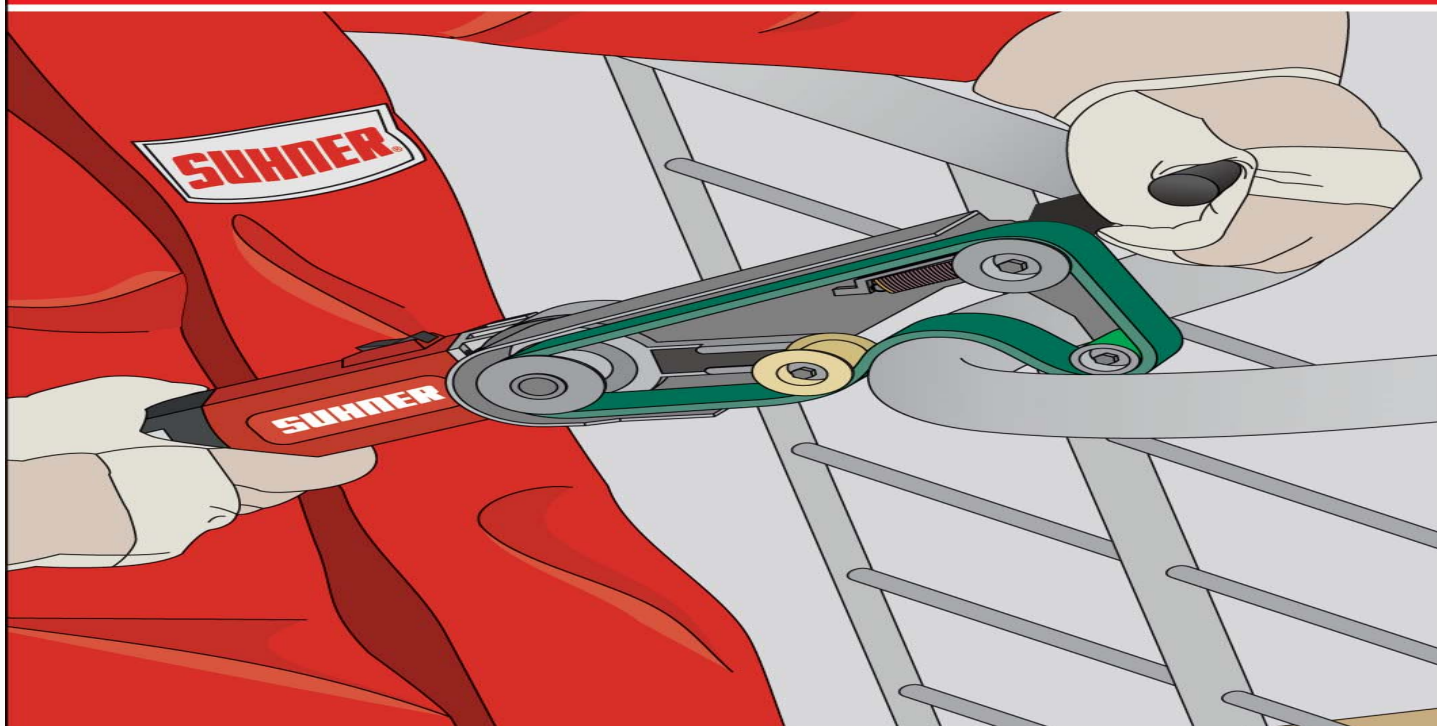
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## The Role of Nickel in Stainless Steel

The Indian Institute of Metals, Delhi Chapter and the Indian Stainless Steel Development Association jointly organized a technical talk by Dr. Peter Cutler, Director, Promotion, Nickel Institute. The talk was held on December 14, 2011 at the India International Centre, New Delhi. About 50 members participated in the deliberations.

Dr Peter Cutler is a PhD in metallurgy from Cambridge University, UK. He has wide industrial experience in nickel alloys. He is responsible for coordinating world-wide promotional activities of nickel-containing alloys, stainless steel constituting a significant share of his work.

Mr. S C Suri, Vice Chairman, IIM DC introduced the speaker and briefly introduced the broad aspects of the topic of nickel in stainless steel.

Mr. N C Mathur, Advisor, JSL Stainless Steel and President of Indian Stainless Steel Development Association, briefed the participants regarding the present level of global stainless steel production and also the current status of stainless steel production in India. He also informed that India is the third largest market of stainless steel in the world. The first two being China and the European Union.



*Dr. Peter Cutler, Nickel Institute*



Dr. Cutler explained in detail about the effect of nickel in all the phases of austenitic, ferritic, martensitic, duplex and precipitation hardening stainless steels in influencing the physical, mechanical and corrosion resistance properties including welding aspects.

It is well known that poor toughness is the biggest drawback of 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.

Dr Peter Cutler also reviewed the recycling aspects and the life cycle costing aspects of various stainless steel grades.

There was a lively question-answer session after the conclusion of Dr Peter Cutler's technical presentation.

As a mark of appreciation for his very informative and stimulating presentation,

a memento was handed over to Dr. Cutler by Mr. S C Suri. Mr. Ramesh Gopal, Executive Director, Indian Stainless Steel Development Association, proposed a vote of thanks to all.

Dr Cutler's presentation is available in our website [www.stainlessindia.org](http://www.stainlessindia.org) under 'What's New' on the homepage

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### 3 DIMENSIONAL MOTION MIXER IN STAINLESS STEEL

A unique mixer in stainless steel developed by Hexagon Product Development Pvt. Ltd., Vadodra works on the principle of kinetic inversion. The brand name given by them is ALPHIE.

It is a complex, highly-ordered, 3-dimensional motion mixer made in AISI 304, 316 and 316L grades of stainless steel. Resultant mixtures obtained are far superior to those obtainable with the conventional type of mixers based on the techniques used for barrel mixers, v-blenders, double cone blenders or ribbon mixers, which have segregation zones and longer mixing and cleaning times. The unusual, 3-dimensional mixing motion quickly and efficiently produces a homogeneous substance regardless of specific weight (density) of the substances being mixed.

ALPHIE is used for the homogeneous mixing of powdery substances with different specific weight and particle sizes. The product is mixed in its own closed container. This makes it an ideal powder blender. It is also possible to mix wet and dry element or different wet elements.

The charging barrel is driven by main drive shaft. The barrel body carries on repeated parallel movement, rotation, rolling and other complex movements so that different materials achieve uniform mixing.

The mixing barrel of the machine makes multi-direction movements whereas other



conventional mixers use centrifugal force for mixing.

One advantage of this form of motion is the high level of space utilization within the container. In some cases as much as 98% of the container volume can be used.

ALPHIE is available in various sizes starting from 3 litres and above. The main advantage is that the ingredients stay in closed and removable containers. Being stainless steel containers, these can be easily and hygienically cleaned.

ALPHIE mixer is being used in pharmaceutical, nuclear, food, cosmetic industries that require mixing / blending operations in a hygienic environment.

#### Contact details:

**Hexagon Product Development Pvt. Ltd.**

A-201, Arihant Super Market

Nr. Lalbagcrossing

Vadodra - 390 011 Gujarat, INDIA

**Phone:** +91-265-6549835

**Mobile:** +91-9227127517

**email:** [info@hexagondesign.net](mailto:info@hexagondesign.net)

#### Welcome New Members

## REDEX

**REDEX** has been involved in the designing and manufacturing of Tension Levelling Lines and a complete range of high precision Tandem Rolling Mills for the Strip & Wire Industries,

For the Strip Industry REDEX began manufacture of Tension Levelling since the early sixties and delivered many Stand Alone Lines successfully used by producers of Stainless Steel and other metals including Aluminium, Special Alloys, Blacksteel, Tin Plate, Silicon steel. The equipments are fully computer-controlled and offer to the precision strip manufacturers throughout the world the highest level of productivity and quality.

Apart from the tension levelling lines REDEX manufactures a complete range of High precision Tandem Rolling Mills for the wire industry.

REDEX provide Sales and Service support from their office in Hyderabad.

#### Contact particulars:

Bejoy Menon, Head – Redex of India

9, 2<sup>nd</sup> Floor, Alcazar Plaza and Towers

Road no.1, Banjara Hills

Hyderabad: 500 034

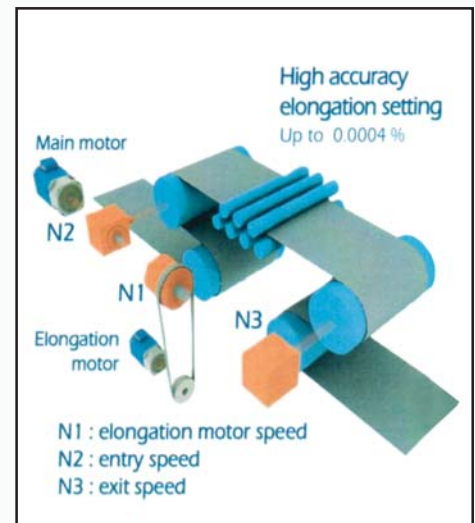
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Modern Industries, Mohali, have come out with a unique concept of termite free modular kitchens. These are complete in stainless steel with wooden shutters. The design of kitchen is such that it does not allow any space in it for the breeding and hiding of cockroach. The kitchens remain termite free and also rust free. In Indian kitchens termite and cockroach are a grave problem and Modern kitchens have got rid of this problem. These cabinets are easy to clean, maintain and life time durable.

Being fitted with stainless steel these modular kitchens are rugged and decorative. Cabinets, baskets, auto hinges, and telescopic channels - all are in stainless steel. The grade of stainless steel used in modular kitchen is 202 or 304 as per customer's choice depending upon his budget.

Modular kitchens made by them are not only for the 'sweet home' but also made for the pantry, canteen, fast food and hotels.

Modern industries also specialize in stainless steel wardrobes, bars, trolleys, gates and hand railings of various designs and applications for the stairs, terraces and shopping malls.

For details contact details:  
Rajinder Singh Bhullar

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## WORLD STAINLESS STEEL PRODUCTION UP IN 3Q-2011

Preliminary figures released by the International Stainless Steel Forum (ISSF) show that worldwide stainless steel crude steel production increased by 3.6% in the first nine months of 2011 compared to the corresponding period of 2010. Total production for the first three quarters of 2011 was an accumulated 24.2 million metric tons (mmt). Production reached 7.7 mmt in the third quarter – a new all-time-high for a third quarter. However, there are big differences in the performance of the individual regions.

Excluding China, stainless steel production in Asia decreased by 1.9% to 6.6 million metric tonnes (mmt) for the

first nine months of 2011. However, the growth rates of the individual stainless-producing countries in Asia showed variations ranging from plus 10% in India, to minus 33% in Taiwan.

Mainland China increased its stainless steel production by 12.8% in the first three quarters of 2011 to 9.4 mmt. The country now accounts for around 39% of the world's stainless steel production. This compares to the same period of 2010, when China's market share was at about 36%. At the end of the third quarter of 2011, Asia (including China) accounted for two thirds of the world's stainless steel production and the trend is increasing.

After China and the rest of Asia, Western Europe/Africa is the third largest stainless steel producing area in the world. However, stainless steel production in the first three quarters of 2011 dropped slightly by 0.7%. Total production was 6 mmt for the first nine months of the year.

In the Americas region, stainless crude steel production decreased by 5.5% to 1.9 million tons over the first three quarters of the year. Production in the Central and Eastern Europe region showed an increase of 20.4%. However, total production for the year so far is just 0.3 mmt, an almost negligible volume.

**Stainless crude steel production (in '000 metric tons):  
First three quarters 2011 compared corresponding period of 2010**

Region	Full Year		+/- %	First Nine Months		Y-o-Y +/- %
	2009	2010		2010	2011	
Western Europe/Africa	6,449	7,875	22.1	6,017	5,978	-0.7
Central and Eastern Europe	237	340	43.6	252	303	20.4
The Americas	1,942	2,609	34.4	2,041	1,929	-5.5
Asia (excluding China)	7,472	9,011	20.6	6,718	6,593	-1.9
China	8,805	11,256	27.8	8,313	9,376	12.8
<b>World total</b>	<b>24,904</b>	<b>31,090</b>	<b>24.8</b>	<b>23,341</b>	<b>24,179</b>	<b>3.6</b>

Source: International Stainless Steel Forum (ISSF)

Looking at the third quarter alone, production was the highest ever recorded for a third quarter. However, all of the increase came from the Asia region (including China). Both Asia and China itself produced more stainless in the third quarter of 2011 than in 2010.

Production in the Central/Eastern Europe region decreased compared to the second quarter of 2011, but was higher than in the third quarter of 2010. In both the Western Europe/Africa and the Americas regions, production decreased when compared to both the second quarter of 2011 and the third quarter of 2010.

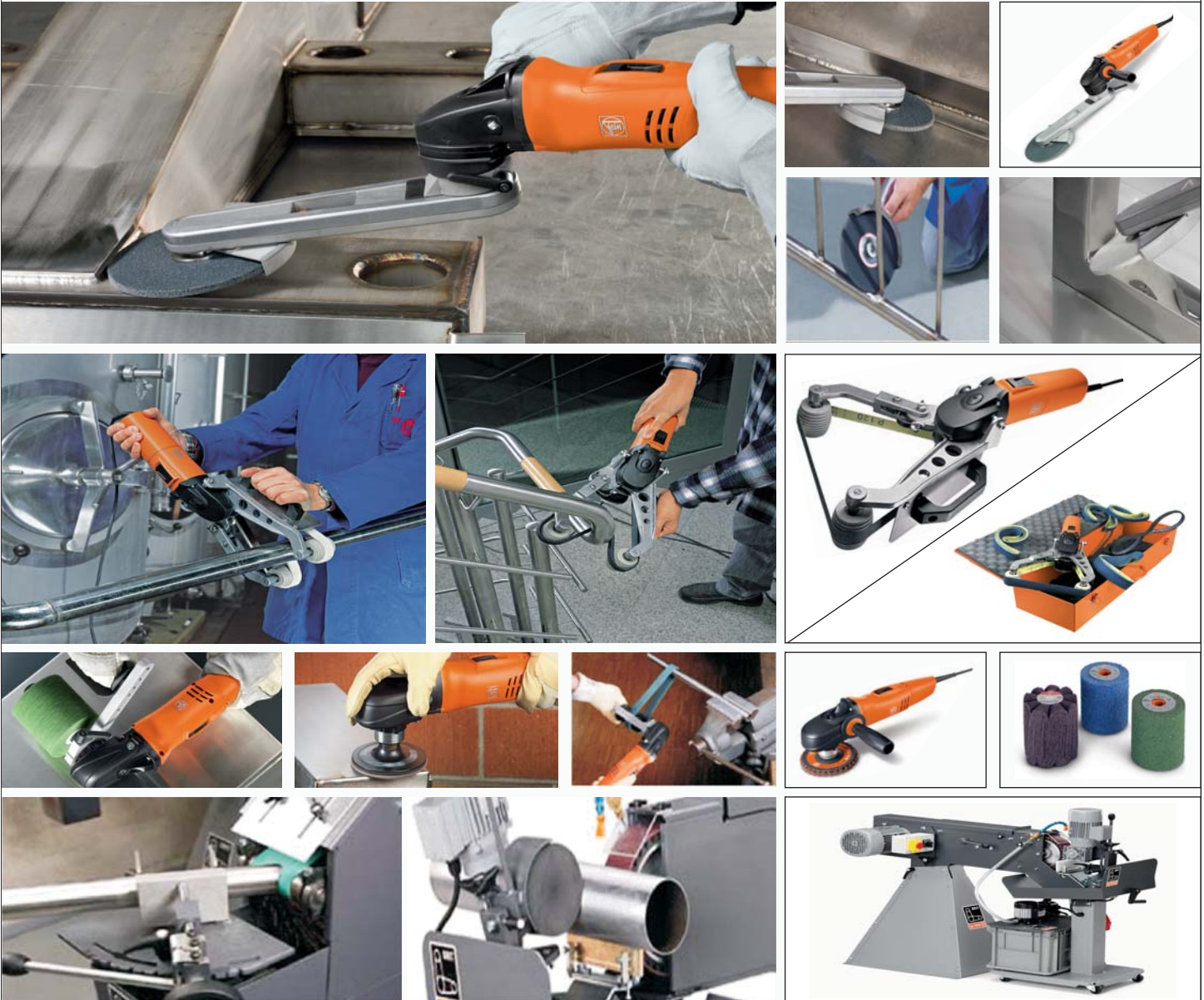


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## Stainless Steel Wins on Life Cycle Cost Comparison

Since 2001, Rail Coach Factory (RCF) Kapurthala has been manufacturing stainless steel LHB (Linke Holfmann Bush) coaches based on German technology. These coaches are presently being run in premium trains like Rajdhani, Shatabdi and a few Duronto trains. Integral Coach Factory (ICF), Chennai (established in 1986) has been manufacturing coaches in corten steel based on indigenous design (ICF design). Since last year, they have also started manufacturing stainless steel coaches of LHB design. LHB stainless steel coaches are more expensive to begin with, but 'Life Cycle Costing' comparison proves that by using LHB design, the benefits accrued by the railways year after year will more than compensate for the initial higher cost. First, conventional AC coach (ICF design) costs Rs. 1.7 crore in comparison to LHB AC coach that costs Rs. 2.5 crore. But, the life of ICF designed AC coach is only 25 years while stainless steel LHB AC coach lasts for 35 years; i.e. 40% longer service life. Second, the higher strength of stainless steel enables the use of thinner gauge sheets in the coaches thereby reducing the weight of coaches. This weight-saving by using light weight stainless steel helps in increasing the length of the coach. The result is increased passenger carrying capacity per coach and bringing in more revenue to the railways. According to published reports, LHB coaches bring down transportation cost for every kilometer by about 12 to 15% even though its initial cost is higher. Third, because of higher corrosion resistance of stainless steel, LHB coaches need far less maintenance compared to corten steel



coaches, leading to significant cost savings. Fourth, because of lower maintenance requirement, the availability of LHB coaches for service becomes higher than that of corten steel coaches, and this means increased revenue per coach. Fifth, LHB coaches are capable of being run at speeds of upto 200 kmph compared to 110 kmph for ICF coaches. Because of higher speeds, the turnaround time of trains will be shorter. This would also lead to increased revenue for IR. Thus, on Life Cycle Cost Comparison, we see that the so-called "more expensive" stainless steel LHB coaches, in fact, turn out to be of economic advantage for IR.

**LIFE CYCLE COSTING:** Considering the (1) increased service life of LHB coach; (2) the increased passenger revenue; (3) minimal maintenance and down time and (4) savings over every route-kilometer, it makes eminent commercial sense for the Indian Railways to increase the share of the LHB coaches in its rolling stock. According to some reports, IR plans to annually produce 4,000 LHB coaches gradually replacing ICF design in a matter of a few years. The initial cost comparison of some of the typical LHB (German) design coaches and ICF design, conventional coaches are as under:

Type of Coach	LHB Design Coach	ICF Design Coach
General 2 <sup>nd</sup> Class Coach	Rs. 1.2 crore	Rs. 65 lakh
Sleeper Class Coach	Rs. 1.3 crore	Rs. 70 lakh
AC 1 <sup>st</sup>	Rs. 2.4 crore	Rs. 1.7 crore
AC 2 tier	Rs. 2.4 crore	Rs. 1.7 crore
AC 3 tier	Rs. 2.6 crore	Rs. 1.6 crore

As per the press release of Indian Railways dated 2<sup>nd</sup> December, 2011, Rail Coach Factory, Kapurthala and Integral Coach Factory (ICF), Chennai have been sanctioned Rs. 142.20 crores and Rs. 249.58 crore respectively, to enable them to manufacture these upgraded stainless steel coaches.

*Continued from page 1*

Nickel Institute. In all the five cities, there was an overwhelming response from the participants which were 650 in numbers.

The workshop covered the following topics:

- Sustainable Stainless Steel • Selection and Design Fundamentals • Surface Finishes • Building Exteriors – Roofing, Walls, Sunscreens and other Exterior Applications • Stainless Steel Structural Design • Sustainable Interior Design.

The workshops were made successful with the help of our sponsors — BRG Group, Carl F India Pvt Ltd, Fabrinox, Fein Power Tools India Ltd, JSL Stainless Ltd, Sreevatsa Stainless Steel Fabricators Pvt Ltd, Outokumpu India Pvt Ltd and Sunflag Iron & Steel Co. Ltd.

Presentation available at [www.stainlessindia.org](http://www.stainlessindia.org).

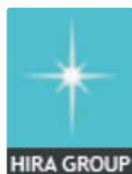
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## Welcome New Members



## HIRA POWER & STEELS LTD

RAIPUR

Hira Power & Steels Ltd, Raipur, a unit of Hira Group, is the FIRST Unit in central India to manufacture Ferro alloys in a tiny Furnace with the capacity of 2.5 MVA.

From a small company with a turnover of 2 Crores and 300 MT/Month production in 1987 to a company with a turnover of over 200 Crores and 5200 MT/Month production, the group under the leadership of Shri Agrawal brothers, has grown many folds both value wise and volume wise.

Hira Group of Industries is one of the leading manufacturers of Ferro alloys, having a production capacity of around 10,000 MT per month of Ferro alloys. Ferro alloys are an essential component in the manufacturing various grades of steel. The entire raw material feeding system is atomized. Tapping the molten metal from furnace bath is a continuous process. The tapped molten metal is collected in Cast Iron Pans and after sufficient cooling the metal is lifted and broken in different sizes like 10x100, 10x150 etc as per the customer order.



Currently the Group is having the subsidiaries M/s Godawari Power & Ispat Limited an integrated steel plant manufacturing Sponge Iron, Billets, Wire Rods, Power & Ferro Alloys; M/s Hira Ferro Alloys Limited; M/s Hira Power & Steel Limited having 26 MVA furnace, Captive Power Plant of 20 MW (with Coal linkage) and Mines; M/s Alok Ferro Alloys Limited & M/s Hira Steels Limited. The group is also having mines located in Madhya Pradesh. It has also acquired seven prospecting rights for Manganese Ore in South Africa. Three of the seven Rights are located at close proximity to the world famous Kalahari Manganese basin.

The Group has been supplying Ferro alloys to the major public and private industries covering approximately 350 major industries including stainless steel producers to clientele across the globe. Ferro alloys are manufactured conforming to the international standards

and also as per the customer requirements. Ferro alloys product range of HPSL include: i) High Carbon Silico Manganese 60%, ii) High Carbon Silicon Manganese 65%, iii) High Carbon Ferro Manganese 70% and iv) High Carbon Ferro Manganese 75%.

**Size:** Normally, supplies are made in 10 mm to 150 mm size lumps.

**However for specific requirement the order for other specifications & size also accepted.**

**Packing:** Normal packing is in 50 KG double gunny bags. However packing in 1 MT Jumbo bags can also be done depending upon client's requirement.

Apart from Ferro-alloys, The Group also produces pig iron, dolomite, manganese ore and fly ash bricks.

Contact particulars:

### Contact particulars:

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## Welcome New Members



**Swastik Industrial Works** established since 1965 is one of the leading stockist/suppliers of fasteners in India's OEM companies & export to overseas. They supply to many public listed companies all over India. Their major clients include BEML, L&T, and Adani Energy etc.

Their annual turnover is 36 crore and have up to 350 tonnes of readily available stock of stainless steel fasteners.

Their product portfolio of fasteners include hex bolts, nuts, washers, stud bolts, machine screw, self-tapping screw,



threaded rods as per specifications of ASTM, ASME, DIN standards.

The fasteners are available in various grades of stainless steel including SS 202, 304, 316, 316 Ti, 321, 347, INCONEL, MONEL, HASTALLOY and TITANIUM.

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