



WELD POINT



HIGHLIGHTS



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SINGAPORE WELDING SOCIETY

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WELDPOINT TEAM

EDITORIAL COMMITTEE

Mr Perianan Radhakrishnan
Mr Sze Thiam Siong
Mr Kelvin Lee
Mr Edwin Chow

For general enquiries, please contact us at:
SINGAPORE WELDING SOCIETY
INNO Centre
Blk 1003, Bukit Merah Central
#04-16
Singapore 159836
Tel: (65) 6779 7706
Fax: (65) 6274 4055

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PRESIDENT'S REPORT 2016

Warmest Greetings!

As we start the fresh term of office for this new Council, I would like to express my sincere thanks and appreciation to all friends and comrades in SWS for your unwavering support all these years. I am also grateful to my fellow council members for their support and trust in electing me as the President for the second year. As promised a year ago, I shall continue to do my best to uphold the values that our society has been known for, while pursuing our objectives to bring value to all members. In this regard, I seek everyone's continued support for the new Council.



Our Short Term Goals

In addition to our long term strategic objectives which we had rolled out in 2013, we have also identified the following short term goals for this term of office:

- To align and focus our activities toward achieving our long term strategic objectives
- To explore and establish new revenue stream(s)
- To explore and establish SWS as an accredited certification body for welding and joining personnel
- To review and protect / enhance the interests and investments of SWS

The Council has deliberated at length at the beginning of this new term and decided to focus on our short term goals during this difficult and challenging period, while at the same time, serving our members' immediate needs.



Congratulations to our Welders

Congratulations to our SWS team of welders who represented Singapore at the 2016 Beijing 'ARC Cup' International Welding Competition in June 2016. The Singapore team won the 'Group Bronze Medal' at the competition.

You may recall that three welders were the winners at our 6th 'Singapore Welding Competition' held in March 2016. They are Mr. Saiful Askar Ali (SMAW), Mr. Murallo Essex Degala (GTAW) and Mr. Dannina Nageswara Rao (GMAW). In addition to cash prizes, plaque and a certificate, they were sponsored to represent Singapore at the international competition in Beijing.

On behalf of the Society, I wish to express my profound gratitude to the employers, namely Yongnam Engineering & Construction (Pte) Ltd and PEC Ltd for their dedication and commitment in supporting their welders' participation at this prestigious event. Yongnam has even gone the extra mile by sending two of their experienced personnel to coach the team in Beijing. Thank you for partnering with SWS in our drive to recognize the contributions made by welders in our country's economic progress.

IIW Annual Assembly and International Conference 2020 in Singapore

I am happy to announce that SWS has been chosen to host the 2020 IIW Annual Assembly and International Conference. We are proud and honoured to bring this premier event of the global welding and fabrication industry back to Singapore again. My sincere appreciation goes to our Vice Presidents, Mr. Eddie Ko Beng Lee and Dr. Sun Zheng, for all their concerted efforts and hard work in putting up the proposal and presenting a good case to IIW.

You may recall that we had hosted the 62nd IIW Annual Assembly and International Conference in 2009 and the 7th Asia Pacific IIW International Congress in 2013. With representatives and delegates from the IIW's member countries around the world coming to Singapore, this event would provide an excellent opportunity for our members to interact, learn and share knowledge with experts from the international welding and joining community.

We will soon be forming the organising and technical committees to prepare for this prestigious event.

Upcoming Technical Talks & Seminars

We are planning for more interesting technical talks and seminars in the coming months. Our Technical Talk & Seminar Committee has been actively pursuing value-added events by bringing in experts and professionals to deliver technical talks and seminars in areas of welding, joining and materials. I would like to encourage every member to take advantage of these events to benefit from the knowledge shared. In addition, these events also provide a good opportunity for networking and interacting.

I look forward to your participation at the technical talk on 29 September 2016 titled 'Introducing Unifuse Welding Technology' by Pedro Amador, AZZ WSI (Equipment Life Extension Using Advanced Field Welding Technologies).

We have also lined up some interesting seminars jointly organized with Nickel Institute and International Molybdenum Association in October 2016 titled 'Stainless Steel and Nickel Alloys in the Petrochemical Industry' and 'Stainless Steel in Water Treatment Plants'. The response to our past seminars with Nickel Institute had been overwhelming and we expect a greater interest this time.

Member Satisfaction Survey and Feedback

As a part of our continued efforts to enhance members' satisfaction, we had conducted a 'Member Satisfaction Survey & Feedback' during the recent Members' Night and the AGM. The objective of this survey was to gather feedback from our members on how satisfied they are with the current programs and what new programs or activities are of interest to them. My heartfelt appreciation goes to our Membership Committee Chairman, Mr. Yusooof Aynuddin who put in a lot of time and effort to plan the survey, collate and analyse the data.

Overall, about 85% of the members who participated in the survey have rated the current SWS programs, membership activities and benefits as 'Excellent' or 'Very Good' and the remaining 15% rated as

‘Good’. We had also obtained invaluable feedback from members on which of the current membership activities/benefits are ‘Most Important’ or ‘Least Important’ to them. More details are presented in this issue of Weldpoint.

The Council is very encouraged by the results of this survey and feedback exercise. We shall keep these in mind when we explore new areas of interest or plan activities for our members. I wish to again, thank all the members who participated in this survey.

SWS Council for 2016-2017

Mr. Perianan Radhakrishnan	President
Mr. Eddie Ko Beng Lee	Vice President and Chairman, International Affairs
Dr. Sun Zheng	Vice President
Mr. Sze Thiam Siong	Honorary Secretary / Immediate Past President
Mr. William Chong Jun Hua	Honorary Treasurer
Mr. Goh Lak Hee	Assistant Honorary Treasurer
Mr. Chow Ngai Mun	Chairman, Education & Training / Past President
Mr. Kelvin Lee Chee Fatt	Chairman, Publications
Dr. Zhou Wei	Chairman, Welding Technology & Standardization
Mr. Juerg Schweizer (JS)	Chairman, Technical Talks
Mr. Foo Hoe Ming	Chairman, Common Welder Qualification Scheme (CWQS)
Mr. Yusoof Aynuddin	Chairman, Membership
Mr. Khoo Kok Leong	Vice Chairman, Membership
Mr. Roger Hu Hengbiao	Vice Chairman, Education & Training
Mr. Lim Zhi Yang	Vice Chairman, Technical Talks

Our committees on Education & Training, Publications, Welding Technology & Standardization and Common Welder Qualification Scheme (CWQS) will continue their resolute work and will have more updates for you in the coming months. The Chairmen of the various committees will continue to evaluate and pursue programs of value to the members.

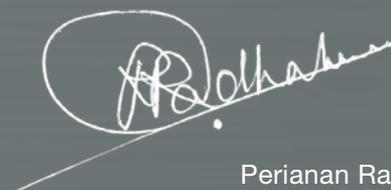
Current economic outlook and the way forward for us

The Ministry of Trade and Industry (MTI) has recently narrowed the GDP growth forecast for 2016 to 1~2%, from 1~3%. The transport engineering and general manufacturing clusters have continued to contract. Growth in the construction sector moderated to 3.3% year-on-year, from 4.0% in the first quarter, weighed down by a decline in private sector construction works.

The global economic outlook has weakened slightly and the UK’s vote to leave the European Union has dampened and also added uncertainties to the

global growth outlook. In line with this, most key economies, except for the US, are expected to see similar or slower growth in the second half of the year as compared to the first half of the year.

Continuing Education and Training (CET) remains the core to the economy today and for the future. You may note that Singapore Workforce Development Agency (WDA)’s current focus is to support sustainable and productivity-driven growth through CET. With the fast pace of technological advancements and stronger global competition for jobs, skills upgrading and deepening are essential for all of us.



Perianan Radhakrishnan
President
Singapore Welding Society



The Singapore Team at the Opening Ceremony

THE 2016 (4th) BEIJING ‘ARC CUP’ INTERNATIONAL WELDING COMPETITION

By: Dr. Sun Zheng, Vice President, SWS

The 2016 (4th) Beijing ‘ARC Cup’ International Welding Competition was held during June 17-22, 2016 in *Beijing, China*. This event was hosted by the State-owned Assets Supervision and Administration Commission of the State Council of P. R. China (SASAC) and organized by the Organizing Committee of ‘Arc Cup’ International Welding Competition, the International Welding & Surfacing Association, the International Alliance of Additive Manufacturing & Remanufacturing and Beijing ARC Xinxing Science & Technology Co. Ltd.

Since its inception, the ‘ARC Cup’ International Welding Competition has been providing very good platforms to promote welding excellence and opportunities for the welders from various countries to pit their skills. The competition event has been growing rapidly. There were a record number of over 300 welders from over 20 countries represented in this year’s competition. The competition comprised various categories such as shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, oxygen fuel gas welding, robotic welding and finished product welding. The competition reflected world class welder skills, as most competitors are the champions from their own countries. Singapore’s representatives were winners from *the 2016*

Singapore Welding Competition. They are *Mr. Saiful Askar Ali* of Yongnam Engineering & Construction Pte Ltd (SMAW Category), *Mr. Dannina Nageswara Rao* of Yongnam Engineering & Construction Pte Ltd (GMAW category) and *Mr. Murallo Essex Degala* of PEC Ltd. (GTAW category). Yongnam also kindly sent *Mr. Ooi Hock Chuan* and *Mr. Palani Anbarasu* as coaches to help Singapore welders.

After 5 days of intensive competition, the gold, silver and bronze prizes for each individual category emerged. Indeed, the world class welder skills for the various welding processes, were well demonstrated during the competition. Beside individual prizes, there were also prizes for team performance. The Singapore team won the Group Bronze Medal in this competition. Looking at the competition scale and the skill level, this year’s Beijing International Welding Competition has truly accomplished a huge success. In conjunction with the welding competition, *the 2016 (2nd) International Conference on Manutech & Skills* and *2016 International Conference on Wear-Resistant Materials and Technology* were also held in the same period. The next ‘ARC Cup’ International Welding Competition will be held in Beijing, China in June 2018. We look forward to having an even greater welding competition event then.

Article continues on Page 8

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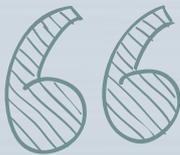
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2016 (第四届) 北京“嘉克杯”国际焊接技能大赛 • 2016 先进
 2016 (4th) Beijing 'Arc Cup' International Welding Competition • 2016 Internati



The Group Photo of the 'ARC Cup' International Welding Competition and Conferences



Mr. Ooi Hock Chuan
Yongnam Engineering & Construction Pte Ltd

I was honoured and privileged to attend the 2016 (4th) Beijing 'ARC Cup' International Welding Competition as a coach. It was truly a valuable, eye-opening learning experience. This 'Arc Cup' Welding Competition provided great opportunities and a valuable platform for the world top welders to exchange and share their welding skills. This platform allowed us to appreciate the skills of real world class welders and at the same time to understand our gaps and the areas for improvement. During this period, we met and competed with top welders from various countries. Although we didn't win the individual prizes, we learned a lot and are truly appreciative of it.

The event highlighted the importance of welder contribution to infrastructure and economic development. Participating companies also reaped the joint rewards through the contributions and sharing of their welding techniques with each other. The international exposure through this event has also highlighted

Singapore's capabilities and contributions to the international welding arena and industry on a global scale.

We were very glad to have the opportunity to participate in this world class welding competition. The experience and knowledge gained during the competition will definitely help us enhance our field of work, contributing to productivity and improvement. The participation will not only benefit ourselves and our company, but also benefit the industry as a whole. We would strongly recommend more companies to participate in future welding competitions to leverage on the international exposure and the fruitful learning experience. We would like to extend our heartfelt thanks and gratitude to the Singapore Welding Society and the organisers of the Beijing 'ARC Cup' International Welding Competition for their outstanding support. We look forward to participating in more future welding competitions.



制造技术与技能国际研讨会暨耐磨材料及抗磨损技术国际研讨会
International Conference on Manutech & Skills and Wear-resistant Material & Technology



The Singapore Team at the 'Arc Cup' International Welding Competition



The Singapore Team won the Group Bronze Medal



The Singapore Team in front of Competition Venue

2016 IIW ANNUAL ASSEMBLY IN MELBOURNE, AUSTRALIA

Dr. Sun Zheng, Vice President, SWS and Mr. Eddie Ko Beng Lee, Vice President and Chairman, International Affairs



General Assembly

The world's leading welding event - The 69th Annual Assembly & the International Conference of the International Institute of Welding (IIW) was successfully held at Melbourne Convention Exhibition Centre, Melbourne, Australia during 10-15 July 2016. The IIW Annual Assembly and International Conference are arranged once a year in one of the IIW member countries. This year's IIW event was organized by the Welding Technology Institute of Australia (WTIA) and attracted more than 600 participants from all over the globe. All the participants benefited from the IIW's unique network of knowledge exchange.

The Annual Assembly started with the General Assembly which discussed IIW general issues, activities for the past year and the plans for the coming years. One of the exciting news from this General Assembly was that IIW had made the decision to select Singapore as the location for the 2020 IIW Annual Assembly. It is a great honour for Singapore Welding Society (SWS) to host another IIW Annual Assembly again, just after 11 years, as SWS successfully organized the 2009 IIW

Annual Assembly. SWS will work hard and is looking forward to organizing yet another milestone IIW event in Singapore in 2020.

The various 2016 IIW Awards were given in the opening ceremony. Among them, the Ugo Guerrera Prize sponsored by the Italian Institute of Welding was given to Arup and Yongnam for the design and fabrication of the Singapore Sports Hub National Stadium roof. This award was set to recognize an individual or team responsible for the fabrication of a recent, outstandingly completed welded construction from the viewpoints of design, materials or fabrication methods. The 55,000 seat Nationals Stadium of the Singapore Sports Hub was completed in 2014. The moveable roof is the defining feature of the stadium and is the world's largest free-span dome.

During the one-week Annual Assembly, there were more than 25 IIW technical commissions and working group meetings and seminars, each of which was held to discuss issues and exchange information on the latest development related to its specific fields. Regional Activity Working Group meetings were also held. Representatives from hosting countries from past, current and future IIW events attended the meeting. Reports on recent past and future events were also presented to share experiences in organizing the events and the plans for future events.

At the General Assembly, member countries unanimously endorsed the Board of Directors' recommendation for Singapore to host the IIW Annual Assembly for the year 2020. The line-up of IIW Annual Assemblies will be held as follows: **2017** June 25-30 in Shanghai (People's Republic of China), **2018** in Istanbul (Turkey), **2019** in Bratislava (Slovakia), **2020** in Singapore.



IAB meeting



Ugo Guerrera Prize Presentation



Regional Activity Working Group Meeting



INTERNATIONAL WELDING INSPECTION PERSONNEL

SETSCO TRAINING CENTRE



Setesco Training Centre is an Approved Training Organisation (ATO) certified by Singapore Welding Society

OVERVIEW

This course is designed for welding personnel who are already active in job functions such as supervision, instructors and technical sales.

ACCESS CONDITIONS

The recommended minimum age of 20 years including a minimum of 2 years of job related experience is required.

Route 1

ITE qualification including mathematics and science.

Route 2

A qualified, professional worker in a metalworking profession with a minimum of three years experience and who has successfully completed the International Welding Specialist Qualification Level 0.

PART 1 : WELDING TECHNOLOGY

- Welding processes and equipment
- Materials and their behaviour during welding
- Construction and design
- Fabrication applications engineering
-

PART 2 : WELDING INSPECTION

- General introduction to welding inspection
- Material testing
- Welding imperfections
- Testing methods
- Quality assurance
- Management of quality inspection
- Practical exercises



OUTCOME OF TRAINING

Successful students will:

- Understand in general, the basics of electricity in relation to the requirements of welding technology and also key electronic components used in power sources
- Understand the principles of carbon contents, addition of alloys, crystal structures and their representation in phase and transformation diagram
- Understand basic metallurgy of steels, testing of materials and heat treatments
- Weldability of different alloys and problem solving
- Understand the weldability of metals under different loads and the design of welded structures
- Identify the different non-destructive testing methods and repair methods
- Understand the types of weld imperfections
- Understand the mechanical testing of welded joints
- Understand quality assurance principles

International Welding Inspection Personnel Course

For more information, please contact the Training Department:

Tan Hock Chen / See Wah Kiaw

Tel: +65 68950615 / 566 7777x633

Email: tanhc@setsco.com / seewk@setsco.com

COURSE SCHEDULE 2016

PART 1 : WELDING TECHNOLOGY	Hours	IWI-Basic	Hours	IWI-Standard
WELDING PROCESSES AND EQUIPMENT Theoretical training and understanding of all different welding processes including MMA, GMAW, FCAW, GTAW, SAW, Resistance, Plasma, Electro Slag, Laser, Thermal Cutting, Surfacing, Mechanised, Robotic, Brazing and Soldering	(11)	3-4 Oct	(13)	1-2 Nov
MATERIALS AND THEIR BEHAVIOR DURING WELDING Manufacture of steel, Alloys and phase diagrams, Iron Carbon Alloys, Testing of materials at the weld joining, Heat treatments, Structures at the welded joining, Carbon and Carbon Manganese steels plus weldability problems and problem solving	(25)	5-7 Oct	(41)	3-9 Nov
CONSTRUCTION AND DESIGN Fundamentals of strength of materials, Basics of weld designing, Behaviour of metals under different loads. Weld joining design with predominantly static loads. Thermodynamically loaded structures. Structures fabricated from aluminum and its alloys. Reinforced steels.	(12)	10-11 Oct	(17)	10-11 Nov
FABRICATION, APPLICATIONS AND ENGINEERING Economic considerations with regard to joint design and the influence of the amount of metal deposited, Quality Assurance, Weld stresses and distortion, Plant facilities, Welding jigs and fixtures, NDT i.e. Liquid Penetrant, Magnetic Particle, Ultrasonic, Radiography, Repair welding and actual case studies.	(17)	12-13 Oct	(23)	14-16 Nov
Total Recommended Hours For Welding Technology Modules	65		94	



International Welding Inspection Personnel Course

For more information, please contact the Training Department:

Tan Hock Chen / See Wah Kiaw

Tel: +65 68950615 / 566 7777x633

Email: tanhc@setsco.com / seewk@setsco.com

COURSE SCHEDULE 2016

Venue: Setsco Training Centre - 18, Teban Gardens Crescent, Singapore 608925

PART 2 : WELDING INSPECTION MODULES	Hours	IWI-Basic	Hours	IWI-Standard
GENERAL INTRODUCTION Scope of welding inspection activity and terms and definitions	(2)	17 Oct	(3)	17 Nov
TESTING Mechanical tests on welded joints	(1)	17 Oct	(1)	17 Nov
WELDING IMPERFECTIONS Types of imperfections and evaluation of imperfections	(3)	17 Oct	(5)	17 Nov
TESTING METHODS Review of testing methods (VT,PT, MT, RT, UT) and other NDT methods. Critical review of selection of NDT methods and reporting	(18)	18-20 Oct	(25)	18-22 Nov
QUALITY ASSURANCE Principles and levels	(1)	20 Oct	(3)	23 Nov
MANAGEMENT OF INSPECTION FUNCTION Management of inspection function	(0)		(3)	23 Nov
PRACTICAL WORK Involving radiographic interpretation, mechanical testing, visual inspection, metallographic , penetrant, magnetic particle and ultrasonic	(15)	21-24 Oct	(23)	24-28 Nov
Total Recommended Hours For Welding Inspection Modules	(40)		(63)	

COURSE DURATION

Part 1 : 9 days (IWI-B), 12 days (IWI-S)

Part 2 : 6 days (IWI-B), 8 days (IWI-S)

Exams: Fees to be paid separately to Singapore Welding Society (SWS)

TRAINING EVALUATION

Examination for the International Welding Inspection Personnel (IWIP) Diploma

CLASS SIZE

Minimum: 6 students

Maximum: 12 students

COURSE FEES

Corporate Members: S\$4400 (IWI-B), S\$6,600 (IWI-S)

Non-members: S\$4900.00(IWI-B), S\$7,300 (IWI-S)

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LN-25X

FLEXTEC® 350X



ACROSS-THE-ARC



Across-the-Arc Feeders

Pros	Cons
<ul style="list-style-type: none"> ▶ Fewer cables ▶ Low cost ▶ Less jobsite cable clutter 	<ul style="list-style-type: none"> ▶ No voltage control at feeder ▶ Difficult to adjust procedures

CONTROL CABLE



With Control Cable

Pros	Cons
<ul style="list-style-type: none"> ▶ Voltage control at feeder ▶ Correct procedures for every weld ▶ Easier to adjust for voltage drop 	<ul style="list-style-type: none"> ▶ More cables ▶ More jobsite clutter ▶ Greater expense ▶ More difficult movement

CROSSLINC™ TECHNOLOGY



CrossLinc™ Technology

Pros	Cons
<ul style="list-style-type: none"> ▶ Voltage control at feeder ▶ Fewer cables ▶ Less jobsite clutter ▶ Correct procedures for every weld ▶ Easy adjustment for voltage drop ▶ Increased arc time 	

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MEMBERS' FEEDBACK ANALYSIS REPORT

By: Mr. Yusooof Aynuddin, Chairman, Membership

Survey indicates that SWS programs, activities and benefits organized in 2015/16, well received by members.

During the 2016 Members' Night and AGM, a survey was done to obtain the members' feedback. On the

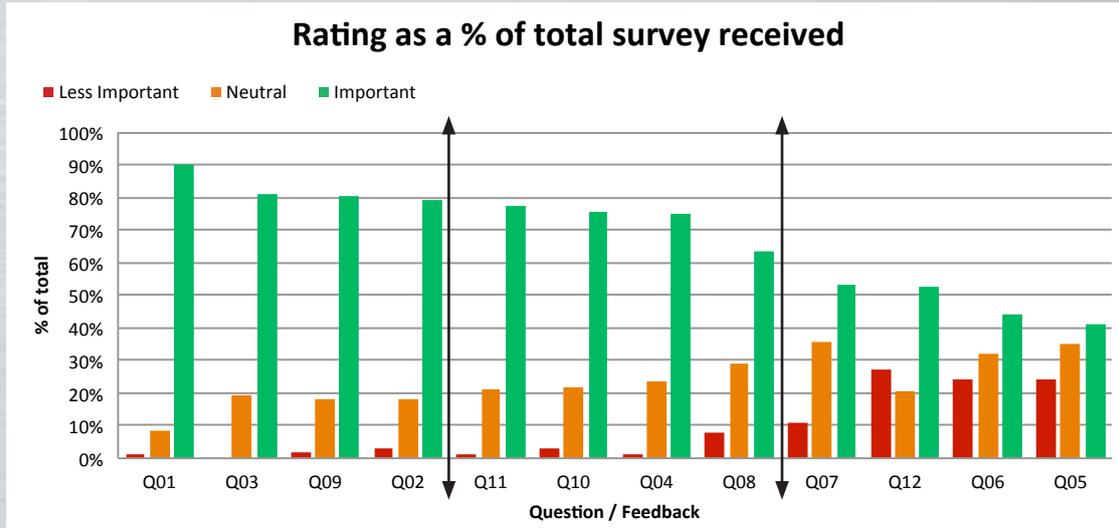
survey form, a total of 13 questions were asked. The first 12 questions were focused on assessing the members' views on the importance of membership activities/ benefits while question 13 is the rating by members on current programs, membership activities and benefits.

The questions/ feedbacks that were asked are as follows:

Q1	Learning from experts in the industry through technical talks/ technical forums
Q2	Attending seminars and international conferences organised by SWS
Q3	Attending training towards international certification (ASNT, AWS, API, BINDT, IIW, JWES)
Q4	Networking with other members and companies from the welding/ welding related industries (at Bowling & Golf, Members' Night, AGM, Technical talks etc.)
Q5	Promoting your products & services and/ or advertising in <i>Weldpoint</i> newsletter, website
Q6	Participating in the Common Welder Qualification Scheme (CWQS)
Q7	Engaging of technical consultancy services through SWS
Q8	Participating in organised tours to welding related companies/ industries
Q9	Sharing your knowledge and experience with the welding community
Q10	Participating in the development of national and international standards/ learning about these developments
Q11	Receiving quarterly updates through <i>Weldpoint</i> on local, regional and international activities
Q12	Accessing and using PRIMOS system for PCM Manpower Quota application
Q13	On the whole, how would you rate the current programs, membership activities and benefits?

A total of 69 completed surveys was collected back. The responses were regrouped into three levels, "Less Important", "Neutral" and "Important". The data is

summarized in descending order based on responses by the members as "Important" in the below chart.



Q1 to Q12

- The top 4 ratings, which participants deemed to be the most important, are activities that allow members to gain more understanding, experience and trainings that will help them gain international credibility. These are stated in questions 1, 3, 9, and 2.
- The next 4 ratings, that participants have indicated moderate interests, are seminar talks with professional and learning more about others in the welding industry. These are stated in questions 11, 10, 4 and 8
- The bottom 4 rating, which participants are less willing to support, are programs such as CWQS & PRIMOS and promotions of their product & services through advertising. These are stated in questions 7, 12, 6 and 5. This could be due to the fact that respondents are mainly holding individual membership, while these questions are more relevant towards corporate members.

Q13

- Based on the results obtained for question 13, out of the 65 members that took part in the survey, around 85% (55 members) said that overall the events organized have been useful and engaging. The remaining 15% (10 members) expressed a neutral attitude towards the events organized.

Based on the results collated, it can be concluded that most participants of the survey are more focused on upgrading themselves. Therefore, upgrading the current skill sets of the members and providing them with more opportunities to learn new information, would be the most suitable type of activity to organise for members.

Overall, the survey indicated the activities organized by SWS are appreciated by our members.

NEW MEMBERSHIP FOR JULY 2016

Corporate		
Peramaiyan Sudhan	Operation Manager	Leads Specialist Services Pte Ltd
Gian Hwa Hwee	Area Technical Manager	SSAB Swedish Steel Pte Ltd
Full		
Tay Tiong Eng	Welding Engineer	GE Aviation Service Operation LLP
Panchanathan Jaiganesh	QA/QC Engineer	TTJ Design & Engineering Pte Ltd

STAINLESS STEEL IN WATER TREATMENT

The seminar is about the water industry and the places for and handling of stainless steels from water treatment plant through distribution to waste water treatment including:

1. Behavior of metals in waters and some common misconceptions
2. Water sourcing from dams to desalination and water treatment plant
3. Distribution from underground to high rise buildings
4. Wastewater plants, recycling and the demands on materials
5. Design, fabrication and welding issues for structures and pipework – including purging considerations
6. Multiple applications including Australian examples across the industry, short response operation of a desalination plant plus tea staining and its control.

DATE, TIME, VENUE & FEE

Date: 24 October 2016 (Monday)

Time: 8:30 am – 5:00 pm

Venue: Furama City Centre Hotel

60 Eu Tong Sen Street S(059804)

Fee: SGD\$350.00 per person

(include 7%GST)

The fees include admission to the Workshop / Refreshments & Lunch

REGISTRATION FORM

E1) 24 Oct 16 – Stainless Steel in Water Treatment
E2) 26 Oct 16 – Stainless Steel & Nickel in Petrochemical Industry

Pricing Table	SGD
Early Bird Discount!!! before 30 Sept - book 1 single event	320.00
Early Bird Discount!!!! before 30 Sept - book 2 events together	560.00
After 30 Sept – book 1 single event	350.00
After 30 Sept – book 2 events together	600.00

Name1 (Mr / Ms) : _____
Designation : _____
Name2 (Mr / Ms) : _____
Designation : _____
Name3 (Mr / Ms) : _____
Designation : _____
Name of Co. : _____
Contact Person : _____
Address: _____
Email add: _____

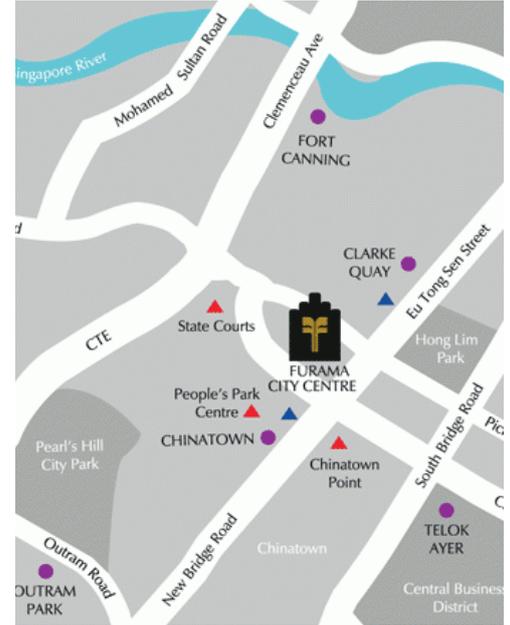
To register, please fill in the Registration Form above and fax to **6274 4055**, or e-mail it to secretariat@sws.org.sg by **10 October 2016 (Monday)**

All cheques should be made payable to: **“SINGAPORE WELDING SOCIETY”** and accompanied by a copy of the completed filled-in registration form to the following address:

Singapore Welding Society
Block 1003 Bukit Merah Central #04-16 Singapore 159836 (Attention: Ms Melissa Ng / Ms Marion Ng)

Please contact 65 6779 7706 for more information.

LOCATION MAP OF FURAMA CITY CENTRE HOTEL, 60 Eu Tong Sen Street S(059804)



6 PDUs by Professional Engineer Board (PEB) CPD Programme

STAINLESS AND NICKEL ALLOYS IN THE PETROCHEMICAL INDUSTRY

The seminar relates to the Petrochemical Industry and has been developed from seminars prepared by Nickel Institute consultants. The 6 sessions include relevant examples from the industry and include:

1. Introduction to stainless and high nickel alloys
2. Aqueous corrosion
3. High temperature corrosion mechanisms
4. High temperature strength & microstructural stability
5. Refinery and petrochemical applications including heat exchangers, de-aerator cracking and CUI
6. Welding and fabrication

DATE, TIME, VENUE & FEE

Date: 26 October 2016

(Wednesday)

Time: 8:30 am – 5:00 pm

Venue: Furama City Center Hotel

60 Eu Tong Sen Street S(059804)

Fee: S\$350.00 per person

(include 7%GST)

The fees include admission to the Workshop / Refreshments & Lunch

REGISTRATION FORM

E1) 24 Oct 16 – Stainless Steel in Water Treatment
E2) 26 Oct 16 – Stainless Steel & Nickel in Petrochemical Industry

Pricing Table	SGD
Early Bird Discount!!! before 30 Sept - book 1 single event	320.00
Early Bird Discount!!!! before 30 Sept - book 2 events together	560.00
After 30 Sept – book 1 single event	350.00
After 30 Sept – book 2 events together	600.00

Name1 (Mr / Ms) : _____
Designation : _____
Name2 (Mr / Ms) : _____
Designation : _____
Name3 (Mr / Ms) : _____
Designation : _____
Name of Co. : _____
Contact Person : _____
Address: _____
Email add: _____

To register, please fill in the Registration Form above and fax to **6274 4055**, or e-mail it to secretariat@sws.org.sg by **10 October 2016 (Monday)**

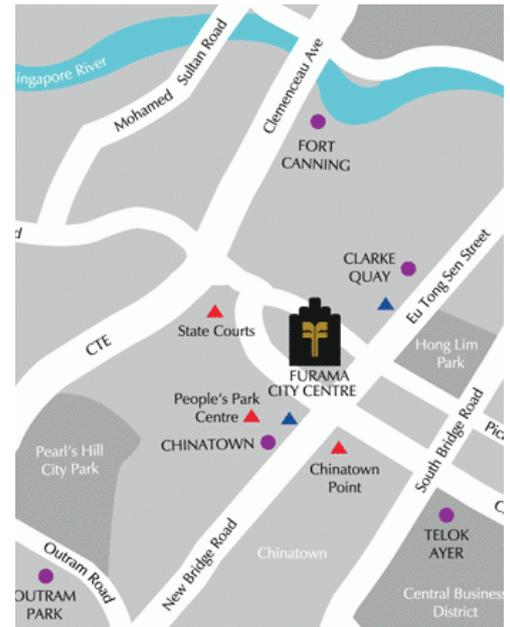
All cheques should be made payable to: **“SINGAPORE WELDING SOCIETY”** and accompanied by a copy of the completed filled-in registration form to the following address:

Singapore Welding Society

Block 1003 Bukit Merah Central #04-16 Singapore 159836 (Attention: Ms Melissa Ng / Ms Marion Ng)

Please contact 65 6779 7706 for more information.

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6 PDUs by Professional Engineer Board (PEB) CPD Programme



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IWE/IWT Course 2016-2017

International Welding Engineer (IWE) International Welding Technologist (IWT)

Course according to IIW Guideline IAB-252r3-16

Distance & Blended learning – a combination of interactive online and classroom learning

OVERVIEW

The course leads to a diploma which is required according to ISO 3834 and ISO 14731. Its contents correspond to the requirements of industrial practice. The course will be of great interest for engineers, technologists, welding coordinators, technical, quality or workshop managers in the following fields:

Process plants, storage tanks, structural steelwork, pressure vessels, offshore structures, ship-building and ship-repairing, pipework and pipeline, bridges, general heavy machinery, power generator equipment and for material testing.

Classroom training will take place at SWS or Setsco training premises

ACCESS

The course is open to those who have completed an approved engineering degree or equivalent for IWE or completed an approved polytechnic diploma or first degree or equivalent for IWT.

DIPLOMA

After successful completion of the course and passing the examinations, the participant receives an IIW diploma and the title

International Welding Engineer (IWE)

or

International Welding Technologist (IWT)

COURSE FEE

	IWE	IWT
Distance Learning Part 1	\$ 3,600	\$ 3,600
Classroom Learning Part 2 & Blended Learning Part 3	\$14,700	\$11,200
TOTAL	\$18,300	\$14,800

FOR MORE DETAILS PLEASES CONTACT:

The SECRETARIAT
SINGAPORE WELDING SOCIETY
Phone: (65) 6770 7706
Fax: (65) 6464 0186
secretariat@sws.org.sg



Part 1

01 November 2016 to 24 February 2017

Distance Learning - Part 1 notes provided upon enrolment

25 February 2017 -Classroom Learning

- Part 1, Module 1

10th March 2017 – Examination – Part 1

Part 2

27 Feb to 09 Mar 2017- Fundamental practical skills in oxy-acetylene, manual metal arc, gas shielded metal arc & gas tungsten arc welding. Demonstration of other welding processes. Practical training (38 hrs) and Demonstration-Videos presentations (22 hrs.)

Part 3

11 March to 28 May 2017 - Distance Learning – Part 3, Module 1

29 May to 03 June 2017 – Classroom Learning – Part 3, Module 1

03 June 2017 – Examination - Part 3, Module 1

04 June to 05 November 2017 – Distance Learning – Part 3, Module 2, 3 and 4

17 – 21 July to 2017 – Classroom Learning – Part 3, Module 2

21 July 2017 – Examination -Part 3, Module 2

11 to 15 Sept 2017 – Classroom Learning – Part 3, Module 3

15 Sept 2017 –Examination–Part 3, Module 3

6 to 14 November 2017 – Classroom Learning - Part 3, Module 4

15 November 2017 – Examination – Part 3, Module 4

16 November 2017 – Oral Examination (IWE & IWT)

Module Titles for IWE and IWT

1. Welding processes and equipment
2. Materials and their behavior during welding
3. Construction and design
4. Fabrication, application engineering

(Note: Course schedules are subject to change)



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We, NIPPON STEEL & SUMIKIN WELDING Co.,Ltd.(NSSW), are a subsidiary company of Nippon Steel & Sumitomo Metal Corporation (NSSMC) which is one of the biggest steel makers. Over 80 years, we supply the breakthrough welding consumables used for FCAW, SMAW, SAW, GMAW, GTAW and various welding equipment included plasma welding to match and enhance your welding skill. We are the first and only Japanese manufacturer to mass produce the Seamless Flux Cored Wire since 1981, which has excellent performance and quality for low temperature and high-tensile strength use.

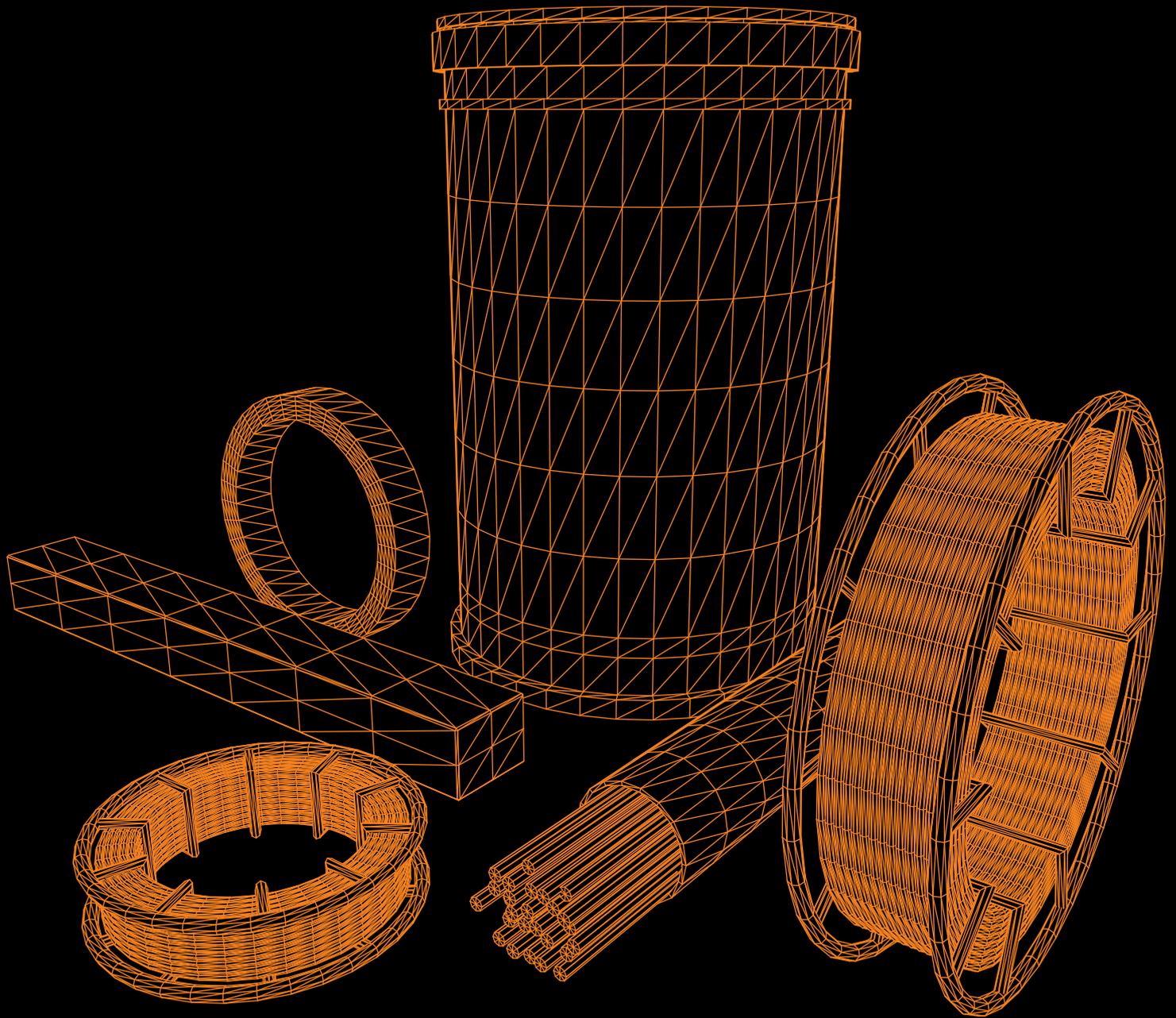
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Outside Back Cover	NA	\$500	NA	4 x 15% discount
Inside Back Cover	NA	\$450	NA	(consecutive issues)
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FPFC - Full Page Full Color

FC - Full Color

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Full Page	275(H) x 205(W)	250(H) x 185(W)	280(H) x 210(W)
Half Page Horizontal	135(H) x 205(W)	120(H) x 185(W)	140(H) x 210(W)
Half Page Vertical	275(H) x 100(W)	250(H) x 89(W)	280(H) x 105(W)
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