

# STAINLESS INDIA

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Indian Stainless Steel  
Development Association

K-36 (FF), Hauz Khas Enclave, New Delhi - 110 016.



Tel: 2686 5631 / 3389; Fax: +91 11 2686 3376

E-mail: [nissda@gmail.com](mailto:nissda@gmail.com)

[nidissda@del3.vsnl.net.in](mailto:nidissda@del3.vsnl.net.in)

Web: [www.stainlessindia.org](http://www.stainlessindia.org)

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## Architectural Workshops held in four cities



*A section of the participants at the Architecture, Building & Construction (ABC) workshop in Bangalore*



*Catherine Houska*

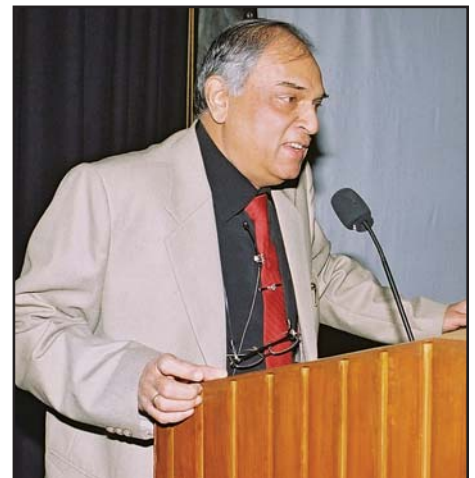
With the boom in the construction industry across all sectors, a whole lot of construction industry professionals who were hitherto not used to stainless steel, have joined the ranks of avid users in large numbers. In order to address the stainless steel knowledge requirements of both the existing and the new professionals like architects, interior decorators, builders, fabricators etc, the Nickel Institute (NI) and ISSDA organized a series of four workshops at Delhi, Mumbai, Hyderabad and Bangalore from November 28 to December 2, 2006. The workshops were conducted by Ms Catherine Houska, a world-renowned expert in the use of stainless steel in the building & construction sector. Based in Pittsburgh, USA, Ms Houska is a consultant to the Nickel Institute.

The workshops dealt with an overview of stainless steel basics, grade selection, sustainability, finishes, fabrication, interior and exterior applications. Three video clips on recycling of stainless steel, fabrication aspects and a case study on the

construction of the spire in Dublin, Ireland, were shown. Samples of various types of special surface finishes from two ISSDA member companies viz., M/s Salem Steel Plant-SAIL and M/s New Era Industries (authorized distributors of Rimex, UK) were also on display for the benefit of participants.

Attendees were provided with a wealth of information in CDs which contained the workshop presentations and publications of the Nickel Institute, Euro Inox, SSINA and IMOA covering fabrication, grade selection, finishes and a broad range of application examples.

About 450 personnel attended the four workshops. These included architects, interior designers, personnel from the public works departments, municipal corporations, railways, military engineers, airports and companies constructing new airports, consulting engineers, structural engineers, builders-developers, product designers, landscape designers, academics, construction companies, furniture makers, fabricators, welding



*N C Mathur*

equipment people, surface finishing equipment suppliers and stainless steel suppliers. In Mumbai, sanitary engineers (plumbing) also attended.

NI and ISSDA are thankful to Messers Jindal Stainless Ltd, Arcelor Stainless India Pvt Ltd, Connect Architectural Products Pvt Ltd and Stallion Systems Pvt Ltd for sponsoring the workshops.

## Metal mirror image of Bhagavati

The mirror image of Bhagavati, or mother goddess, has unique significance. Mirror images are installed in the sanctum sanctorium of the mother goddesses in place of idols in most of Bhagavati shrines in Kerala.

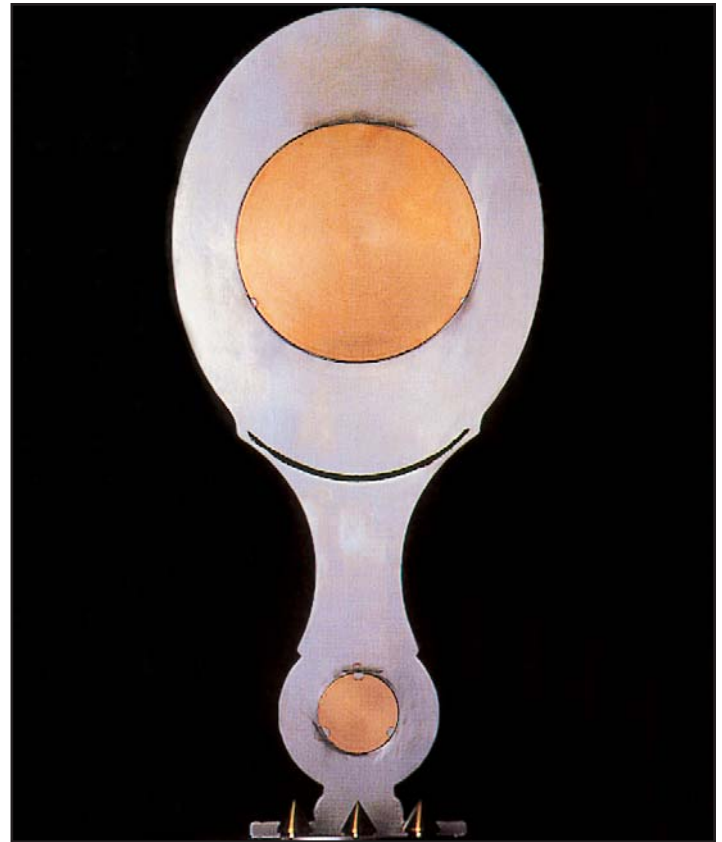
Metal mirror with a handle is called "val-kannati" and those metal mirrors with prabhavali, the halo like decoration, are called "Kannati bimbams". Kannati bimbams are made of bronze, very often in panchalohaa, an alloy of five metals.

Paying obeisance to Kannati-bimbam is one of the highest forms of worship in northern Kerala. It is the visible symbol of "aham Brahmasmi", I am Brahma, and this realisation can be achieved only through dedication and contemplation. The devotees look at the Kannati-bimbam, observe his/her own image reflected in the mirror or kannati, and meditate upon it in worship. For me this is the highest form of worship. There is no religious divinity to identify.

Mirror image has been an auspicious object in the life of female from the birth till the last moment of her life. It is one of the eight auspicious objects called 'ashta-mangalyam'.

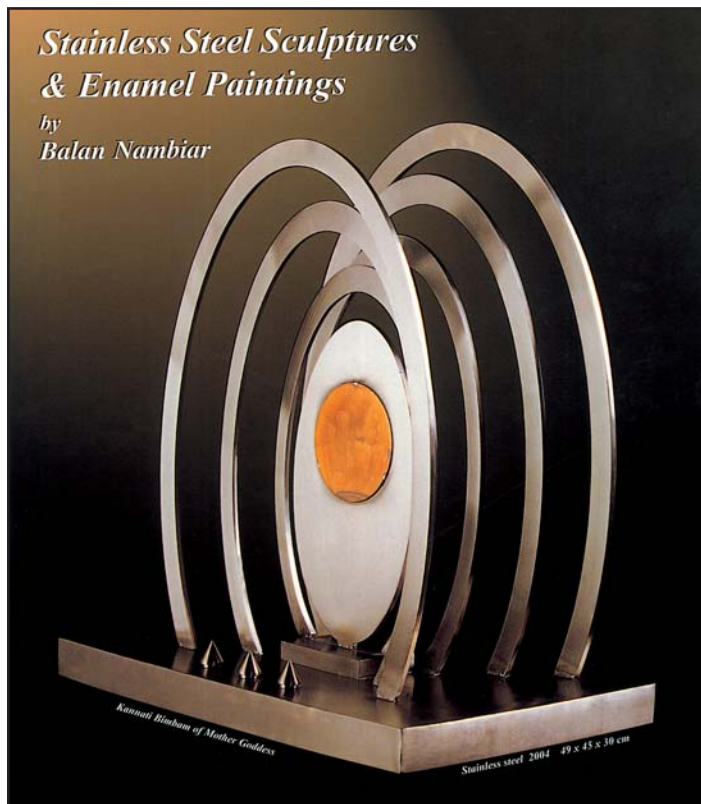
Apart from the Hindus of Kerala and Bengal, the other form of worship in which the metal mirror symbolically represents a mother goddess is the Shinto religion of Japan. Ametarasu, the sun goddess, is represented with metal mirror at Shinto shrines.

The significances of the metal mirror as an object of auspiciousness as well as the representation of mother goddesses in Kerala and Japan inspired me to explore the possibilities of recreating the image in my own way through the medium of stainless steel. Occasionally I have incorporated forms of copper along with the stainless steel to create a unified sculpture composition. Thus I have been doing a series of sculptures designed in computer and the metal sheets were laser-cut to create a modern composition. For this, I used 304 grade six mm thick stainless steel sheets and fabricated with TIG welding at my well equipped studio in Bangalore. The laser cutting



is done at the Magode Laser Machining Company at Jigini, near Bangalore.

Balan Nambiar, Bangalore, India; Tel: 91-80-23331536, 91-94488 54141; Web: [www.balannambiar.com](http://www.balannambiar.com)



### Welding Lecture Series

A lecture series on 'Welding of New Generation Stainless Steels' by Dr Damian J Kotecki was organized between 27th November to 7th December 2006 in India by Weldwell Speciality Pvt Ltd (a marketing organization of consumable products and a distributor member of AWS) jointly with GEE Ltd (a leading welding consumable manufacturer).

Other than the common stainless steel grades, some of the new generation grades which were discussed were: Super austenitic grades (S31254, N08926, N08367, S32654), Mo-bearing grades (317LM, 317LMN, 904L), Super duplex grades (2507, Zeron 100, CE3MN, CD3MWCuN), Modern low interstitial ferritic grades (18-2, 26-1, Sea Cure, 29-4, 29-4-2), Super martensitic grades (11Cr-2Ni, 12Cr-4Ni-1.5Mo, 12Cr-6Ni-2.5Mo).

The programme was supported by The Indian Institute of Welding (IIW), the professional society of welding engineers in cooperation with The American Welding Society (AWS). The lectures were held at seven locations namely Chennai, Tiruchirappalli, Coimbatore, Kochi, Surat, Mumbai and Pune. Over 800 attended the lectures. The lecture series was a sequel to similar lectures held once a year.

AWS has been sponsoring renowned experts as speakers for delivering lectures on latest trends and practices in welding. IIW is in touch with AWS for extending similar cooperation in the field of spreading of welding education in the future.



## 200 New Stainless Steel Bus Shelters for Delhi

In the June 2006 issue of STAINLESS INDIA, it was reported that Delhi will soon have stainless steel bus shelters.

For the past few weeks, Delhites have been watching many of these beauties being put up – some of them are already in place. About 200 such gleaming stainless steel bus shelters are presently being installed in the New Delhi Municipal Council (NDMC) area of New Delhi. M/s JC Decaux Advertising Pvt Ltd is in charge of putting up these bus shelters. Each bus shelter approximately uses about 850 Kg of stainless steel.

The Delhi Transport Corporation (DTC) is also planning 225 similar bus shelters on the Ring Road. In addition, the Municipal Corporation of Delhi (MCD) is also in the process of refurbishing 800 carbon steel bus shelters in its zones by cladding the structurals and seats with stainless steel sheets.

## Tensegrity – cantilever style !

(Utssav Gupta, the author of this piece, is a student of Architecture at the Sushant School of Art and Architecture, Sector 55, Gurgaon. In the March 2006 issue, he had contributed an article on 3.4 meter tall, vertical tensegrity structure. This one is about horizontal ones. — Editor)

For information of readers, tensegrity is an acronym for tension and integrity. In a tensegrity structure, tensile members are usually continuous wires or rods, while the discontinuous compression members are sections of tubes. Since the compression members do not have to transmit loads over long distances, they can be made more slender without sacrificing structural integrity. This makes tensegrity structures very much lighter and slender compared to other structures. Usually, stainless steel tubes are preferred because of their high strength-to-weight ratio, ease of maintenance, aesthetically more appealing and its longevity under various climatic conditions.

This is a horizontal tensegrity structure, made of stainless steel tubes and wire-rope, and is 4.5 meter long cantilever. This is fastened to the wall at four points. The structure consists of eleven struts varying from 1200 mm to 2000 mm. The overall weight of this tensegrity structure is 30 kg. It can take an over all load of 200-500 kg (i.e. the breaking stress of the wire rope used). Theoretically these kinds of structures may be designed to take any load.

This structure is installed in the amphitheatre area of Sushant School of Art and



Architecture in Gurgaon.

**TOMORROW WE MAY SEE HEAVY CONCRETE MASS BEING REPLACED BY THESE SLEEK STAINLESS STEEL STRUCTURES.**

I owe this to Mr. Ashok Sharma, who not only fabricated this for me but also for his keen interest and eye for detail, Prof. Satsangi for guiding me throughout, all faculty members without whose encouragement this may not have been possible, Last but not the least my friend Shwetabh Seth for constant support and zeal.

Utssav Gupta, [utssavgupta@gmail.com](mailto:utssavgupta@gmail.com)

***Would you like to feature your stainless steel products / services in STAINLESS INDIA? Send us your write-up along with attractive colour images.***

## Railways extend use of stainless steel



**Left:** Stainless steel modular toilet supplied for the Indian Railways. It has been developed for the first time in the country and is being tried on AC coaches and sleeper coaches. If successful, stainless steel modular toilets will replace the FRP ones which are currently in use. 8 nos. have been supplied to ICF, Chennai, and 8 nos. will be supplied to RCF, Kapurthala. Each modular toilet uses 200 kg of AISI 304 in No. 4 finish.

**Below:** Stainless steel pantry equipment in the hot buffet car for Rajdhani Express trains.. Seven such pantry cars have been supplied to RCF, Kapurthala. Each pantry equipment uses 1,500 kg of AISI 304 in No. 4 finish.

Contact details of the fabricator: Mr D K Mittal, Proprietor, VISHAL GAS SERVICES, 208, Kabra Complex, M G Road, Rani Gunj, Secunderabad – 500 003  
Tel: 040-2771 4127, 2771 5689, 0-93965 28233;  
Fax: 040-2771 4420;  
Email: [dependra@satyam.net.in](mailto:dependra@satyam.net.in)

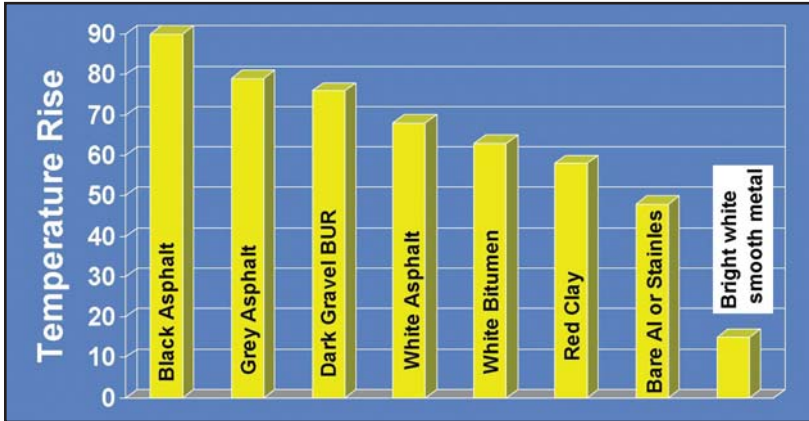
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# Stainless Steel Roofs reduce energy requirements

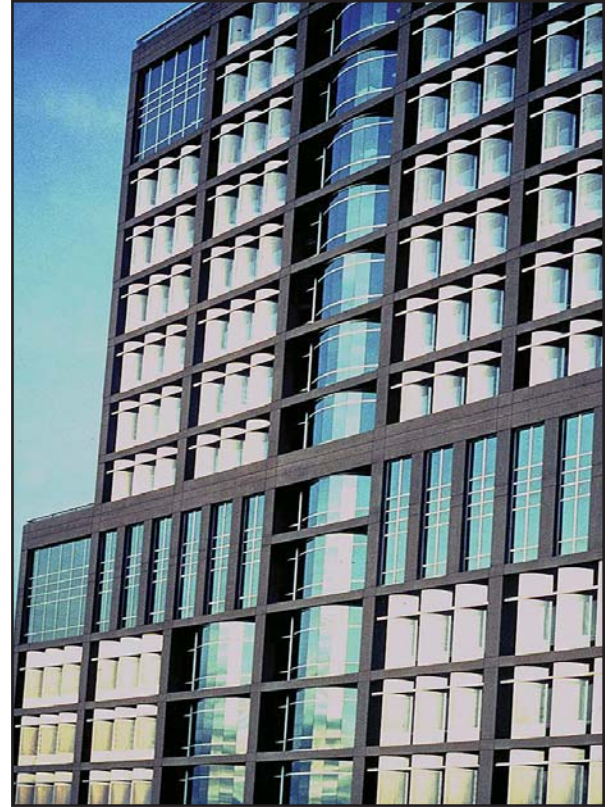
(Excerpt from Ms. Catherine Houska's presentation at architectural workshops in India)



Cool Roofs = Less Air Conditioning



Largest Gold LEED Certified Building: Pittsburgh Convention Center.  
Notice the large bare stainless steel roof



PHOENIX CITY HALL

Perforated, polished stainless steel window shades; US\$285,000 one-time capital savings in installing A/c equipment; US\$200,000 annual air conditioning savings in electricity.

## Stainless Innovation Awards – Jindal Stainless Ltd

In order to encourage creativity in the usage of stainless steel and celebrate design excellence, Jindal Stainless Ltd has announced the fourth edition of Stainless Innovation Awards. The categories are:

### Category 1: Innovation in the application of stainless steel in BUILDING AND ARCHITECTURE

Open to individuals, architects or firms using stainless steel for exceptional and exemplary work in commercial, public or residential architectural design anywhere in India; special award for student concept and design class.

### Category 2: Creative ideas of application of stainless steel in INTERIOR DESIGN

Interior decorators, individuals or firms, interior architects and other design professionals for using stainless steel for exceptional and exemplary work in the design of interiors; special award for student concept and design ideas.

### Category 3: Excellence in the usage of stainless steel in PRODUCT DESIGN

Product designers, individuals or firms and other design professionals for innovative usage of stainless steel in design of lifestyle products; special award for student concept and design ideas.

For the official entry form and other details, please log onto [www.jindalstainless.com](http://www.jindalstainless.com) OR contact:

Mr Anshuman Chakaravarty, Corporate Communications, JINDAL STAINLESS LTD, Jindal Centre, 12 Bhikaiji Cama Place, New Delhi – 110 066; Tel: 011-2618 8340-50; Fax: 011-4165 9169; Email: [awards@jindalstainless.com](mailto:awards@jindalstainless.com).



## Worried About Finger Print Marks on Stainless ?

Two new products are available now for fabricators of stainless steel. The first is BRILLIANCE CLEAN, an oil-free, fast-drying agent, which can be sprayed on the surface of finished stainless steel products and wiped with a soft, clean cloth. This helps in completely removing abrasive particles left on the surface of the finished stainless steel. These left-over abrasive particles are usually not visible to the naked eye and stay on the surface and create problems like scratch marks due to left over abrasive, while in use.



BRILLIANCE CLEAN can also be used to care for stainless steel while the product is in use for removing dust, oil and soiling from the environment.

The other product is INOX PROTECT, a silicon-free agent which can be sprayed on the surface of clean stainless steel to protect against finger print marks. INOX PROTECT gives a dry protective film that helps avoid registering of finger print marks.

The use of INOX PROTECT by stainless steel fabricators before delivery of fabricated products to the customers will help them in presenting their products in a pristine condition without any finger marks on the surface.

It is also advisable for users of stainless steel products to apply INOX PROTECT every 15 days to prevent finger print marks on stainless steel surfaces. Both products are available in 500 ml spray bottles and 5 litre canisters.

These products are useful especially for architectural applications and users of life-style products and for stores that display stainless

## Award for ED, Salem Steel Plant



Mr PM Balasubramanian, Executive Director, Salem Steel Plant (right) received the Corporate Excellence Award for 2006 from the Institute for Technology & Management (ITM). Every year, the ITM group of business schools identifies and awards professionals who have achieved tremendously in the fields they represent. Mr Balasubramanian received the Award from Mr S Rammohan, MD, Nagarjuna Oil Corporation Ltd (left) at the award function held in Chennai on December 2.

steel items like kitchen hoods, and likely to get finger printed by visitors inspecting their items.

**For details contact:** Ajay Madan, 98111 37745; Arm Innovations, 23-B, Sector 31, HSIDC Industrial Estate, Faridabad 121 003. Tel: 0129 404 8900, 405 8900. Fax: 403 8900, E-mail: [ajay@arminnovations.com](mailto:ajay@arminnovations.com)

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Phone: 0129-404 8900, 405 8900. Fax: 403 8900. Email: [ajay@arminnovations.com](mailto:ajay@arminnovations.com)

## Welcoming New Members

### Outokumpu – An international stainless steel company

Outokumpu is one of the largest producers of stainless steel and recognized for technical support, research and development. The slabmaking capacity totals 2.5 million tons and the capacity for cold rolled material and white hot strip mill is 1.6 million tones. In global terms, Tornio works in Finland is the most cost efficient and the largest single-site stainless steel production facility. In addition, Outokumpu produces 0.3 million tons of long products and plates annually. Outokumpu will start production of ferritic stainless (60000 tons annually) at Tornio in 2007.

Outokumpu has a 25% share of stainless steel coil market in Europe and 8% share worldwide. Customers in a wide range of industries – from the process industry and industrial machinery to building, construction and transportation, electronics and information technology, as well as catering and households – use Outokumpu stainless steel and services worldwide.

Outokumpu operates in some 30 countries and employs nearly 10 000 people. In 2005, the Outokumpu Group's sales were Euro 5.6 billion ( More than INR 33000 crores) of which 95% was generated outside Finland. The Group's headquarters is located in Espoo, Finland. Outokumpu Oyj has been listed on the Helsinki stock exchange since 1988. [www.outokumpu.com](http://www.outokumpu.com).

### Outokumpu Plants and Products

Outokumpu plants, mainly situated in Finland, Sweden, Britain and the U.S., produce a wide range of stainless steel products including hot and cold rolled coil, sheet and plate, precision strip as well as tubular and long products. Outokumpu products are available in various dimensions, grades and surface finishes. Outokumpu produces part of its raw material in its own chromium mine and ferrochrome facility.

### Flat products

Outokumpu produces one of the widest ranges of austenitic and special grade stainless steel flat products available in the market, from plate and extra-wide coil and sheet to the thinnest gauges.

Outokumpu's hot rolled plate (upto 3.2 metres wide) and coils (upto 2 metres wide) are used in some of the most demanding environments. Applications are found in tankers and tanks for corrosive chemicals, desalination, pulp and paper processes, the oil and gas industries, and power generation. Structural applications like bridges are a new and fast growing area of application.

Cold rolled stainless steels have the widest use of all stainless products with applications in food production, transport equipment, architecture, building and construction.

Outokumpu is a large producer of stainless steel precision strips with the broadest product range in the industry.

### Tubular products

Outokumpu manufactures welded stainless steel tubes and pipes as well as fittings and flanges. The Outokumpu tube and pipe dimensions represent the full scale available in the market in standard austenitic and duplex grades. The Outokumpu product range covers most of stainless tubular applications in hygiene and heat exchange segments. A growing segment is in water

management from sea water desalination, water purification and freshwater distribution to waste water treatment.

### Long products

Outokumpu is a producer of stainless steel wire rod, re-inforcing bars in coils and other semi-finished products including bar, billets and blooms. The products are used to manufacture wire, fasteners, and components for pumps and valves. Outokumpu offers long products in standard, customized and special grades.

### Specialty Stainless

An increasing share consists of Duplex grades having higher strength and good corrosion resistance properties compared to austenitic grades – a good example of Outokumpu's steel grade development. Together with competitive pricing, Duplex grades are being used in place of more traditional grades in applications such as chemical tanks, building & construction, desalination plants, oil and water storage tankers. The finished products capacity is 500000 tons of cold rolled and white hot strip, 170000 tons of Quarto Plate, 80000 tons of long products and 100000 tons of tubular products.

### Research and development

Outokumpu's commitment to technical leadership is backed up by spearheading research and development activity. Our research units are centres of excellence in stainless steel product and application development. They are also the nerve centres of our technical customer service, providing answers to enquiries from grade selection and mechanical properties to the behaviour of our products in our customers' processes.

**Outokumpu India Private Limited** is the newest addition to Outokumpu's worldwide network of stainless steel sales teams that serve local markets. Through local presence, Outokumpu has long served the global stainless steel community with success. **Outokumpu India** brings the full range of Outokumpu products and services including technical customer service to the Indian market. One of the objectives of Outokumpu India is to educate both current and potential stainless steel users in India about the full potential of stainless steel and how quality stainless can enhance the competitiveness of their businesses. The Outokumpu team will aid efforts to boost the country's low per-capita consumption of stainless steel convinced that only more highly alloyed grades can achieve improvement in industrial standards.

**Please be informed that Outokumpu India Private Limited is the only channel to meet your requirements of Outokumpu Stainless**

For further details, kindly contact

### Mr. Yatinder Pal Singh Suri

Country Head

Email : [yatinder.suri@outokumpu.com](mailto:yatinder.suri@outokumpu.com)

Phone: +91 11 4651 8444, Mob. +91 98181 20952

Fax: +91 11 4651 8439

**Address:** 412, Block E, International Trade Tower, Nehru Place New Delhi - 110 019, India.

***Would you like to feature your stainless steel products / services in STAINLESS INDIA? Send us your write-up along with attractive colour images.***

## Honavar Electrodes Pvt Ltd

Honavar Electrodes Pvt Ltd manufactures a comprehensive range of SMAW electrodes for welding. The company was promoted in 1992 by Mr D S Honavar who is the Chairman.

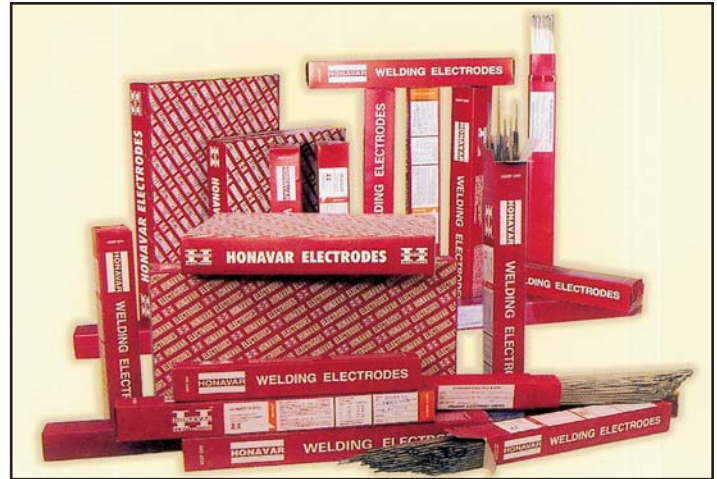
Honavar's manufacturing facility is in Thane, near Mumbai. The facility has three sets of highly efficient modern extrusion lines with online name printing facility, chemical and mechanical testing laboratory.

Honavar's product range is as follows: stainless steel and heat resisting electrodes, mild steel electrodes, low hydrogen electrodes for carbon steels and high strength steels, electrodes for cutting and gouging, low alloy steel electrodes for low temperature applications, electrodes for creep resisting steels, electrodes for cast iron, electrodes for nickel and nickel alloys, electrodes for special applications, electrodes for hardfacing, stainless steel filler wires, filler wires for maintenance and repair welding.

The company has geared for rapid delivery from its large stocks in store. Technical staff is available to help with aspects of consumable choice, applications or procedural guidance. Field staff can advise on several aspects and factors needed to achieve optimum performance. Technical lectures are delivered to groups of welding personnel of the user industry.

The company's reputation for quality is sustained by the achievement and continuous implementation of a stringent quality assurance programme recognized by important authorities. Honavar is an ISO 9001:2000 company certified by Det Norske Veritas Certification, B V The Netherlands.

The company's products have a large number of approvals from American Bureau of Shipping, ABB Lummus Crest Ltd, Bureau of Indian Standards, Bureau Veritas, Baxcounsel Inspection Bureau Pvt Ltd, Det Norske Veritas, Enercon (India) Ltd, Engineers India Ltd, Jacob's H&G Ltd, Directorate of Steam Boilers-Maharashtra,



Indian Register of Shipping, International Development & Engineering Associates Ltd (Deutsche Babcock), Kvaerner Powergas India Ltd, Lloyd's Register of Shipping, MN Dastur & Co Ltd, Nuclear Power Corporation of India Ltd, Projects & Development India Ltd-Sindri, RDSO-Lucknow, Tata Consulting Engineers, Toyo Engineering India Ltd, Uhde India Ltd.

Honavar also markets a wide range of imported welding consumables including MIG and TIG wires, SAW wires, fluxes and general purpose welding electrodes.

HONAVAR ELECTRODES PVT LTD, 305-309, Damji Shamji Indl. Complex, 9 L B S Marg, Kurla (West), Mumbai – 400 070; Tel: 022-2502 0317 / 1238, 6500 8821; Fax: 022-2510 0048; Email: [hel@vsnl.com](mailto:hel@vsnl.com); Web: [www.honavarelectrodes.net](http://www.honavarelectrodes.net).

**Works:** B-3, MIDC Industrial Estate, Kulgaon, Badlapur, Distt Thane – 421 503, Maharashtra ; Tel: 0251-269 2637 / 8448 / 8454 ; Fax: 0251-269 1670.

## Klinweld Wires Pvt Ltd

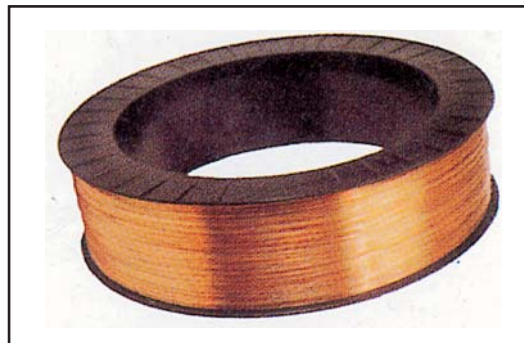
Established in 1976, M/s Klinweld Wires Pvt Ltd has a rich technical experience with a strong base and background with a large production capacity and sales network all over India and exports in 17 countries for the best and finest quality welding wires. It manufactures SS MIG welding wires, copper coated CO2 MIG welding wires, SAW wires, flux cored welding wires. The management team consists of Mr Rasik R. Dodia, Director (Tech); Mr Bandish R. Dodia, Director (Sales & Mktg); Mr Chetan R. Dodia, Director (Tech) and others.

The installed production capacity is 6,000 tons per annum. Klinweld possesses a state-of-the-art modern, imported plant and machinery at 32,000 sqft built up area facility at Mira, Distt. Thane with complete manufacturing and process technology from Technova, SRL, Milano, Italy. The company has complete in-house laboratory

and testing equipment to check and control all important technical parameters of welding wires to give a nonstop, smooth and spatterless welding. Welding wires of all sizes are supplied in 100% precision level layer winding and also in drum pack of 100 kg, 250 kg and 500 kg, neatly packed in moisture-proof packing.

Klinweld is a DNV certified 9001:2000 company. The company's quality policy emphasizes on quality (not quantity), very fast redressal and solution of customer's complaints (if any), reducing rejection of finished goods up to 0.10% of total quantity of welding wires produced annually. The company's welding wires are tested and approved by: Tata Motors (Pune), Hyundai Motors (Chennai), Mahindra & Mahindra (Nashik), BHEL-WRI (Trichy), ABB Ltd, L & T (Pithampur, MP), MEMCO (Mumbai), Crompton Greaves (Nashik), Swaraj Mazda (Ropar, Punjab) and TVS Motors (Chennai). Klinweld's sales network comprises of 24 dealers in all

*cont'd On page 9*





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the major states of India and regular supplies to major and reputed vendors of: Tata Motors (Pune, Jamshedpur and Goa), Mahindra & Mahindra (Nashik and Zaheerabad), Hyundai Motors (Chennai), Bajaj Auto (Pune and Aurangabad), General Motors (Halol), TVS

Motors (Hosur and Chennai).

KLINWELD WIRES PVT LTD, 207 Timmy Arcade, Makwana Rad, Marol Naka, Andheri (E), Mumbai – 400 059; Tel: 022-2850 4848 / 7501 / 7502; Fax: 022-2850 7503, Email: [wires@vsnl.net](mailto:wires@vsnl.net); Web: [www.klinweld.com](http://www.klinweld.com).

### Scorodite Stainless (India) Pvt Ltd

Scorodite Stainless (India) Pvt Ltd is producing welded and seamless tubes and pipes. The company is a part of the Sanghvi Group of Industries which has been engaged in trading of stainless steel mill products since the last three decades. The group is the authorized dealer of Jindal Stainless Ltd and Steel Authority of India Ltd, for HR and CR coils, sheets and plates.

The modern stainless steel tube making plant is located in Sanchore, Rajasthan. The plant has continuous forming mill with the latest TIG welding machines with improved efficacy and weld factor. For seamless pipes, there is a battery of draw benches ranging from 6 mm to 165.3 mm.

Welded tubes are made from OD 6 mm to 219.08 mm in thickness ranging from 0.5 mm to 6 mm in AISI 304, 304L, 316, 316L, 316Ti, 321 and 310 (or to equivalent DIN, NFA and JIS specifications) conforming to ASME A 213, A249, A269, A312, A688 (or to equivalent DIN, NFA and JIS standards). Large diameter stainless steel welded pipes are made from 10" NB to 24" NB in Schedule 5, Schedule 10, Schedule 20 and Schedule 40 and to other special wall thicknesses. These are formed on 800 MT press brakes hydraulic presses in lengths up to 6 m or 7 m, as per ASTM A358 by TIG welding.

The company has a fully equipped laboratory for quality control and to conduct detailed analysis of raw material and process materials. These include destructive / mechanical testing, eddy current testing, hydrostatic testing and air under pressure testing. Supplementary and non-destructive tests are conducted only when specially requested by the client. To ensure complete identification and traceability, all the information as required by the standards i.e. brand name, size, grade, specifications, heat no. / lot no. is marked on all pipes and tubes by using latest inkjet marking machine.

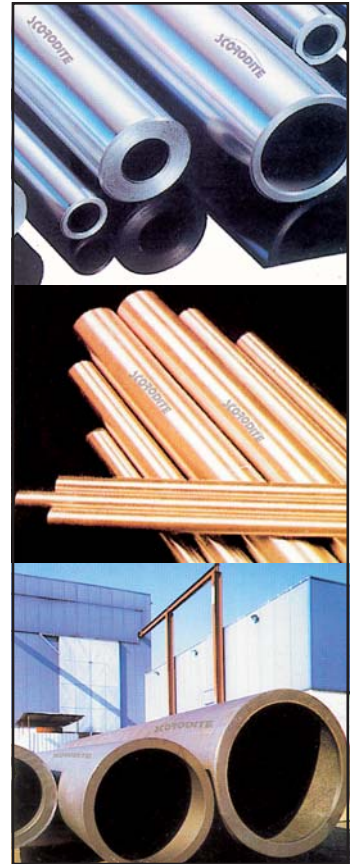
SCORODITE STAINLESS (INDIA) PVT LTD, 2 Harji Bhuvan, Krantiveer Rajguru Marg, Girgaon, Mumbai – 400 004; Tel: 022-2381 3552 to 3555; Fax: 022-2389 5550 / 5551;

Email: [info@scoroditestainless.com](mailto:info@scoroditestainless.com); Web: [www.scoroditestainless.com](http://www.scoroditestainless.com);

Contact persons: Mr S P Sanghvi / Mr Kalpesh Sanghvi.

Works: E-123 / 125 and G-126 / 128, Industrial Estate, Makhapura, Sanchore – 343 041, Rajasthan; Tel: 02979-224 391 / 392; Fax: 02979-223 220;

Contact persons: Mr C P Sanghvi / Mr Mukesh Sanghvi.



### Techno-Centre (India) Pvt Ltd

Techno-Centre (India) Pvt Ltd is a 32 year old Company involved in a wide spectrum of activities, notably engineering. It is headed by Mr N L Kedia, CMD, and actively supported by his sons Mr Neeraj Kedia and Mr Rajiv Kedia. The years of hard core experience have made the company professionals realize the importance of "Art in Technology" and "Technology in Art".

Today, the company is well known for its world class quality products. It has executed turnkey projects all over India. The product range includes exclusive and custom-made railings, furniture, interior accessories, main doors, window grills, etc in stainless steel with weldless and modular construction; complete staircase structures in stainless steel and glass; glass canopies and shower cubicles with special fittings. It also adopts components from variety of materials such as glass, wood, stone, etc and fuses them with the environment to impart special aesthetic effects.

The company's list of satisfied customers include seven star and five star hotels, corporate houses, malls, flagship stores, international players, farm houses and residences of the rich and the famous.

Techno-Centre thankfully acknowledges the patronage of the architects and interior designers from India and abroad who have supported them all through to produce the very best products.

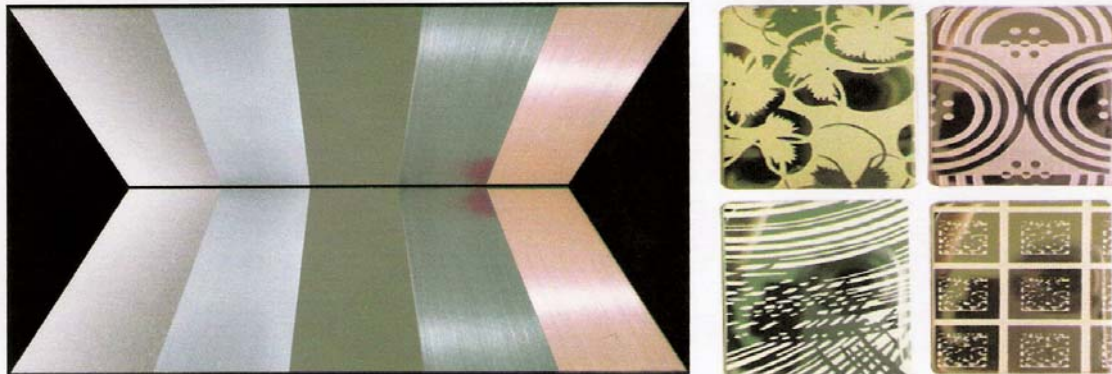
TECHNO-CENTRE (INDIA) PVT LTD

199 Jhotwara Industrial Area Jaipur – 302 012

Tel: 0141-2340 501 / 8178 Fax: 0141-2340 950

Email: [technocentre@yahoo.com](mailto:technocentre@yahoo.com).





Beijing Jingnanfang Decoration Engineering Co.,Ltd. is located in Beijing, China, and is specialized in decorative stainless steel sheets. At present, it has about 150 employees, and been approval led by ISO9001/2000 in 2002.

Since set up in 1997, it always research and develop new technology and new products. It with a view to technique, technology, and innovation, and try its best to produce distinctive products. Its products are popular with customers and famous in stainless steel industry.

It brings in advanced equipments from Swiss, Japan, Taiwan, Hong Kong, including, Oil polish production line, 8K polish equipment, PVD vacuum titanium coating equipment, Sand blast and Etching equipment, etc. The surface finish including, No.3 satin surface, No.4 satin surface, Hairline surface,8K mirror surface, Dull sand blast, Bright sand blast, Etching surface, and PVD colored surface (Golden, Zirconium, Rose golden, Black, Bronze, Coffee and Blue).

Its products mainly serve the industries like elevators, doors, decoration engineering, kitchen equipment, motorcars, and display exhibit& show.

JNF welcome partners from all over the world!

**Contact India: J S Bindra**

Address: 52/9, Second Floor,  
C R Park,  
New Delhi-110019, India  
TEL: +91 11 26272718  
FAX: +91 11 41604558  
Mobile: +91 98107 05288  
Email : [jasbir.bindra@gmail.com](mailto:jasbir.bindra@gmail.com)

**Contact China: Jane Jiao**

Address: A1307, United International Plaza,  
Chaoyang District, Beijing, 100021  
TEL: +86 10 87667556  
FAX: +86 10 87664520  
Mobile:+86 13911723307  
Email: [Jane@jnf.com.cn](mailto:Jane@jnf.com.cn)  
Website: <http://www.jnf.com.cn>

# Stainless Steel Service Centres

## Overview:

Service centers are intermediaries between steel producers and consumers. They distribute steel & other metal products in the exact quantities, in the exact form and at the exact time.

The emergence of steel service centers in India is a trend which is changing, beyond recognition, the way this vital raw material, steel, is going to be bought & sold in the country in future.

Service centers buy raw material from the mill and process in different forms like slitting, cut to length and polishing. Also undertake conversion activities for the producing mills to convert their materials as per the customers' requirements.

In nut shell, they perform the role of a pivotal link between the steel producers & end users.

## Objectives of a Stainless Steel Service/ Coil Center

To provide distribution services in stainless steel to meet specific requirements of customers effectively & efficiently.

To provide technical services to target customers to reduce their total cost.

To provide processing services to the Parent Steel Company & offer high quality slit, cut – to – size, precision leveled stainless steel materials in various embossed patterns & shapes with different surface finish & unmatched processing tolerance. The value addition to its customers would be in the form of providing them with exact cut sizes with different surface finish in stainless steel as required. At present, the customers have to undertake the activity of cutting on their own which is not their core area of business.

To provide different grades of stainless materials in small lots on just – in – time basis, by breaking the bigger weight input units, to suit customers' requirement.

## Market Segments

The key target segments for a Stainless Steel Service Center could be: Architecture, Buildings & Construction (ABC); Automobile, Railways & Transport (ART); White goods; Kitchen Equipments & Utensils; Food Processing Equipments; Engineering and other industries. In addition to the Indian market, the company will focus on international markets as well.

## **CASE STUDY OF JINDAL STAINLESS STEELWAY LIMITED**

### The Facilities & Location

Jindal Stainless Steelway started its operations with one slitting line, one cut – to – length line with precision leveling and one scotch brite polishing line).

The facilities have been put up in Gurgaon. The facilities are strategically located on one side to cater to good customer base centered around Delhi, the capital of India and hub for major infrastructure developmental activity & on other hand not so far away from the parent company, Jindal Stainless Limited in Hissar.



## **Manufacturing process :**

The manufacturing process involves the following three operations.

### **Slitting line :**

Slitting is dividing a single , wide strip of metal into narrower strips(also called multi slits or strands. In this operation mother coil is slit into different widths and further operations like cut to length or polishing follow. If customer requires in the form of slit coil then it is packed and dispatched to customer.

### **Slitting line capability :**

Input width : 600mm to 1550mm.  
Input thickness : 0.30mm to 3.0mm.  
Input wt : 25ton(max)  
Output slit : 50mm to 1530mm.  
Output wt : 20ton(max), Speed : 0 – 200mpm.

### **Cut to length line :**

Mother coil or slit coil is cut into different lengths as per customer requirements and dispatched to the final customer. If required further subsequent operations like scotch brite finishing is done.

### **Cut to length line capability :**

Input width : 400mm to 1550mm.  
Input thickness : 0.50mm to 3.0mm.  
Input wt : 20ton(max)  
Output wt : 3ton(max)  
Length Accuracy : +/- 0.5mm upto 2000mm length and +/- 0.1mm for further each added meter.  
Diagonal of sheet : +/- 1.0mm for 1000mm length of sheet.  
Speed : 0-40mpm.

### **Scotch Brite Finishing line :**

In this operation sheet passes through scotch bright roll and top surface of the sheet undergoes fine hair line polishing (dry). So output sheet has a shining hair line finish appearance.  
Input width : 600mm to 1600mm.  
Input Thickness : 0.40mm to 4.0mm.  
Length : 1000mm to 4000mm., Speed : 0-30mpm.

**Contact details :** Mr Kapil Mahindra, Dy. G..M, Business Development, M/s Jindal Stainless Steelway Ltd, Plot No. 64, 2nd Floor, Udyog Vihar Phase-IV, Gurgaon 122 001, Phone: 0124-4127700, Direct:0124-4127712, Mob: 0-93138 63695, E-mail:kapil@proj.jindalsteel.com

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 Tata Steel Ltd – Retail Initiatives Divn.  
 Tata Steel Ltd – Wire Divn.  
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 Techno-Centre (India) Pvt Ltd  
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 Valgro India Ltd  
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 Velar Engineering Works  
 Venus Home Appliances (P) Ltd  
 Venus Wire Industries Ltd  
 Vishal Gas Services  
 Vishal Tubes & Pipes Pvt Ltd  
 Wire & Wire Products

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 Ambica Steels Ltd  
 Chandan Steel Ltd  
 Facor Steels Ltd  
 Haryana Steel & Alloys Ltd  
 Isibars Ltd  
 Jindal Stainless Ltd  
 Modern Steels Ltd  
 Mukand Ltd  
 Panchmahal Steel Ltd  
 Rimjhim Ispat Ltd  
 Shah Alloys Ltd  
 Shyam Ferro Alloys Ltd  
 Soni Ispat Ltd  
 Stainless India Ltd  
 Steel Authority of India Ltd  
 (Alloy Steels Plant + Salem Steel Plant)  
 Sunflag Iron & Steel Co Ltd  
 Twenty First Century Wire Rods Ltd  
 Viraj Alloys Ltd

#### II PRIMARY MEMBERS – INTERNATIONAL

Arcelor Stainless India Pvt Ltd  
 Outokumpu India Pvt Ltd

#### III ASSOCIATE MEMBERS

Aditya Forge Ltd  
 Ador Welding Ltd  
 Amp Agencies Pvt Ltd  
 Apex Tubes Pvt Ltd  
 Architectural Division – JSL  
 Arm Innovations

Artech Welders Pvt Ltd  
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 Jain Brothers Sanitation Pvt Ltd  
 Jyoti (I) Metal Inds. Pvt Ltd  
 Kamdhenu Ispat Ltd

#### IV ASSOCIATION MEMBERS

Indian Ferro Alloy Producers' Association  
 Institute for Steel Development & Growth  
 Metal Research Centre  
 Nickel Institute  
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