



Invitation



Technical Seminar and Workshop on High Precision Arc Welding Technology in India

7 – 8 November 2017; Pune

Industry Partners

Panasonic

KOBELCO

Iwatani

We, the Confederation of Indian Industry (CII) have joined hands with Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS), entrusted by Ministry of Economy, Trade and Industry (METI), Japan, would like to invite you to the Technical Seminar and Workshop on High Precision Arc Welding Technology in India. **No fee will be charged for participation, but registration in advance requested.** The seats are limited.

Date: 7 - 8 November 2017

Venue: Conrad Hotel, Pune

Mr. Soumanil Mukherjee, CII Corporate Office

Plot 249-F, Sector-18, Udyog Vihar Phase – IV

Beside AIHP Towers, Gurugram - 122015

Tel: 0124-401 40167 (Ext. 335) / 99-7111-0797

E-mail: soumanil.mukherjee@cii.in

Mr. Amrit Yoga, Panasonic Welding Systems India

Unit-D, Industrial Plot No.1, Village Bid Dadr, Jhajjar, Haryana-124103

Mob: 97-2999-5228

E-mail: amrit.Yoga@in.panasonic.com

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Day 1: Programme

09:00 – 10:00	Registration and Tea/Coffee	
10:00	Guests Assemble in Seminar Hall	
10:00 – 10:30	Inaugural Session Honorable Guest, Deputy Consul-General, Consulate-General of Japan, Mumbai	
10:30 – 13:50	Technical Session	
	Speaker	Seminar Theme
	Professor Kazuhiro Ito Joining & Welding Research Institute (JWRI) Osaka University	Microstructural & Topological Modification of Fusion Welds for Mechanical-property Improvement
	Mr. Masaharu Sato The Japan Welding Engineering Society (JWES)	Quality Management in Welding Field - Personnel Qualification and Standardization -
	Indian Institute of Welding (IIW)	New Trends in Welding
	Indian Welding Society (IWS)	Perspective on welding scenario in India
13:30-14:20	Lunch	
14:20-17:00	Technical Workshop	
	Demonstration on High precision Arc Welding	
	Assemble at Meeting Point	
17:00-18:00	Several announcements	

Notes : 1. Detailed schedule will be announced on the day.

2. The Demonstration will be held at College of Engineering, Pune (COEP).

Charter bus will be provided for transportation between Conrad (hotel) and COEP.

3. Participants can join respective one day program, but the participation certificate will be awarded to those participants who can complete the two day program.

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Day 2: Programme

09:00 – 10:00	Registration and Tea/Coffee	
10:00	Guests Assemble in Seminar Hall	
10:00 – 10:30	Inaugural Session	
10:30 – 13:30	Technical Session	
	Speaker	Seminar Theme
	Mr. Yukinori Hirota Panasonic Welding Systems, Japan	Introduction of Japanese latest technology of welding equipment realizing quality improvement and total cost improvement
	Mr. Yoshifumi Yoshida Iwatani Corporation	Introduction of Japanese latest shield gas technology to improve welding quality
	Mr. Tetsunao Ikeda Kobe Steel Ltd.	Introduction of Japanese latest welding material technology to improve welding quality
13:30-14:20	Lunch	
14:20-17:00	Technical Workshop	
	Demonstration on High precision Robotic Welding	
	Assemble at Meeting Point	
1700-18:00	Ceremony of certificate etc.	

Notes :

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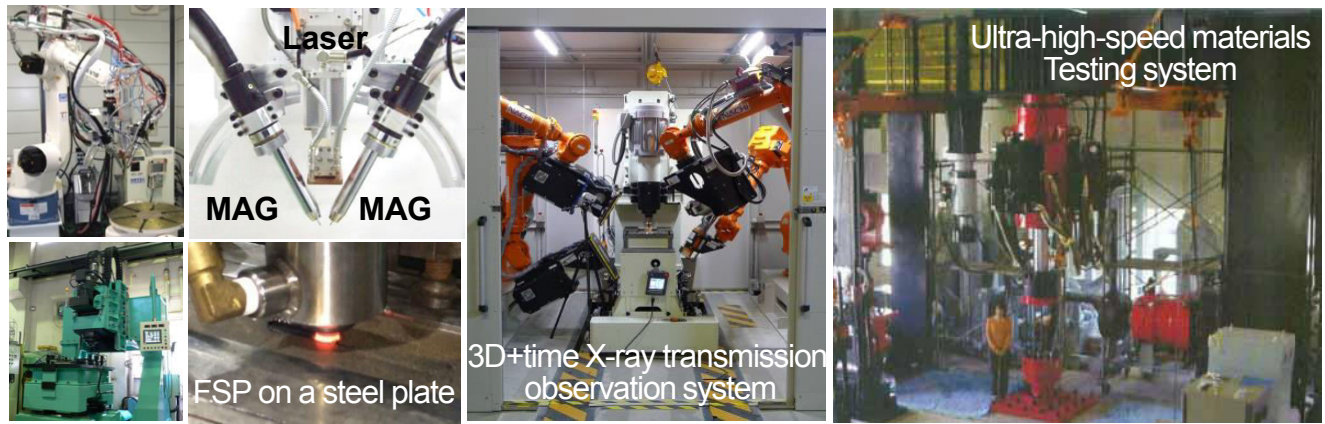


Joining & Welding Research Institute, Osaka Univ.

JWRI, Osaka University

Only institute in Japan that conducts “Joint Usage/Research Center on Joining and Welding

Major objects: Improving the efficiency, quality and performance of welding and joining, created advanced materials and composites, provided high performance surface modifications, and developed new welding and joining technologies, using various heat sources and advanced systems for visualization, analysis, evaluation and simulation.



JWRI consists of three divisions + one research center :

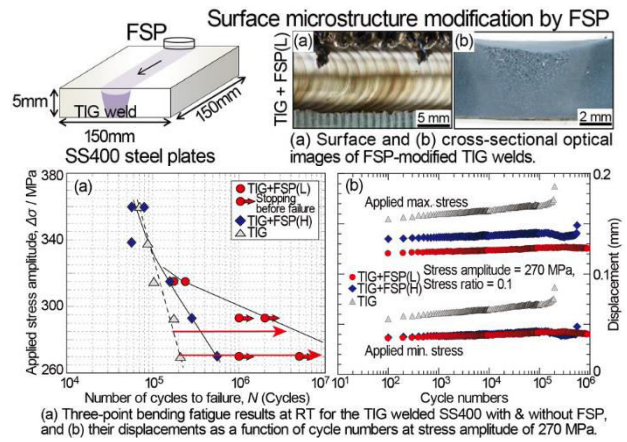
- “Materials Joining Process” for providing scientific bases for generation-conversion-transportation and interaction with materials
- “Materials Joining Mechanism” for investigation of the physical and chemical properties of high performance joints and composites, and the control of the joint microstructure by highly-controlled material processing
- “Materials Joining Assessment”, for the construction of the total system of functional assessment for various structures from large-size welded structures to micro structures,
- “Smart Processing Research Center” for advanced processing.



Kazuhiro ITO,
Materials Joining Mechanism

Microstructural & Topological Modification of Fusion Welds for Mechanical-property Improvement

- Introduction of Osaka Univ. and JWRI (Research activity, Relations & Collaborations, International exchange, and positions in International Institute of Welding)
- Basic Knowledge: Common Materials in our life, Plastic Deformation & Hardening Mechanisms
- In Weld Metals & Heat Affected Zones, Relationship between Microstructure and Mechanical properties
- How the Severe Accidents related Fatigue Properties of those WM and HAZ
- Recent Research Topics Improving Fatigue Properties of WM and HAZ such as Weld-surface Microstructure Modification using Friction Stir Processing and Modification of Penetration Shape of Welds related to Thin and Homogeneous HAZ Formation using Work-piece Vibration.



The Japan Welding Engineering Society (JWES)

Established: 1949

Major activities:

- To conduct researches and investigation of welding and joining, and to publish their accomplishments.
- To develop the standards (ISO, JIS, WES) and regulations based on the accomplishments of the research/investigation.
- To perform the qualification/certification activities from a viewpoint of the quality assurance.
- To contribute internationally through the activities of standardization, education and certification.
- To provide the welding technical knowledge, information and education tools.



Mr. Masaharu SATO
JWES, Qualification
& Certification Dept.

Welding is a basic fabrication process by joining, whose final finished product can not be fully assessed and verified for meeting the specifications by inspection of the finished product.

In such “Special Process”, manufacturers are required to have systematic and continuous control to achieve a sound weldment.

ISO 3834 standard proposes a systematic approach to be adopted by manufacturers to ensure quality in the final finished product requiring “Review”, “Qualification of Welding Procedure and Personnel”, etc. in order to meet the client’s specification.

●Presentation

Part I: International standards regarding quality management and basic principles/application of ISO 3834.

Part II: Welding personnel qualification/certification schemes implemented by JWES

●Objectives and benefits

- > increase awareness on the role and importance of ISO 3834,
- > increase awareness of the factors affecting weld quality, to achieve quality outputs.

Panasonic Smart Factory Solutions Co., Ltd.(PSFS)

Overview of Panasonic's welding business

■ Welding Business : From 1957

■ Main Products:

- Welding Machine
- Welding Robot
- CO₂ Laser Oscillator
- Laser Welding System (Direct Diode Laser)



Mr. Yukinori HIROTA
PSFS, Thermal Fabrication System
Business Unit, Planning Dept.

Lecture theme: Introduction of Japanese latest technology of welding equipment realizing quality improvement and total cost improvement

We are going to introduce at this seminar, regarding “Arc Welding” and “New technology of Panasonic machine”.

■ Arc Welding

I will explain regarding the basic of arc welding, including the following issues.

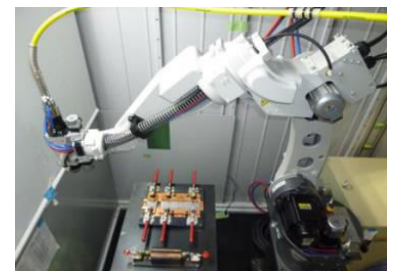
- Classification of arc welding
- Features of welding structure
- Good Welding and Weld Defects etc.



■ New Technology of Panasonic welding machine

I will explain the state of the art technology of welding machine by Panasonic, including the follow issues.

- Current Waveform Control with High Speed Video Movie
- Very few spatter process by Active TAWERS
- Direct Diode Laser Technology
- Auto Inspection System for Weld bead etc.



Iwatani Corporation

Company overview

Iwatani Corp. R&D Center
Mr. Yoshifumi Yoshida



In May 1930, Naoji Iwatani Shoten (the predecessor of Iwatani) was established to sell oxygen, welding rods, and carbide.

In 1953, the company started sales of LP gas for the consumer market.

In 1958, the company started the hydrogen business.

Iwatani developed business domestically and internationally, positioning household fuel, industrial fuel, and metals as our core businesses. At present, the company builds and operates hydrogen stations in Japan toward the realization of a society in which hydrogen energy is widely used.

The corporate philosophy is "Become a person needed by society, as those needed by society can prosper." Iwatani is engaged in business activities with Gas & Energy as the corporate concept.

Lecture theme: Basic knowledge regarding shielding gas and the introduction of actual cases of use in Japan

Shielding gas is used to suppress defects caused by the external air.

Without an appropriate flow of shielding gas, defects will be generated, resulting in the deterioration of joint strength.



The role of shielding gas is not limited to the suppression of defects.

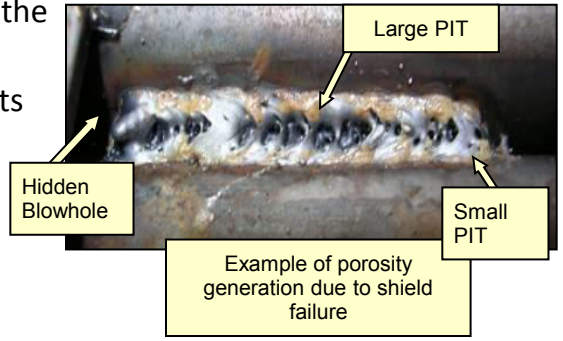
MAG (Ar + CO₂) is used for high-quality welding.

In Japan, the mixture of three gases (Ar + CO₂ + He) is also used to achieve high-efficiency and high-quality welding with a simplified post-welding process.



In the Seminar, I explain the basic roles of shielding gas and the effect of MAG gas, compare MAG gas with the mixture of three gases (Ar + CO₂ + He) used in Japan, and present actual cases of use.

I also explain the points to be noted regarding gases when welding stainless steel and aluminum.



CO₂



MAG (Ar+CO₂)

KOBE STEEL, LTD.

Company overview



KOBE STEEL was founded in 1905 in KOBE, JAPAN and has several business areas of Iron & steel, welding, aluminum, & copper, machinery and electric power . “KOBELCO” is a brand name of KOBE STEEL Group and has capitalized on the synergy across business segments in numerous fields.

Lecture theme: Introduction of Japanese latest welding material technology to improve welding quality

High-quality welding materials are essential in such diverse sectors as automotive, construction, shipbuilding and energy related facilities. Steel grade and thickness varies by industrial applications and proper combination of welding material and process needs to be selected. In this seminar, unique technologies applied in KOBELCO’s welding materials are presented.



- 1) Less- slag type solid wire for automotive industry.
- 2) Less- spatter type welding process for construction industry.
- 3) Reliable Cr-Mo steel welding materials for pressure vessel and power boiler industry.




Panasonic Welding Systems India / KOBELCO Welding India

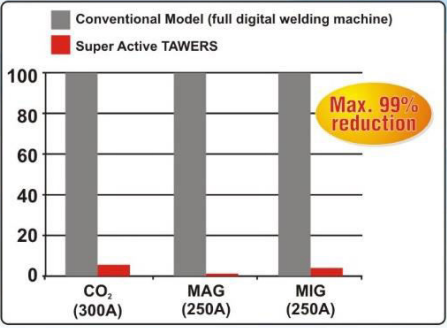
Robotics Welding

The robot with integrated welding power source has evolved further.

HIGH SPEED AND LOW SPATTER OVER A WIDER CURRENT RANGE



- **100% Duty Cycle at 310A**
(when using 1.2mm mild steel solid wire, CO2 gas and air-cooling unit)
- **Beautiful & Wide Bead**

(CO2, SPCC, 3.2mm plate thickness, 320A, 110cm/min, lap joint)
- **Max. 99% Spatter Reduction**
(compared to conventional model)



The Arc Welding Robot System
TAWERS

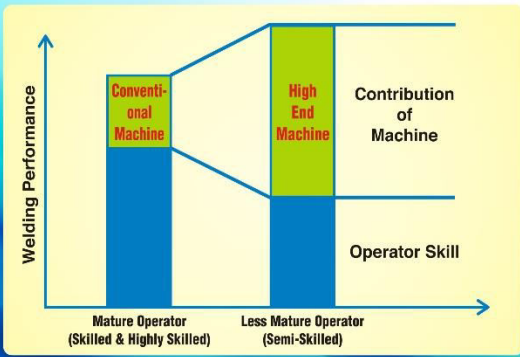
WGIII

TM	TL
1100	1800
1400	2000
1600	
1800	
2000	

- TM: Separate, through-arm (Only separate type supports high voltage touch sensor.)
- TL: External

Manual Welding

HIGH PERFORMANCE MACHINE SUPPORT TO MATCH MATURE SKILL LEVEL



Digital Technology Improves first-pass yield rate, lower cycle times and reduce Cost per Component (CPC)

Digital Technology offers a substantial return-on-investment and quick payback compared to conventional machines

Skilled

- Possesses comprehensive knowledge of welding
- Has fair independent judgment

Highly Skilled

- Certified Welder (like ISO 9606/EN-287/IS-7310)
- Possesses comprehensive knowledge of welding
- Has considerable independent judgment

Semi-Skilled

- Works of defined routine nature
- Does not possess much judgment

Registration form

Technical Seminar and Workshop on High Precision Arc Welding Technology in India
7 – 8 November 2017; Pune

We are pleased to nominate the following:

No	Name	Designation	Mobile	7th	8th
1					
2					
3					
4					
5					
6					
7					

Name of Company/Organization _____

Address: _____

Phone/Mobile: _____

E-mail: _____

Name of Representative of the company: _____

Position: _____

Signature : _____

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