



INTERNATIONAL WROUGHT COPPER COUNCIL

**IWCC TECHNICAL SEMINAR
MUMBAI**

2-7 MARCH 2014

**PROGRAMME
AND
DELEGATES ATTENDING**

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HOTEL & MEETING INFORMATION

The Technical Seminar will be held at the Trident Nariman Point hotel:

Trident Nariman Point
Mumbai 400 021
India

Tel: +91 22 6632 4343

Credit & Charge Cards

The hotel accepts all major credit and charge cards.

Delegates for whom accommodation has been reserved at the Trident Nariman Point are requested to settle their accounts upon departure.

Please note the quoted bedroom rates exclude taxes (currently 10% luxury tax and 7.42% service tax). Breakfast and internet access are included.

Venues

The Technical Seminar will be held in the Regal Room 2 & 3 of the Trident Nariman Point.

The venues for all other events are given in the programme.

SECRETARIAT

The following members of the IWCC Secretariat will be in attendance throughout the meeting:

Mark Loveitt – President
Alastair Warner – Vice President
Sian O'Brien – Conference Manager

INTERPRETATION ARRANGEMENTS

The Technical Seminar will be a three language meeting: English, Japanese and Mandarin Chinese. Simultaneous interpretation between all three languages will be provided.

**IWCC TECHNICAL SEMINAR
ROLLING – FLAT AND OTHER PRODUCTS**

Chairman of the Seminar

Gert Mueller	Wieland-Werke AG Vice President Metal
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Speakers

Thomas Berrenberg	Head of Thermoprocess Technology WSP GmbH
Peter Boehlke	Manager, Technology and Innovation Department KME Germany GmbH & Co. KG
René Branders	C.E.O. FIB Belgium S.A.
Carsten Bretz	General Manager Sales, Copper Tube and Casting Plants SMS Meer GmbH
Debalay Chakrabarti	Associate Professor Indian Institute of Technology Kharagpur
Young Chul Choi	Senior Research Engineer Poongsan Corporation
Olaf Goertges	Vice President, Business Group Rolled Products Sales and Marketing Wieland-Werke AG
Gerhard Hirt	Professor Institut für Bildsame Formgebung, RWTH Aachen
Davinder Jain	Managing Director Agrawal Metal Works PVT. Ltd
Kazuki Kammuri	Engineer, Technology Development Center JX Nippon Mining & Metals Corporation
Thomas Kramer	CEO WSP GmbH
Taisuke Miyazono	Manager Kobe Steel, Ltd.
Vijay Pitale	Esmech Equipment Pvt. Ltd. Technical Director

Igor Rogelj	Commercial Director Plasmait GmbH
Elke Roller	Sales Manager Friedrich Vollmer Feinmessgeraetebau GmbH
Klaus Schmitz	Engineering Manager, Strip Processing Lines Otto Junker GmbH
Anwar Sroka	Process Engineering & Customer Service Thöni Industriebetriebe GmbH
Christoph Stock	Expert, Product Development Ebner Industrieofenbau GmbH
Enzo Stucchi	Sales Manager DEM Costruzioni Speciali SRL
Masahiro Tsuru	Research Engineer Kobe Steel, Ltd
Thomas Wertli	President Alfred Wertli AG

Delegates

Austria

Ebner Industrieofenbau GmbH	Christoph Stock Expert, Product Development
Plasmait GmbH	Igor Rogelj Commercial Director
Thöni Industriebetriebe GmbH	Daniel Mangott Project Manager, Casting Equipment
	Anwar Sroka Process Engineering & Customer Service

Belgium

FIB Belgium S.A.	René Branders C.E.O.
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Bulgaria

Sofia Med S.A.	Lazar Chinchurov Director, Product & Process Development Dept.
	Dimitrios Rapos Production Director
	Stylianos Theodosiou General Technical Director, Halcor Sofia Med Group

China

Jiangsu Jiangrun Copper Co., Ltd.	Luo Weidong General Manager
	Yong Xiaojing Manager
Ningbo Powerway Alloy Material Co., Ltd.	Chen Ning Interpreter
	Hu Renchang Engineer
	Li Jiangang Engineer
	Wang Yongsheng Engineer
	Zhao Hong Bin R&D Manager

Germany

Aurubis AG	Michael Hoppe Vice President, Operations & Technology Development
Aurubis Stolberg GmbH & Co. KG	Helge Lehmann Senior Manager, Global Application Engineering
Diehl Metal Applications GmbH	Michael Köhler Director of Technology
Friedrich Vollmer Feinmessgeraetebau GmbH	Elke Roller Sales Manager
Institut für Bildsame Formgebung, RWTH Aachen	Gerhard Hirt Professor
KME Germany GmbH & Co. KG	Peter Boehlke Manager, Technology and Innovation Department
Otto Junker GmbH	Klaus Schmitz Engineering Manager, Strip Processing Lines
Schwermetall Halbzeugwerk GmbH & Co. KG	Rolf Buenten Managing Director Stefan Kalz Director Sales and Technical Marketing Mahendra Singh Country Representative
SMS Meer GmbH	Carsten Bretz General Manager Sales, Copper Tube and Casting Plants
Wieland-Werke AG	Johannes Cueppers Vice President, Business Group Rolled Products Engineering & Production Olaf Goertges Vice President, Business Group Rolled Products Sales and Marketing Uwe Hofmann Manager, Central Laboratory, Research & Development Gert Mueller Vice President Metal

WSP GmbH

Thomas Berrenberg
Head of Thermoprocess Technology

Thomas Kramer
CEO

India

Agrawal Metal Works PVT. Ltd.

Mayur Gupta
Joint Managing Director

Davinder Jain
Managing Director

Umang Jain
Assistant General Manager, Technical

Arcotech Limited

Arvind Saraf
Chairman

Rishabh Saraf
Vice President

Dr. Ganguly & Associates

Peter Ganguly
President

Esmech Equipment Pvt. Ltd.

Vijay Pitale
Technical Director

Indian Institute of Technology
Kharagpur

Debalay Chakrabarti
Associate Professor

Jay Automation

Jayesh Shah
Director

Rashtriya Metal Industries Ltd.

Balkrishna Binani
Managing Director

Vinay Burra
Senior Vice President, Operations

Italy

DEM Costruzioni Speciali SRL

Enzo Stucchi
Sales Manager

S.A. Eredi Gnutti Metalli S.p.A.

Ferruccio Gnutti
Production Manager

Gian Santini
Industrial Manager

Japan

Japan Copper and
Brass Association

Teruo Kanamori
General Manager Technical Division

JX Nippon Mining & Metals
Corporation

Kazuki Kammuri
Engineer, Technology Development Center

Kobe Steel, Ltd.

Nobuaki Isono
General Manager, Chofu works

Taisuke Miyazono
Manager

Takashi Sato
Deputy General Manager

Masahiro Tsuru
Research Engineer

Korea

Poongsan Corporation

Young Chul Choi
Senior Research Engineer

In Youb Hwang
Managing Director

Spain

La Farga

Núria Ferrer
Research & Development Manager

Switzerland

Alfred Werthli AG

Christian Werthli
Director

Thomas Werthli
President

Turkey

Sarkuysan Elektrolitik Bakir
Sanayi ve Ticaret A.S.

Mehmet Ali Akoy
R & D Manager

Murat Demir
Production Chief

IWCC Consultant

Jean-Marie Welter

Interpreters

Chin Swee Hoh
Hao Xiaoshan
Mami Nakamura
Yoko Teichler

IWCC TECHNICAL SEMINAR
ROLLING – FLAT AND OTHER PRODUCTS

Sunday 2 March

City Tour

See page 16 for list of participants

1400 Depart Trident Nariman Point by coach for a walking tour of the historic south of the city of Mumbai concluding with refreshments at the Taj Mahal Hotel

1630 Arrive Trident Nariman Point

IWCC Technical Committee

1700 to 1800 IWCC Technical Committee Meeting (Trident Meeting Room 1, 35F)

Please note this meeting is for IWCC Technical Committee members only.

Welcome Reception

1800 to 2000 Welcome Reception for all Delegates to be held in The Rooftop room (35F)

Monday 3 March

IWCC Technical Seminar – Rolling – Flat and Other Products

Venue: Regal Room 2 & 3

0900 **Opening Remarks** by Gert Mueller, Chairman IWCC Technical Seminar

Session 1 – Introduction & General Overviews

Paper 1. Overview of Indian copper fabricating industries, Davinder Jain, Agrawal Metal Works PVT. Ltd.

Paper 2. Development of metallurgical structures during rolling and annealing of copper, Debalay Chakrabarti, Indian Institute of Technology Kharagpur

Paper 3. A selection of processes and modelling techniques for flat rolled products, Gerhard Hirt, Institut für Bildsame Formgebung, RWTH Aachen

Refreshment Break

Session 2 – Casting of Flat Products

- Paper 4. Melting & horizontal continuous casting of OFHC copper strips and copper alloy strips, Thomas Wertli, Alfred Wertli AG
- Paper 5. State of technology referring to horizontal continuous casting equipment, Anwar Sroka, Thöni Industriebetriebe GmbH
- Paper 6. Vertical casting machines, Carsten Bretz, SMS Meer GmbH

1240 to
1340

Buffet Lunch – Venue: Regal Room 1

Session 3 – Rolling of Flat Products

- Paper 7. Manufacture of equipment in India for flat copper and its alloys, Vijay Pitale, Esmech Equipment Pvt. Ltd.
- Paper 8. 12-high & 20-high cold rolling mill (KT & KST mill) for copper strip and foil, Taisuke Miyazono, Kobe Steel, Ltd.
- Refreshment Break
- Paper 9. Tensile and fatigue behavior in Cu single-crystal foils, Kazuki Kammuri, JX Nippon Mining & Metals Corporation
- Paper 10. Revolution in thickness measurement: contact-free, alloy-independent and high precision, Elke Roller, Friedrich Vollmer Feinmeßgerätebau GmbH

Session 4 – Rolling of Non-Flat Products

- Paper 11. Cold rolling process routes for production of profile wire in copper, copper based and copper coated materials, Enzo Stucchi, DEM Costruzioni Speciali Srl

1640 Technical Seminar Adjourns

Industry Dinner

- 1930 Depart Trident Nariman Point by coach
- 2000 Dinner for all delegates to be hosted by Agrawal Metal Works PVT Ltd., Arcotech Limited and Rashtriya Metal Industries Limited at Flamboyante Restaurant
- 2200 Depart Flamboyante
- 2230 Arrive Trident Hotel

Tuesday 4 March

IWCC Technical Seminar – Rolling – Flat and Other Products

Venue: Regal Room 2 & 3

Session 5 – Heat Treatment of Flat Products

Paper 12. Laboratory scale heat treatment simulation for strip flotation furnaces, Thomas Berrenberg, WSP GmbH

Paper 13. Bell type annealing furnaces, René Branders, FIB Belgium S.A.

Paper 14. High temperature annealing line for copper alloy strips and temperatures up to 1000°C (1,832°F), Thomas Kramer, WSP GmbH

Refreshment Break

Paper 15. HICON/H2® bright annealing technologies for copper and copper based flat products, Christoph Stock, Ebner Industrieofenbau GmbH

Paper 16. Plasma heat treatment of narrow strips, Igor Rogelj, Plasmait GmbH

Session 6 – Plating of Strip

Paper 17. Hot dip tinning lines, Klaus Schmitz, Otto Junker GmbH

Paper 18. Technical trend of tin plated materials for automotive connectors, Masahiro Tsuru, Kobe Steel, Ltd. Aluminium & Copper Business Chofu Works

1300 to
1400

Buffet Lunch – Venue: Regal Room 1

Session 7 – Fabricator Papers

Paper 19. A new, innovative copper alloy for connectors: Wieland-S30 SUPRALLOY®, Olaf Goertges, Wieland-Werke AG

Paper 20. STOL®30 high performance brass by KME, Peter Boehlke, KME Germany GmbH & Co. KG

Paper 21. Improvement of Corson type high performance copper alloy by manufacturing process optimization, Young Chul Choi, Poongsan Corporation

Closing Remarks by Gert Mueller, Chairman IWCC Technical Seminar

1545

Technical Seminar Closes, refreshments available.

Dinner for all Delegates

- 1930 Depart Trident Nariman Point on foot
- 2000 Arrive Indigo Restaurant for dinner
- 2200 Depart on foot
- 2230 Arrive Trident Nariman Point

PLANT VISIT PROGRAMME

Wednesday 5 March

Rashtriya

See page 16 for list of participants.

- 0845 Depart Trident Nariman Point by chauffeur driven cars
Refreshment Break en route at Silver Miles (refreshments to be paid for by individuals)
Arrive Rashtriya (rolled products)
Lunch hosted by Rashtriya
Introduction to the company followed by plant tour.
- 1530 Depart
- 1830 Arrive Trident Nariman Point
- 2000 Dinner in the restaurant "India Jones", Trident Nariman Point

Thursday 6 March

Agrawal & Jaquar

Participants must bring their passports with them. Airline tickets will be handed out to all participants on the morning of 6 March before arriving at BOM.

Breakfast bags will be available prior to departure from the hotel.

See page 17 for list of participants

- 0530 Depart Trident Nariman Point by coach for BOM
- 0750 Depart BOM T1B Flight 6E 194 (IndiGo)
- 0955 Arrive DEL T1D
Transfer by coach to Agrawal with buffet lunch en route at Haldiram's, Kherki Daula, Gurgaon
- 1300 Arrive Agrawal (rolled products)
Introduction to the company followed by plant tour.
Transfer from Agrawal to Jaquar (sanitary fittings)
Introduction to Jaquar followed by plant tour.
Depart Jaquar for DEL
- 1830 Depart DEL T1D Flight 6E 187 (IndiGo)
- 2040 Arrive BOM T1B and transfer by coach to the Trident Nariman Point: buffet dinner on arrival in the restaurant "Frangipane".

Friday 7 March

Teksons & Godrej & Boyce

See page 17 for list of participants

- 0900 Depart Trident Nariman Point by coach
- 1030 Arrive Teksons Limited (copper/brass automobile radiators)
- 1130 Depart Teksons
- 1200 Arrive Godrej & Boyce Manufacturing Limited (locksets)
- Lunch on arrival to be followed by a tour of the plant
- 1430 Depart
- 1600 Arrive Trident Nariman Point
- Evening No formal arrangements
- Departure of delegates

Participants

City Tour – 2 March

Mehmet Ali Akoy
Thomas Berrenberg
Peter Boehlke
René Branders
Carsten Bretz
Rolf Buenten
Chen Ning
Lazar Chinchurov
Young Chul Choi
Johannes Cueppers
Murat Demir
Ferruccio Gnutti
Olaf Goertges
Mayur Gupta
Hu Renchang
In Youb Hwang
Davinder Jain
Umang Jain
Stefan Kalz
Kazuki Kammuri
Teruo Kanamori
Michael Köhler

Thomas Kramer
Helge Lehmann
Li Jiangang
Mark Loveitt
Luo Weidong
Daniel Mangott
Gert Mueller
Sian O'Brien
Dimitrios Rapos
Gian Attilio Santini
Anwar Sroka
Christoph Stock
Stylianos Theodosiou
Masahiro Tsuru
Wang Yongsheng
Alastair Warner
Jean-Marie Welter
Christian Wertli
Thomas Wertli
Yong Xiaojing
Zhao Hong Bin

Plant Visit Rashtriya– 5 March

Mehmet Ali Akoy
Thomas Berrenberg
Balkrishna Biani
Peter Boehlke
Carsten Bretz
Rolf Buenten
Vinay Burra
Chen Ning
Lazar Chinchurov
Young Chul Choi
Johannes Cueppers
Murat Demir
Nuria Ferrer
Ferruccio Gnutti
Olaf Goertges
Mayur Gupta
Gerhard Hirt
Uwe Hofmann
Michael Hoppe
Hu Renchang
In Youb Hwang
Nobuaki Isono
Davinder Jain
Umang Jain
Stefan Kalz
Kazuki Kammuri
Teruo Kanamori

Michael Köhler
Helge Lehmann
Li Jiangang
Mark Loveitt
Luo Weidong
Daniel Mangott
Taisuke Miyazono
Gert Mueller
Sian O'Brien
Dimitrios Rapos
Gian Attilio Santini
Arvind Saraf
Rishabh Saraf
Takashi Sato
Klaus Schmitz
Mahendra Singh
Anwar Sroka
Christoph Stock
Stylianos Theodosiou
Masahiro Tsuru
Wang Yongsheng
Alastair Warner
Jean-Marie Welter
Christian Wertli
Thomas Wertli
Yong Xiaojing
Zhao Hong Bin

Plant Visit Agrawal & Jaquar – 6 March

Mehmet Ali Akoy
Thomas Berrenberg
Peter Boehlke
Rolf Buenten
Chen Ning
Lazar Chinchurov
Young Chul Choi
Johannes Cueppers
Murat Demir
Nuria Ferrer
Ferruccio Gnutti
Olaf Goertges
Gerhard Hirt
Uwe Hofmann
Michael Hoppe
Hu Renchang
In Youb Hwang
Nobuaki Isono
Stefan Kalz
Teruo Kanamori
Michael Köhler
Helge Lehmann

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Klaus Schmitz
Anwar Sroka
Christoph Stock
Stylianios Theodosiou
Masahiro Tsuru
Wang Yongsheng
Alastair Warner
Jean-Marie Welter
Christian Wertli
Thomas Wertli
Yong Xiaojing
Zhao Hong Bin

Plant Visit Teksons & Godrej & Boyce – 7 March

Thomas Berrenberg
Peter Boehlke
Rolf Buenten
Chen Ning
Lazar Chinchurov
Young Chul Choi
Nuria Ferrer
Ferruccio Gnutti
Gerhard Hirt
Uwe Hofmann
Hu Renchang
In Youb Hwang
Stefan Kalz
Teruo Kanamori
Michael Köhler
Helge Lehmann
Li Jiangang
Mark Loveitt

Luo Weidong
Daniel Mangott
Gert Mueller
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Dimitrios Rapos
Gian Attilio Santini
Klaus Schmitz
Anwar Sroka
Christoph Stock
Stylianios Theodosiou
Masahiro Tsuru
Wang Yongsheng
Alastair Warner
Jean-Marie Welter
Christian Wertli
Thomas Wertli
Yong Xiaojing
Zhao Hong Bin

LOCATIONS & TOPICS FOR PREVIOUS TECHNICAL SEMINARS		
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1984	s'Hertogenbosch	Casting
1985	Berne	Extrusion & Hot Rolling
1986	Florence	The Cold Rolling of Flat Products
1987	Chester	The Cold Drawing of Round Products
1988	Baden bei Wien	Annealing
1989	Paris	The Finishing of Flat Products
1990	Tokyo	New Products & Processes
1991	Hannover	The Finishing of Round Products and Quality Certification Control
1992	Lisbon	Scrap Recycling & the Environment
1993	Pori	Degreasing
1994	Krakow	The Packaging of Semi-Manufactures
1995	Maastricht	Casting
1996	Cordoba	The Production of Flat Products - from Hot Rolling to Finishing
1997	Singapore	Advanced Transformation Technologies
1998	Ulm	Cutting & Slitting
1999	Castelvecchio Pascoli	Copper – The Metal for the New Millennium
2000	Buffalo	Fabrication of drawn and extruded products
2001	Paris	Conventional and Advanced Technologies for the production of rolled products
2002	Seoul	Copper Tube – Production, Performance and Properties
2003	Denizli	Melting and Casting
2004	Basel	Heat and Surface Treatment
2005	Tokyo	New Materials and Applications for Copper and Copper Alloys
2007	Shanghai	Forming of Copper and Copper Alloys – Theory and Practice
2008	Chicago	Sheet and Strip for Modern Applications
2009	Barcelona	Melting and Casting
2010	Athens	Hot Deformation of Copper and Copper Alloys
2011	Kuala Lumpur.	Finishing & Products
2012	Seoul	Casting
2013	Santiago	Melting, Refining & Casting