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MATERIALS MIND

Issue 23

January 2019

www.iomm.org.my

Institute of Materials, Malaysia

HIGHLIGHTS

- Vibration
- Coating Fingerprinting
- Common Welding Certificiation Scheme
- IMM Year Book

ISSN 2289-9030

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JANUARY 2019 Issue 23

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Institute of Materials, Malaysia

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Materials Mind

INSTITUTE OF MATERIALS, MALAYSIA

TO ALL IMM MEMBERS,

NOTICE OF 29th ANNUAL GENERAL MEETING

Notice is hereby given that the 29th Annual General Meeting of the IMM will be held as follows:

Venue : Dewan Presiden, Kelab Gold Negara Subang
Date : 22nd March 2019 (Friday)
Time : 6.00 pm – 8.00 pm

AGENDA

1. Adoption of the agenda
2. President's address
3. To approve the minutes of the 28th Annual General Meeting (*)
4. To receive and adopt the 2018 report of the council presented by the Honorary Secretary of IMM (*)
5. To receive and adopt the 2018 statement of accounts presented by the Honorary Treasurer of IMM (*)
6. Proposed amendment to IMM Constitution (*)
7. Tabling the appointment of external auditors for 2019 by the Honorary Treasurer of IMM
8. Appointment of two internal auditors for 2019
9. Any other matters

(*) can be accessed electronically on IMM website (www.iomm.org.my) after 15th Feb 2019.

By order of the Council,
Assoc. Prof. Dr. Melissa Chan Chin Han
Honorary Secretary, IMM

Date: 2nd January 2019

REPLY SLIP

I hereby confirm that I will **be able / not be able*** to attend the AGM above.
SIGNATURE: _____
NAME: _____
ORGANIZATION NAME: _____
MEMBERSHIP NO.: _____
DATE: _____

Please reply and indicate confirmation *via* email to secretariat@iomm.org.my before **12:00 pm, 19th March 2019.**

**Delete whichever not applicable.*

ANNUAL GENERAL MEETING PROXY VOTING FORM

I _____(please print name in full) and IMM Membership no. _____wish to record my apologies for absence and hereby appoint_____(please print name in full) and IMM Membership no. _____(or, failing him/her, the Chairman of the Meeting) to act as my proxy at the 29th Annual General Meeting of the IMM.

Signature: _____ Date:_____

This Proxy Voting Form should be returned to the IMM office (email) before 12:00 pm, 19th March 2019.

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2016 - 2018
2014 - 2016

2016 - 2018

Advisor	Datuk Ir. (Dr.) Abdul Rahim Hj. Hashim - Universiti Teknologi PETRONAS
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2014 - 2016

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2012 - 2014
2010 - 2012

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2008 - 2010
2006 - 2008
2004 - 2006

2008 - 2010

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2002 - 2004
2000 - 2002
1998 - 2000
1996 - 1998
1987

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Honorary Treasurer	Helmi Hashim
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Immediate Past President:	Prof. Ts. Dr. Mohamad Kamal Harun – Universiti Teknologi MARA
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	Tan Su Anne - PETRONAS Group Technical Solutions

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Industry Liaison	Dato' Udani Dato' Seri	Max Energy Sdn Bhd

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Alternate: Jacqueline Lim Mei Mei

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	Marvin Ooi Beng Chong	Consultant
	Mohd. Azmi Mohd. Noor	Kebabangan Petroleum Operating Company Sdn Bhd

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Alternate: Aberamy Dayalam

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Secretary:	Aaron James Williams	Schmidt Abrasive Blasting Sdn Bhd
Asst. Secretary:	Ting Lai Liong	Dutech Instruments Sdn Bhd
Treasurer:	Maryam Mohd Seth	PETRONAS Group Technical Solutions
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	Dr. Fatin Harun	Cekap Technical Services Sdn Bhd
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	Anthony Lai Wei Hau	KCC Paints Sdn Bhd
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	Frankie Chua Cheng Huat	Kansai PLC Sdn Bhd

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2018-2020 SESSION

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	Mark Hew Yoon Onn	Universal Corrosion Engineering (M) Sdn Bhd
	Mohd. Azmi Shukri Mohd. Hatta	Pioneer Engineering Sdn Bhd
	Mohd. Wahidduzzaman Zainal	PPG-Sigma Coatings (M) Sdn Bhd
	Mohamad Ikmal Hisham Ashari	Materials Technology Education Sdn Bhd
	Ng Yin Yan	Jotun Paints (M) Sdn Bhd
	Paramjit Singh Darjit Singh	Hempel (M) Sdn Bhd
	Perumal Raman	PS Peruvision
	Selvandran Vello	Hempel (M) Sdn Bhd
	Sofiyan Yahya	Cekap Technical Services Sdn Bhd
	Teh Tiong Poh	Jotun (M) Sdn Bhd
	Ten Phoy Siew	KCC Paints Sdn Bhd
	Terence Wee Tee Hin	PPG-Sigma Coatings (M) Sdn Bhd
	Vijendran aka Jveyay	ExxonMobil
	Wong Peoi Ying	Jotun (M) Sdn Bhd

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Alternate: Aberamy Dayalam

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Deputy Chairman:	Ir. Dr. Mokhtar Che Ismail	Universiti Teknologi PETRONAS
Secretary:	Syarifah Nazliah Syed Abdul Rahman	BSSTECH CP (M) Sdn Bhd
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	Dr. Kee Kok Eng	Universiti Teknologi PETRONAS
	Dr. Lay Chee Hoong	TBSB Engineering Sdn Bhd
	Dr. Mazli Mustapha	Universiti Teknologi PETRONAS
	Dr. Saeid Kakooei	Universiti Teknologi PETRONAS
	Ir. Max Ong Chong Hup	Norimax Sdn Bhd
	Ir. Muhammad Zaid Kamardin	PETRONAS Group Technician Solutions
	Chew Boon Kheng	GPT Resources Sdn Bhd
	Eric Lay Chee Hong	Inetech Solutions Sdn Bhd
	Junaidy Abdullah	Norimax Sdn Bhd
	Kang Kim Ang	Corrtrol Synergy Sdn Bhd
	Karen Cheng Siew Hoon	Serba Dinamik Group Bhd
	Kent Ooi	Chong Wah-NTIA Sdn Bhd
	Kok Wai Chee	CSI System Sdn Bhd
	Mark Hew Yoon Onn	Universal Corrosion Engineering (M) Sdn Bhd
	Mohd. Khairi Kadir	Cosasco (M) Sdn Bhd
	Nik Khairil Azman Nik Abdullah	Temperlite Insulation Sdn Bhd
	Nurjaimi Ali	PETRONAS Group Technical Solutions
	Nurul Asni Mohamed	PETRONAS Group Technical Solutions
	Noraishah Mohamad Noor	Rapid Rail Sdn Bhd
	Ong Wei Rex	ICP Engineering Sdn Bhd
	Tan Chih Wee	Technip FMC
	Tariq Mehtab Mohd. Ishaq	Schmidt Abrasive Blasting Sdn Bhd
	Wee Ching Yun	Chong Wah-NTIA Sdn Bhd

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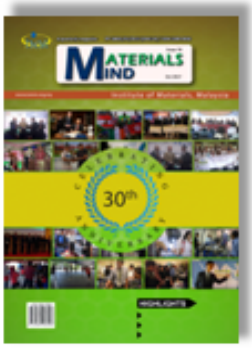

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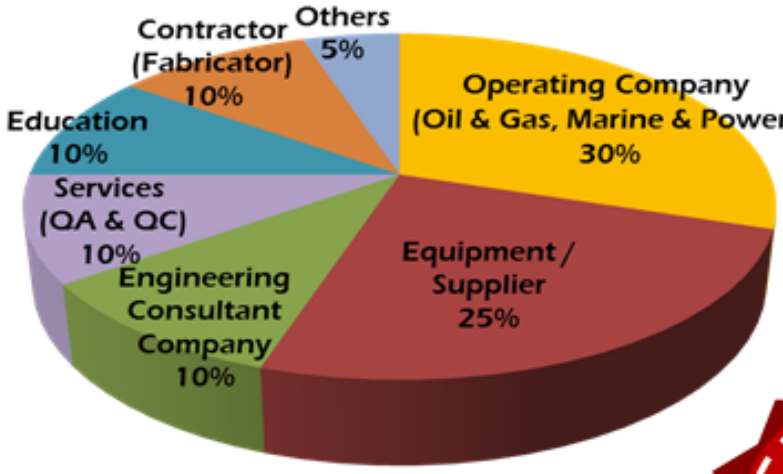

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30th September 2018

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28th Annual General Meeting
16th March 2018, Impiana KLCC Hotel, Kuala Lumpur

Ministry, Pusat Pembangunan Kemahiran Seni hold 'Meeting of the Minds'
6th February 2018, Parcity Everly Hotel, Bintulu

Seminar on Vibration Technology in the Era of Industry 4.0
16th March 2018, Impiana KLCC Hotel, Kuala Lumpur

Materials Lecture Competition 2018 Semi-Final
5th April 2018, Universiti Teknologi Malaysia, Kuala Lumpur Campus

IMM ACTIVITIES 2018

1-Day Hands-On Cutting and Welding Technology Awareness Workshop Training for Curtin-IMM Student Chapter Members

26th April 2018, Senadin Industrial Estate, Miri

PetroEdge & NrgEdge Signed Memorandum of Understanding with Institute of Materials, Malaysia

20th April 2018, Holiday Inn Glenmarie, Kuala Lumpur

Materials Lecture Competition 2018 Final

3rd May 2018, Universiti Teknologi Malaysia, Kuala Lumpur Campus

Memorandum of Understanding Signing Ceremony of Institute of Materials, Malaysia and Malaysia Boad of Technologists

1st June 2018, Malaysia Board of Technologists, Putrajaya

Malaysia Board of Technologist Strategic Technology Field Optimization Workshop

4th-6th May 2018, WP Hotel, Kuala Lumpur

2-day Workshop on Comprehensive Rheology

25th - 26th April 2018, Waters Analytical Instruments Sdn Bhd, Petaling Jaya

IMM ACTIVITIES 2018

Half-Day Seminar "Corrosion Controls and Prevention" and Site Visit to Navy Base, Lumut
14th May 2018, Cawangan Penguasa Kejuruteraan Armada Pangkalan Tentera Laut Diraja Malaysia, Lumut

Strategic Collaboration between Polytechnic of Sultan Azlan Shah, Ministry of Higher Education and Institute of Materials, Malaysia
16th August 2018, Dewan Mualim, Behrang

Fatigue Analysis and Numerical Fatigue Assessment of Welded Steel Structure Workshop
11th - 13rd July 2018, Universiti Teknologi MARA Shah Alam

Breaking the Ceiling - Women Empowerment Talk!
12th July 2018, NACE International-East Asia and Pacific Area Office, Mid-Valley City, Kuala Lumpur

Formation of the IMM Young Professionals Committee
5th July 2018, VibraTec Asia Pacific Sdn Bhd, Bangsar

Memorandum of Understanding Signing Ceremony between Universiti Teknologi MARA and Institute of Materials, Malaysia
13rd September 2018, Universiti Teknologi MARA Shah Alam

IMM Vision-Mission Workshop
21st April 2018, Faculty of Engineering, Universiti of Malaya

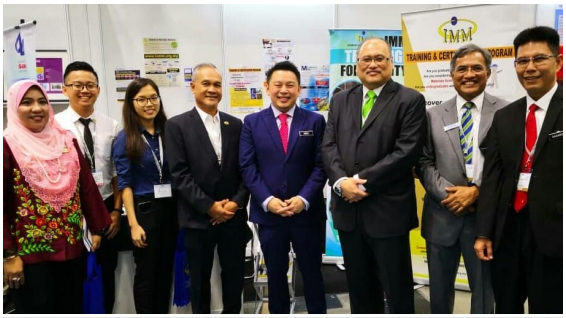
IMM ACTIVITIES 2018

1-Day Conference on Ageing Facilities Management 2018
18th October 2018, Corus Hotel, Kuala Lumpur

Corrosion Forum: Corrosion and Coatings Development in Industry
5th July 2018, Universiti Teknologi MARA Shah Alam

Technical Talk by Prof. Dr. Atsushi Kajiwara
5th November 2018, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam

Young Person's World Lecture Competition 2018
11th October 2018, Fairview Course Arena, Port Elizabeth, South Africa



4th Malaysian Oil and Gas Services Exhibition and Conference (MOGSEC 2018)
25th - 27th September 2018, Kuala Lumpur Convention Centre

First IMM International Applied Vibration Conference (IAVIC)
21st – 22nd November 2018, Parkroyal, Bukit Bintang, Kuala Lumpur

Malaysia Board of Technologists: Professional Assessment Panel Workshop
19th – 21st October 2018, Royale Chulan, Bukit Bintang, Kuala Lumpur

Curtin University Malaysia Materials Lecture Competition 2018
12th October 2018, Sarawak campus, Curtin University, Malaysia

INSTITUTE OF MATERIALS, MALAYSIA

Updated on 30th December 2018

Institute of Materials, Malaysia (IMM) is a non-profit professional society that promotes honourable practice, professional ethics and encourages education in materials science, technology and engineering. Engineers, academicians, technicians, skilled workers and professionals are amongst its members exceeding 6800.

Registered with the Registrar of Societies on 6th November 1987, the Malaysian Materials Science & Technology Society (MMS) changed its name to the Institute of Materials, Malaysia (IMM) on 16th June 1997. The objectives of the IMM include the training and development of individuals and companies in Malaysia to attain professional recognition in various fields of materials science, technology and engineering.

IMM is administered by a council of 30 members, with volunteers leading 18 materials committees, and 5 regional chapters, and supported by a secretariat with full time staffs.

IMM Vision
To be internationally recognised leading institution in Materials Science and Technology.

IMM Mission
(1) To be the technical authority on material science and technology
(2) To develop an enhance competency and skills for all categories and practitioner
(3) To become an internationally recognized certifying body
(4) To be the forum for industry and academia collaboration
(5) To positively contribute to society and quality of life

The IMM membership is categorised into 6 different grades and open to anyone above the age of 17 years - individuals and companies keen in developing and contributing towards the growth of materials science, technology and engineering in Malaysia.

Over the years, IMM have conducted courses on coatings, coatings fingerprinting, corrosion, welding, vibration etc in support of the oil and gas industry in Malaysia. Over 600 Coatings Inspectors have been trained and certified as well as 2500 Blasters & Painters, Supervisors, Corrosion Technician and Vibration Practitioners. Its certification programmes are recognized by PETRONAS and all oil & gas operators. Since January 2011, 72 Associate Welding Engineers, 80 Welding Engineers, 20 Senior Welding Engineers and 24 Coating Fingerprint Quality Controllers were trained and certified.

IMM has also organised 10 International Materials Technology conferences (IMTCE) on a biennial basis, and numerous technical seminars, educational programmes, technical visits, and materials awareness programmes since 1988.

Public courses, such as Microbiologically Influenced Corrosion (MIC) and Welding Technology for Non-Welding Personnel, are being offered occasionally. Training on materials awareness has also been conducted in public listed companies.

The courses and programmes are being organised by Authorized Training Body/Bodies and Authorized Event Organizer/Organizers.

Collaborations with the Asian Welding Federation, The Society for Protective Coatings, US (SSPC), Sabah Skills Technology Centre (SSTC), and local universities continue to be part of IMM's vision and long term mission to educate, train and serve the materials fraternity.

GENERAL INFORMATION ON MEMBERSHIP

The IMM Membership is opened to all individuals and companies in developing the contribution of Materials science, technology and engineering towards industrial growth in Malaysia. The technology of materials is advancing day-to-day throughout the world. Membership to the IMM will enable networking and exchange of knowledge from a very wide variety of specialised areas of expertise. Please feel free to download or print a copy of the application form together with the IMM regulations. If you have any doubt, please do not hesitate to contact our secretariat through the phone; +603-4256-2286 or email to secretariat@iomm.org.my

Annual subscriptions shall be payable in advance on 1st January of each year. Those admitted into the IMM between 1st July and 31st December in any year shall pay only half the annual subscription. Seniors (above 55 years old) get 50% discount off their annual subscriptions.

We have an online application for membership for selected grades. Membership application forms in document format can be accessed from www.iomm.org.my.

Kindly fill the form and email to secretariat@iomm.org.my or fax it to: +603-7880 1753 or send it to :

IMM SECRETARIAT

Suite 515, Level 5, Block A, Kelana Centre Point (Lobby B),
No. 3 Jalan SS 7/19, Kelana Jaya,
47301 Petaling Jaya, Selangor

IMM MEMBERSHIP BENEFITS

(1) IMM activities offer members to interact and network with representative from the industry, academia and government related to the Materials profession.

(2) Members will gain knowledge on career opportunities for their children, friends etc as IMM offers certification courses in skilled trades e.g. Welding, Painting, Inspection, Corrosion etc.

(3) IMM-JWES Welding Engineer Certification program leading to a Welding Engineer Certification which offers great employment opportunities in the oil & gas, heavy industry, marine and energy sectors.

(4) IMM publications – quarterly magazine plus annual conferences offer presenters an opportunity for their technical research or industry-academia papers to be published in ISI- and Scopus-index journals.

(5) IMM organizes many free technical events for members to acquire new knowledge and networking opportunities. Participants to these events will also receive Certificate of Attendance for their Continuing Professional Development records.

IMM MEMBERSHIP FEES SCHEDULE AS PER BELOW:

Description	Amount			
	Entrance Fee	Processing Fee	Transfer Fee	Annual Subscription
Fellow (F.I.M.M)	-	RM 300.00	RM 10.00	RM 150.00
Professional (M.I.M.M)	-	RM 150.00	RM 10.00	RM 100.00
Associate (A.M.I.M.M)	-	RM 150.00	RM 10.00	RM 80.00
Company	RM 50.00	-	-	RM 200.00
Ordinary	RM 20.00	-	-	RM 40.00
Student	RM 10.00	-	-	RM 10.00
Ordinary/ Company for affiliates	RM 40.00/ RM 50.00	-	-	NIL

INSTITUTE OF MATERIALS, MALAYSIA

Updated on 30th December 2018

REGULATIONS GOVERNING ADMISSION AND TRANSFER OF MEMBER GRADES

The Council shall establish a Memberships Committee which will be responsible for review of applications for transfer of membership grades. The Memberships Committee shall recommend transfers for Council approval at Council Meetings. All grades of memberships are awarded at the discretion of the Council and may be withheld or withdrawn in the event of conduct likely to prejudice the standing of the Institute. Every member shall receive a membership certificate.

The Memberships Committee shall be responsible for drafting the "Regulations Governing Admission and Transfer of Member Grades" for Council approval. These regulations may be changed from time to time subject to Council approval.

Every application for membership shall be proposed and seconded according to these regulations and shall be forwarded to the Honorary Secretary who shall, at the first convenient opportunity, submit it to the Council for approval the Council may at its discretion reject any application without assigning any reason thereof.

Each company on admission shall be entitled to nominate one representative to exercise all rights of membership. Only representatives of Company membership, Fellows (F.I.M.M.). Professional Members (M.I.M.M.) and Ordinary members shall have the right to vote and to hold office in IMM.

Only Malaysian Citizens, and Blue Identity Card Holders can become Ordinary Members, Associate Members (A.M.I.M.M.), Professional Members (M.I.M.M.) and Fellow Members (F.I.M.M.) with voting rights. Foreigners can join similar grades but shall have no voting rights.

MEMBERSHIP GRADE & REQUIREMENT

Honorary Fellow (Hon. F.I.M.M.)
The Council shall have the power to elect Honorary Fellows who shall be persons of eminence in science or industry. The election shall be based on a majority vote within the Council. Honorary fellows shall enjoy such privileges as may from time to time be determined by the Council.

Fellow (F.I.M.M.)
A person at least 35 years of age with approved academic qualifications, training and 8 years relevant responsible experience who has made significant contributions to the science and practice of profession of Materials Science and Engineering or has given distinguished service to industry or education.

Professional Member (M.I.M.M.)
A person at least 25 years of age, with approved academic qualifications and training, having at least 3 years responsible experience in Materials Science and Engineering, or a person at least 40 years of age, with at least 15 years of experience with practical responsibility, as demonstrated by thesis/dissertation or report and interview.

Associate Member (A.M.I.M.M.)
A person at least 25 years of age, who possesses an interest in Materials Science and Engineering but have not acquired the necessary experience or obtained the qualification, governing entry to Member grade. An Associate Member, on obtaining the necessary qualifications, may apply for transfer to Member grade.

Company Member
Any company that is involved or has interest in Materials Science and Engineering will be qualified to join as a company member.

Ordinary Member
Any Malaysian Citizen and above the age of 18 years engaged in activities related to research, development and applications in Materials Science and Engineering shall qualify for Ordinary Membership. Only Ordinary Members who meet the necessary minimum requirements may apply for transfer to membership grades of Fellow, Member and Associate Member and may use the abbreviated titles upon transfer.

Student Member
A student member shall be a person not under 17 years of age who at the time of application satisfies the Council that he has received a good general education and is studying subjects related to Materials Science or Engineering. A student member shall transfer to the grade of Ordinary Member after graduation provided he or she is suitably qualified and as soon as he or she is earning a full-time salary. A Student shall not become member of the IMM without the prior approval of the Vice-Chancellor or Head of Department of the university or relevant authority concerned.

Coating Fingerprinting Workshop

IMM Vibration Conference 2018

MOGSEC 2018

MLC 2018

FREE Ordinary Membership for Affiliates:

The Institute of Materials, Malaysia will recognize various professional institutions and societies for **free membership** at "Ordinary Grade". Members of the recognized professional institutions and societies can become Ordinary Members of the IMM without any annual subscriptions. The Council of the IMM approved the proposal in accordance to IMM Rules clause no. 3.2.3 and the members at its 21st Annual General Meeting unanimously approved the proposal on 19th March 2011.

Members of following institutions and societies are welcome to apply.

(1) American Welding Society
(2) Asian Welding Federation
(3) Board of Architects Malaysia
(4) Board of Engineers, Malaysia
(5) Engineering Institutes under the Engineering Council of UK
(6) Geological Society of Malaysia
(7) Institut Kimia Malaysia
(8) Institute of Corrosion UK
(9) Institute of Materials Singapore
(10) Institute of Physics Malaysia
(11) Institution of Engineers, Malaysia
(12) Jabatan Minerals & Geoscience
(13) Malaysian Medical Association
(14) Malaysian Nurses Association
(15) Malaysian Society for Non-Destructive Testing
(16) Malaysian Welding & Joining Society
(17) National Association of Corrosion Engineers USA
(18) Persatuan Arkitek Malaysia
(19) Plastics & Rubber Institute of Malaysia
(20) Singapore Welding Society
(21) Society of Petroleum Engineers
(22) Steel Structures Painting Council USA
(23) The Welding Institute UK

FREE Company Membership for Affiliates:

The Institute of Materials, Malaysia will recognize various professional institutions and societies for free membership at "Company Grade". Company Members of the recognized professional institutions, societies & associations can become Company Members of the IMM without any annual subscriptions. The Council of the IMM approved the proposal in accordance to IMM Rules clause no. 3.2.3 at its Penultimate Council Meeting on 10th January 2014 which was endorsed at the 24th Annual General Meeting held on 21st March 2014.

List of Free Company Memberships for Trade Associations:-

(1) Federation of Malaysian Manufacturers (FMM)
(2) Malaysian Offshore Contractors Association (MOCA)
(3) Malaysian Oil & Gas Engineering Council (MOGEC)
(4) Malaysian Oil & Gas Services Council (MOGSC)

Email : secretariat@iomm.org.my Website : www.iomm.org.my

IMM ACTIVITIES 2017

30th Anniversary IMM Dinner Photo Gallery
6th November 2017, Intercontinental Hotel, Kuala Lumpur

1-Day Conference on Pipeline Corrosion Management
27th September 2017, Corus Hotel, Kuala Lumpur

1-Day Conference on Insulation
16th March 2017, Universiti Teknologi Malaysia Space, Kuala Lumpur

1-Day Conference on Prevention of Loss of Primary Containment
1st November 2017, Bintulu

IMM ACTIVITIES 2017

IMM Friendly Futsal Game 2017
25th February 2017, Kompleks Rakan Muda Puchong (IM4U Central)

Announcement on Establishment of Asia Pacific Vibration Federation
16th November 2017, Corus Hotel, Kuala Lumpur

Memorandum of Understanding Signing Ceremony Between IMM and South West JiaTong University
16th November 2017, Corus Hotel, Kuala Lumpur

IMM Commenced Delivery of Society for Protective Coating Blaster-Painter Craftsman Courses
4th December, 2017, Kuala Lumpur

IMM Vibration Conference
16th November 2017, Corus Hotel, Kuala Lumpur

IMM ACTIVITIES 2017

1-Day Coating Conference
18th May 2017, Corus Hotel, Kuala Lumpur

Coating Seminar
23rd February 2017, Tanjong Puteri Golf Resort, Pasir Gudang

IMM Away Day
14th January 2017, Amverton Resort, Pulau Carey

27th Annual General Meeting
16th March 2017, Universiti Teknologi Malaysia Space, Kuala Lumpur

IMM & Society for Protective Coatings Cooperation Agreement Signing Ceremony
17th March 2017, PETRONAS Twin Tower, Kuala Lumpur

IMM ACTIVITIES 2016 - 2015

Vibration Awareness Seminar
17th November 2016, Promenade Hotel, Kota Kinabalu

1-Day Conference Under Insulation
13rd October 2016, Corus Hotel, Kuala Lumpur

Academy of Sciences Malaysia Conferment 2016
13rd December 2016, Kuala Lumpur Convention Center

Admission of The William Pit Fellow
13rd October 2016, Pembroke College of Cambridge

10th International Materials Technology Conference & Exhibition 2016
16th - 19th May 2016, Putraworld Trade Centre

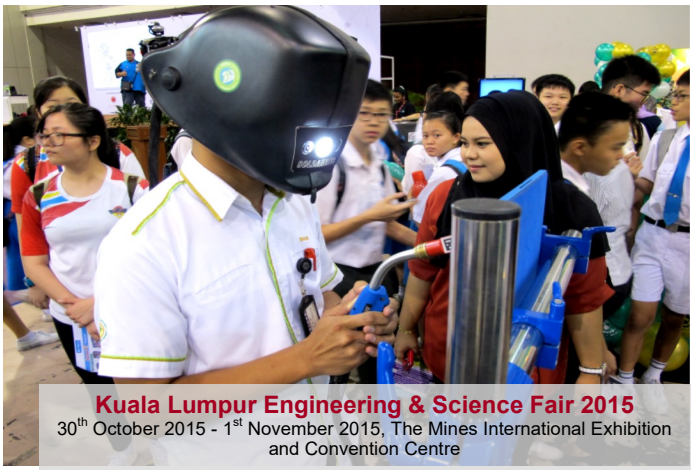
FIRST "IMM Certified Coating Fingerprint Quality Controller" Course
23rd - 24th February 2016, Four Points Sheraton Hotel

IMM ACTIVITIES 2016 - 2015

Coatings & Corrosion, Fabrication & Welding 2016
17th - 19th May 2016, Putra World Trade Centre

Young Persons' World Lecture Competition 2016
8th - 15th October 2016, Rio De Janeiro, Brazil

Materials Lecture Competition 2016
26th May 2016, Universiti Malaya



Kuala Lumpur Engineering & Science Fair 2015
30th October 2015 - 1st November 2015, The Mines International Exhibition and Convention Centre

The-first-of-its-kind IMM Coating Fingerprint Foundation Course in the world
10th September 2015, Holiday Inn Glenmarie

5th Regional Materials Technology Conference
8th May 2015, Miri

Materials Lecture Competition 2015
14th May 2015, Bangi-Putrajaya Hotel

IMM ACTIVITIES 2016 - 2015

Young Person's World Lecture Competition 2015
22nd October 2015, Grogheda, Ireland

Forum on "Towards Fingerprinting of Polymeric Coatings" IV
29th October 2015, Kelab Golf Negara Subang

Materials Integrity and Quality Assurance Forum II
27th March 2015, Impiana Hotel, Kuala Lumpur

Seminar on Rubber / Metal Composites: Applications in Oil & Gas Industry
27th March 2015, Renaissance Hotel, Kuala Lumpur

IMM ACTIVITIES 2014 - 2013

2nd International Materials Symposium cum 4th Regional Materials Technology Conference & Exhibition
12th September 2013, Eastwood Valley Golf & Country Club, Sarawak

9th International Materials Technology Conference & Exhibition 2014
13th - 16th May 2014, Putra World Trade Center

Materials Lecture Competition 2013
30th May 2013, Seri Pacific Hotel, Kuala Lumpur

Seminar on Materials & Asset Integrity
21st March 2014, Kelab Golf Negara Subang

Young Person's World Lecture Competition 2014
23th October 2014, California, USA

Forum on Specialty Polymers for High Temperature & High Pressure Application in the Oil & Gas Industry
14th June 2013, PETRONAS Twin Towers, Kuala Lumpur

Forum on Towards Fingerprinting of Polymeric Coatings I
22nd March 2013, Kelab Golf Negara Subang (KGNS)

IMM ACTIVITIES 2014 - 2013

Forum on "Towards Fingerprinting of Polymeric Coatings" III
20th June 2014, Glenmarie Golf and Country Club

Forum on Towards Fingerprinting of Polymeric Coatings II
11th October 2013, Tanjung Puteri Golf Resort

IMM ACTIVITIES 2012 - 2009

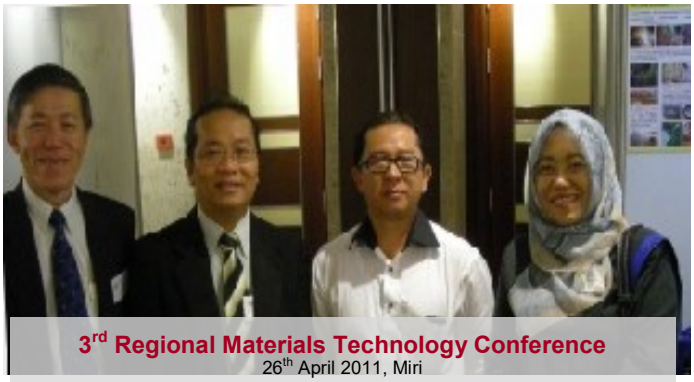
Pipeline Intergrity Seminar & Networking Cocktail
20th September 2012, Kuala Lumpur

Evening Talk on the "Good & Bad Practise in Fabrication and Use of Stainless Steel"
6th December 2012, Kuala Lumpur

7th INTERNATIONAL MATERIALS TECHNOLOGY CONFERENCE & EXHIBITION 2010
14th - 16th June 2011, Hilton Hotel, Kuching

8th International Materials Technology Conference & Ex-hibition 2012
9th - 12th July 2012, Sunway Resort & Spa, Selangor

"Advanced Coatings Standard & Technology" Symposium Jointly Organised by IMM-SSPC MoU Signing Ceremony
15th November 2011, Glenmarie Golf & Country Club



3rd Regional Materials Technology Conference
26th April 2011, Miri

IMM Expands Into Sabah and Sarawak (2009)
From Left: John Wong Pak Kung (Chairman IMM Labuan Chapter), Andrew Ronggie (Advisor IMM Kuching Chapter), Nurul Adzwan Sulaiman (Chairman IMM Kuching Chapter)

IMM ACTIVITIES 2008 - 80'

6th International Materials Technology Conference & Exhibition 2008
14th - 16th June 2008, Hilton Hotel, Kuching

Plenary Session, Charity Golf, Technical Factory Visit in Conjunction with IMM 10th Annuak Grand Meeting
17th October 2001, MSE Training Centre, Pasir Gudang

Seminar on"New Coating Technology"
26th March 2008, Holiday Inn Glenmarie Hotel, Kuala Lumpur

5th International Materials Technology Conference & Exhibition 2006
17th - 20th July 2006, Crowne Plaza Mutiara Hotel, Kuala Lumpur

3rd International Materials Engineering & Technology Conference & Exhibition "Engineering Materials in the Millenium"
23rd - 24th May 2002, Holiday Inn, Miri

4th International Materials Technology Conference & Exhibition 2004 (IMTCE2004) & MoU Signing Ceremony between IMM-Intermerger SDN BHD on the Formation of Materials Technology Education Sdn Bhd
23rd - 25th March 2004, Hotel Istana, Kuala Lumpur

2nd International Materials Engineering & Technology Conference & Exhibition 1999
25th March 1999, Sheration Hotel Subang

1st International Materials Technology Conference & Exhibition
1st - 3rd March 1990, Putra World Trade Centre

2nd International Materials Engineering & Technology Conference & Exhibition 1999
25th March 1999, Sheration Hotel Subang

DID YOU KNOW

Malaysian Materials Science & Technology Society (MMS) changed its name to the **Institute of Materials, Malaysia** (IMM) on 16 June 1997 by the new President, Ir. Dr. Samad Solbai, Ir. Max Ong Chong Hup (Honorary Secretary) and Ir. Mohd Suradi Yasin (Honorary Treasurer).

Founders of **Malaysian Materials Science & Technology Society** (MMS)
6th November 1987, Subang Jaya


Prof. Dato' Dr. Hj Mohd Mansor Salleh


Ir. Max Ong Chong Hup

START

IRIS M Motion Amplification Camera - Seeing is Believing

Mohd Fairuz Mohd Salleh,
IMM Vibration Committee Member
Serba Dinamik Group Bhd

Since the last decade, the vibration community has not seen any revolutionary changes in the methodology and technology related to vibration. Perhaps, since we are now in the Industry 4.0, the only upgraded technology is the wireless sensor.

Generally, in a vibration measurement tool, it consists of at least three items; a vibration sensor, a cable and a vibration analyser. For the most basic vibration measurement on a simple rotating machine (i.e. electric motor), it needs at least six measurements. Three measurements are made for driven end (DE) direction and another three at non-driven end (NDE) direction as illustrated in Figure 2.

Figure 1 : Example of a portable vibration measurement system (Credits to Motionics)

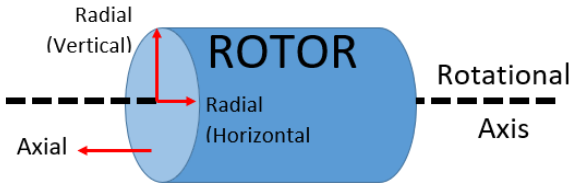


Figure 2 : Figurative representation of vibration measurement directions on a rotating equipment

We can actually reduce the number of measurements by using a tri-axial sensor. Thus, only two measurements are needed (one measurement at DE and NDE, respectively). This is generally what vibration analyst uses for a vibration measurement. Either way, the main data that an analyst obtain are the vibration time waveform and vibration spectrum. From the vibration spectrum, an analyst can extract valuable information such as the acceptability of the vibration levels, source of the vibration, root cause of the vibration, etc. This technology makes vibration analysis a very powerful tool, thus it explains why this vibration technology is still relevant until today.

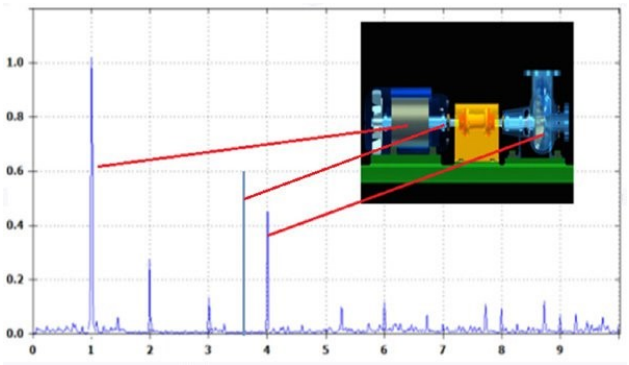


Figure 3 : Example of vibration spectrum (Credits to Fluke)

During the vibration troubleshooting, a more advanced measurement method is often used. It is called as the Operational Deflection Shapes (ODS). The idea is not only to gather the vibration data, but also to visualize the motion of the vibrating asset. By visualizing the vibration shapes, we can easily define the best way to mitigate the vibration issue. ODS is a very powerful tool for vibration troubleshooting, especially when it comes to structural and piping issue. However, internal issues, such as gear meshing and rotor/stator problem, are not suitable for ODS.

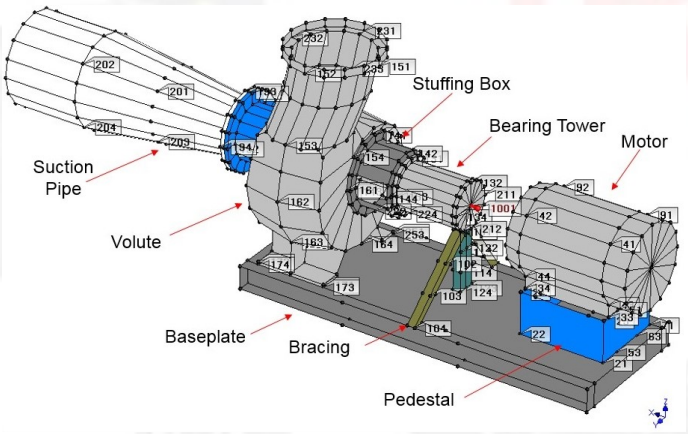


Figure 4 : Example of an ODS (credits to Mechanical Solutions Inc.)

The traditional approach for measuring and evaluating ODS is by using several vibration sensors and multi-channel analyser (Figure 4). The more sensors are used, the more accurate the representation of the asset can be acquired. Hence, more accurate vibration data can be obtained. However, more sensors and analysers are needed which makes the setup for the measurement for each equipment, structure and pipe time consuming. At the same time, the capital investment is quite significant. Furthermore, the need to use the additional software to perform the analysis (in the office) will further lengthen the whole project duration.

This is where IRIS M Motion Amplification Camera comes in…

IRIS M Motion Amplification Camera allows the user to see the vibration (hence ODS) of an equipment/ piping/ structure in near real-time. The patented camera amplifies the motion of the subject to a point where the ODS of the subject can be seen by naked eyes. The ability to visualize the whole process while retaining the component-level analysis makes IRIS M the perfect tool for screening, troubleshooting and commissioning.

As it is just a video recording, the measurement is totally non-contact. Thus, it is suitable for the following applications:

- Difficult surface to mount sensor (High temperature, wet, non-metallic material, etc.)
- Difficult to reach asset (high location, non-accessible location, etc.)
- Big structures
- Rotating equipment
- Piping
- Etc.

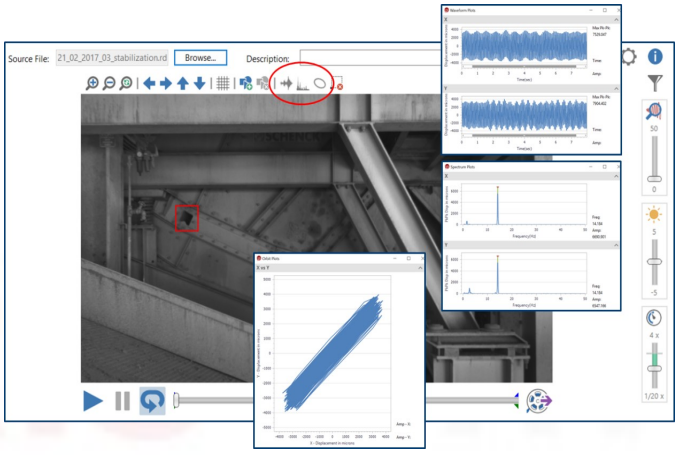


Figure 5 : Motion Amplification Software Interface

Additionally, each pixels of the video can be used as vibration sensors (Figure 5). This allows for more advanced analyses to be performed (spectrum analysis, orbit plot, time-waveform, bandwidth filtering, vibration stabilising, etc.). All these are available after just a few seconds of measurement.

The vibration level and frequency measured are as accurate as a conventional vibration sensor, as long as the distance from the camera to the measurement point is correctly measured. The reason is that, the distance measured from the camera to the asset is used as a reference for the displacement measured on each frame taken by the camera. Basically, it is a triangulation calculation from the camera to the pixel on the asset.

Figure 6 : IRIS M system consist of a HD camera, a laptop, a cable, a tripod and a couple of lenses

The setup time is a fraction of what normally required for a standard ODS measurement. Thus, more measurement can be done with less time on-site. Analysis and results can be acquired in near real-time. Therefore, solutions can be deduced and tested there and then.

So why do we need this camera? Well, for a plant owner, IRIS M Motion allows fast delivery of actionable data that can be understood by technical and non-technical personnel. As a result, equipment shutdown time due to vibration issue can be reduced significantly and efficient solution can be found relatively easily. In short, it saves money.

As for a service provider, not only it helps the consultant for finding the root cause of the high vibration, it also decreases the time needed for measurement and analysis. Consequently, the cost for the troubleshooting service can be reduced and faster results can be delivered to the client. Again, it saves money and at the same time it improves the reputation of the service provider.

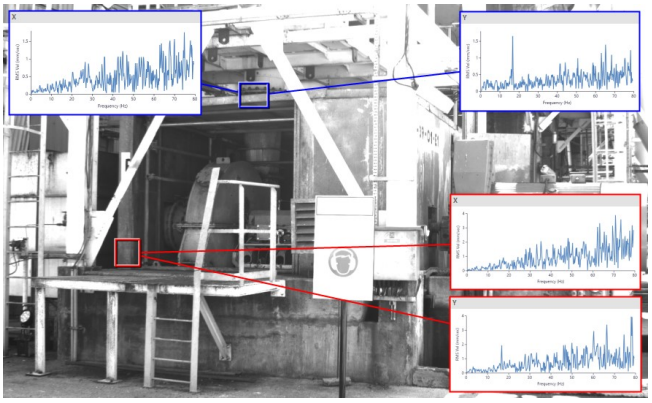


Figure 7 : Example of analysis that can be done on the video

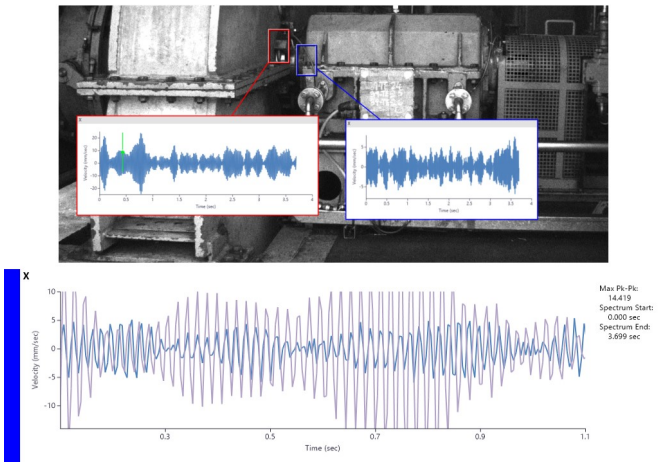


Figure 8 : Using time waveform to perform simple phase analysis

A simple method can be applied when using the camera for a vibration troubleshooting mission. To start off, a global view of the asset preferably in isometric angle is taken. This allows user to identify any problematic area on the asset for further investigations. Next, based on the results found on the global view video, the analyst can focus on the problematic area and may take another measurement from another angle.

Figure 9 : Starts with an Isometric global view of the asset

Figure 10 : Zoom in to the problematic area for a clearer view

Iris M Motion amplification camera proves that a new technology can still disrupt a mature market that has been using the same type of technologies for decades. It is totally out-of-the-box idea that can significantly help anyone in the vibration world to solve their vibration issues. And at the same time, it assists people from outside of the vibration circle to understand complex vibration issue through simple video manipulation. This makes the motion amplification technology so great.

As they say, seeing is believing…

Note: For sample videos of IRIS M Motion amplification camera, a simple search for “Motion amplification” on YouTube is sufficient.

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Technical article 1

Towards a Regional Common Welding Certification Scheme (CWCS): Needs, analytics and common welding practices among the fabricators in Malaysia


Reported by: Dr. Mohamed Ackiel Mohamed, Serba Dinamik Group Bhd, IMM Council Member, Deputy Chair Welding Committee
Edited by: Tan Su Anne, Petroliam Nasional Bhd, IMM Council Member, Chairperson IMM Welding Committee

Institute of Material, Malaysia (IMM) is a non-profit professional society that promotes honourable practice, professional ethics and encourages education in materials science, technology and engineering. IMM is the Authorized Certification Body (ACB) for Malaysia for the Asian Welder Federation Common Welder Certification Scheme for fusion welding (AWF-CWCS). The ACB will qualify and certify welders in accordance to ISO-9606-1 standard. Such welders will be certified as AWS Certified Welders and must be registered in the Manpower Optimization System (MOS) in order to maintain their certification.

As part of IMM's vision and long term mission to educate, train and serve the materials fraternity, IMM Welding Committee task force conducted a feasibility study on the relevance and importance of having a Common Welder Certification Scheme in Malaysia. The study was conducted by Shon Laird from Oilfield technical Inspection and assisted by Leo Paul from IMM. The survey was executed by sending 16 questionnaires to various industrial partners who were willing to participate. However, only 11 returned the questionnaire, hence the sample size for the survey below is only 11. The results obtained from the survey are presented below.

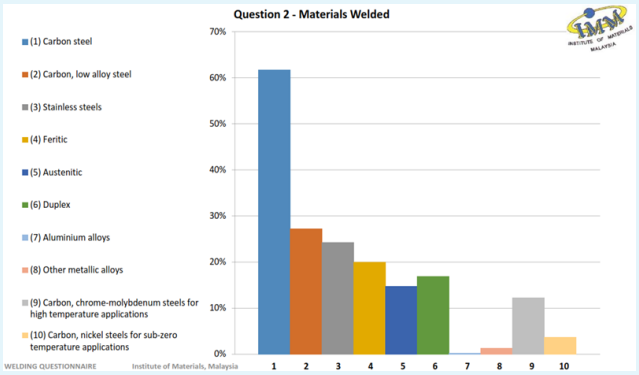

Figure 1: Responds to the types of materials most commonly used in the participating company

Figure 1 shows the type of materials most commonly used by the participating companies in the conducted survey. The results clearly indicate that carbon steels and low allow Carbon steels are the most popular material used for a wide range of products. It can also be seen that a significant amount of stainless steel such as Austenitic and Duplex is also widely used. Surprisingly the least used material among the respondents is Aluminium. Figure 2 depicts the types of cutting process most commonly used in the participating company namely the Oxy-gas flame cutting and Plasma cutting methods. Laser cutting methods and other methods such as shearing or water jet cutting were consumed less than 10%. This could be to the fact of the high amount of cost involved in the capex as well opex expenditures involving high end cutting methods such as laser cutting.

The most frequently used welding process is shown in Figure 3. Due to flexibility and mobility, the SMAW process is seen to be a favourable choice in the industry. However, other common welding processes such as GTAW, FCAW and SAW are also note to be reasonably popular choice, due its large usage on thick materials. Surprisingly GMAW is not seemed to much utilised.

Data pertaining to the material form utilised is shown in Figure 4. It can be clearly seen that most of the industries relies on wide material forms such as plates, I-sections, as well pressure and structural pipes.

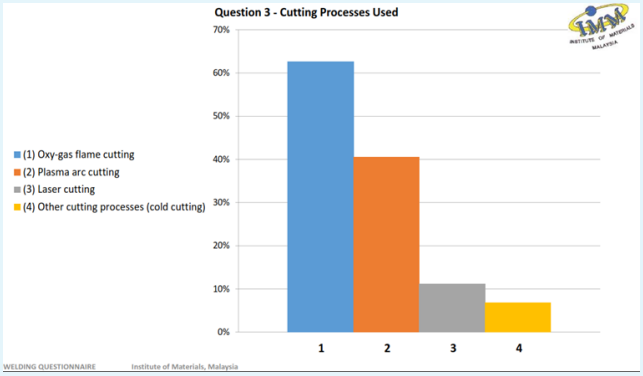

Figure 2: Responds to the types of cutting process most commonly used in the participating company

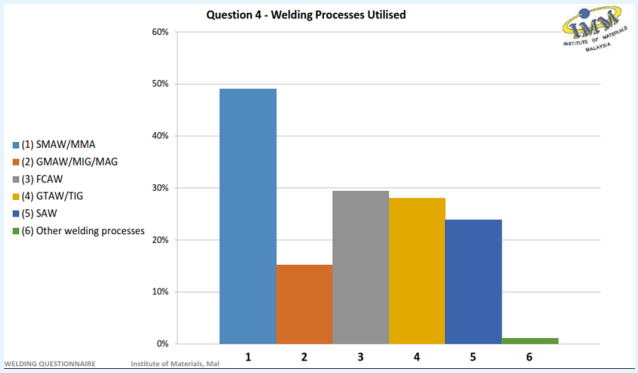

Figure 3: Answers to the types of welding process most commonly utilised among the respondents

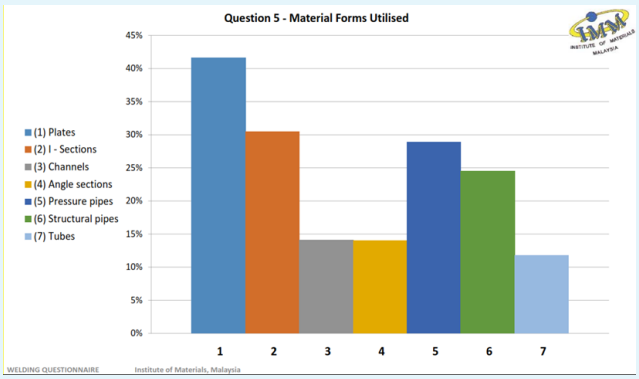

Figure 4: Answers to the types of welding process most commonly utilised among the respondents

However, channels, tubes and angle sections also see a reasonable amount of use, which are normally utilized to complement the formerly mentioned material forms.

Figure 5 noticeably indicates that most of the materials used by the respondents are 16mm and above in thickness. This justifies the higher percentage of welding process such as SAW and FCAW being used. Although lesser usage is seen in plate of 16mm thickness and below, the percentage of utilization is considered reasonably significant.

Butt joints and T joints were found to be the most regularly used Types of joint welded in the responding companies as shown in Figure 6.

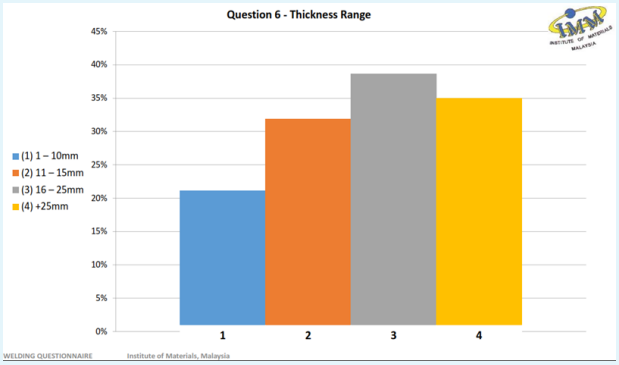

Figure 5: Replies to the Thickness range most commonly encountered among the respondents

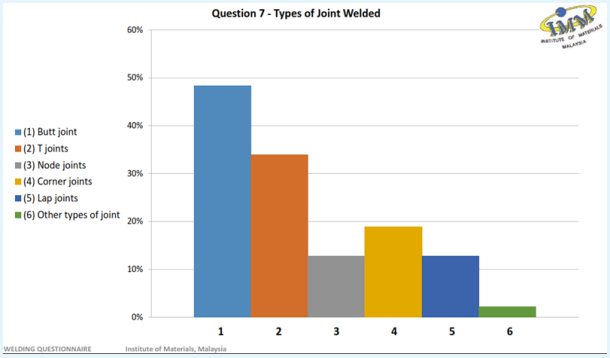

Figure 6: Replies to the most commonly used types of joint welded among the respondents

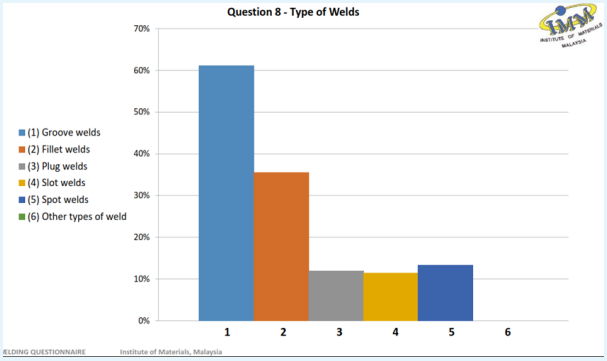

Figure 7: Reactions to the types of material form most commonly utilised among the respondents

This augurs well with findings in the welding process most commonly used such as SMAW, FCAW and SAW. Joints such as corner, lap and nodes only recorded a usage of less than 20% from the total usage of the participating companies.

Groove welds and Fillets welds as a popular choice among the companies that responded to the questionnaire is depicted in Figure 7. The finding of this question concludes the findings displayed in Figure 6, whereby Butt and T joints are calculated to be the most utilised choice. Groove welds are very much common in Butt joints while fillets would naturally fit in for T-Joints.

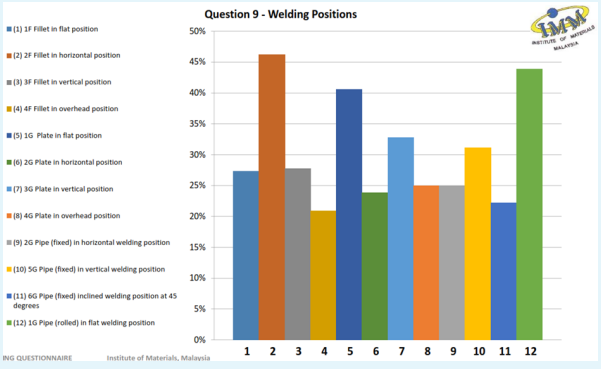

Figure 8: Answers to the types of welding positions most commonly encountered among the respondents

It can be seen that positions such as 2F, 4F, 3G, 5G and 1G seems to be positions that are encountered the most. These results are consistent with the findings displayed in Figure 4, which shows the most commonly used material forms.

Since plate, sections and pipes were found to be the mostly used forms of material, these welding positions are naturally the most in need in the participating industries.

Government initiated TVET institutions that offer welding certification schemes in accordance to the NOSS as per defined in the JPK SKM level 3 locally are plenty. This, in addition to the private TVET institutions that offer other international welder certification produces a significant number of welders in the market every year. Hence, it is no surprise that the industries are more willing to consider these trained and certified welder personnel for possible employment. Figure 9 clearly specifies that recommendation, testimonials and records from previous employers only contribute a very small percentage on the probability of being employed as a welder. Although welders from the welding training institutions area trained and certified to an national or international standard, very often the welders are asked to undergo a third party welder qualification test (WQT) prior to being employed. This clearly justifies the need of a well-established and internationally recognised common welder certification scheme.

In addition to the welders employed, Figure 10 clearly shows that welding inspectors and Non Destructive Testing (NDT) personnel are similarly important to have in an organisation involved in the welding industry. Apart from these 2 categories welding supervisors are also high in numbers needed. Welding supervisors usually does not possess any professional certification and are often senior welders who are upgraded or fresh graduates with a welding technology diploma. As it is a common practice to fabricate accordingly to the available drawing specifications and Welding Procedure Specifications (WPS), Welding Engineers are less used as companies involved in engineering, design details and WPS developments is small in numbers.

Figure 11 depicts how the organization monitors the competency and performance consistency of the welder in production welding. It can be seen that most companies conducts the common NDT methods for inspection namely the Magnetic particle inspection (MPI) Ultrasonic Testing (UT) and Radiographic/X-ray Testing (RT) as well as visual. This augurs well with the results obtained in Figure 10. It also noted that UT is used more frequently than RT. One interesting point to note is that almost 90% of the organisations surveyed keep the records of welder competency in production welding. Hence, welder monitoring and their repair rate as well as consistency of performance are key elements that are needed by the employers for several significant reasons. Among the notable ones are for re-certification purposes and quality assurance as well as addressing skill gaps.

Figure 12 shows that AWSD1.1 is the most popular and frequently used codes and ASME codes for pressure vessels as well as PD 5500 AWS1.6 are the next most often used codes. In addition to all these interesting data gathered from the survey conducted, the participants also highlighted several comments and needs of the industry specifically in relation to the current welders produced locally. Among the most notable ones were, Welders must be familiar with the WPS document and able to read and interpret it before they enter the job market. Welder training institutes should teach trainees the importance of following strictly to the instructions in the WPS in production welding. It was also noted that Welder training schools and institutes have to upgrade the practical workshop and classroom training curriculum. Welders are to be taught the passing/failing criteria of codes and standards – welding defects and how to avoid making these defects during welder training in practical welding skills training institutes rather than the currently practiced marking scheme that is not consistent with the industrial standards.

It was further highlighted in the survey that after the training, the welder testing must be conducted according to the procedures specified in the product or application codes and standards like ASME Sec ix, xii, PD/EN 13445, AWS D1.1 etc. Such testing and qualification is needed in the welding

fabrication industry. However, the most important and notable comments from the survey was the urgent need for skilled and competent welders and a database of such welders, their skills and experience to facilitate the execution of projects and reduce the amount of repeated WQT's conducted to qualify the welders for each project executed. They further elaborated and requested that IMM as well as PETRONAS to play a bigger role in setting requirements, for example: PTS as well as governing and regulating welding career as this also will create a barrier to entry for outsiders and push local standards higher up.

Several organisations also mentioned that it would be helpful if the database can also state the current welder performance in order to ensure that fabricators can get quality welders from the database. Moreover, it will be better if all oil and gas project in Malaysia use the same system to monitor welder performance as well as welder repair rate during the execution of the projects. In spite of the huge number of local TVET institutions producing certified and skilled welders, ironically, the industry still claims that getting a good and qualified local welder is difficult.

They claim that the existing welders do not suit the industrial needs and most of the existing welders in the market can barely pass the WQT. It is noted that currently there are 2 types of welder in the market, namely a Welder who train and learn welding by themselves. This type of welder is faced with problems in understanding the WPS even though some of them possess good welding skills. The second type is the welders with TVET institutions background and finishes their course with SKM level 3. This type of welders very often is found to barely pass the WQT because of the lack of welding skills. There is also a notable lack of auto/semi auto welder in the market.

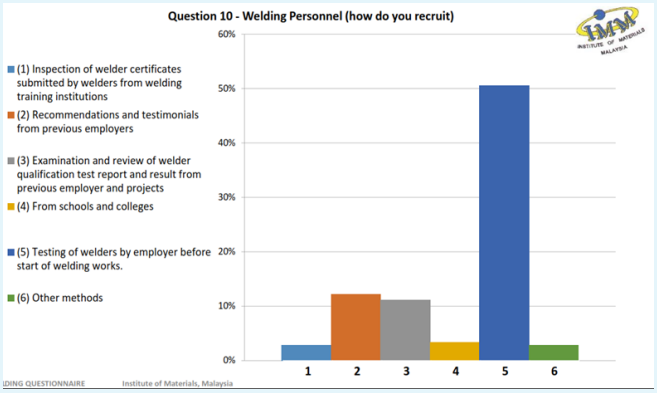

Figure 9: Responds to the types of cutting process most commonly used in the participating company

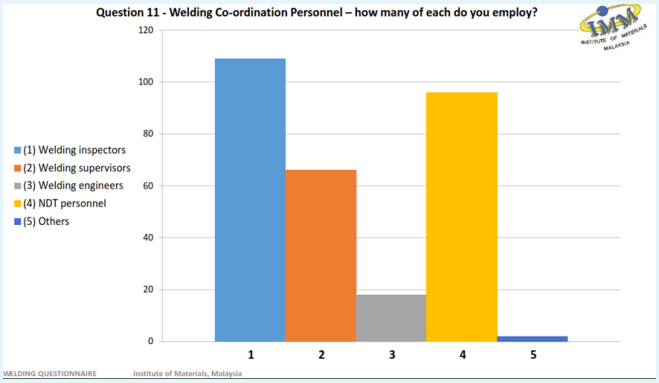

Figure 10: Replies to the types of most commonly employed type and number of welding co-ordination personnel in the participating

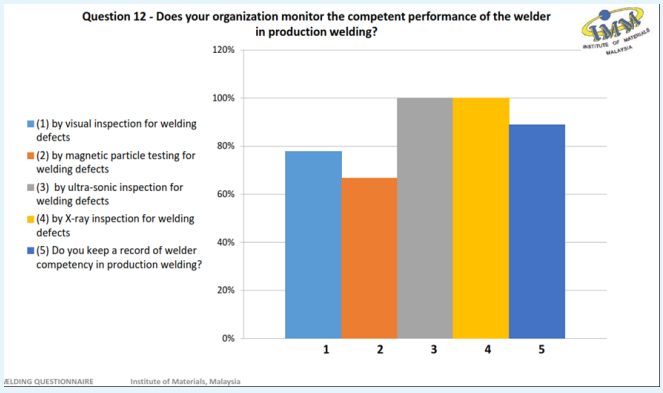

Figure 11: Replies to the welder monitoring efforts by the participating company

Most of the industrial players have changed their methods towards using auto/semi auto process to improve their schedule. Time concern is a major factor of the fabricators to make profit in their business. Unfortunately, most of the existing welders in the nation are in manual process. Another major concern highlighted by most of the organizations is that the salary of the welder's is not standardized throughout Malaysia. Welders are paid differently in different organisations hence this causes job hopping among the welders which disrupts the market human capital eco system.

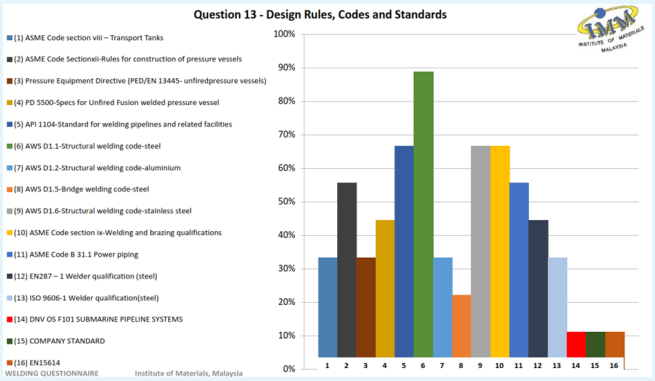

Figure 12: Design rules, codes and standards used by the participating company

It was highlighted that the current TVET institution's that produce welders does not teach the right syllabus, or the trainers in these institutions are not qualified enough to impart the right amount of knowledge needed to the welders. With millions spent on the development of these institutions, which sprawls across 7 different ministries; it is high time that the government or appointed taskforces do some serious soul searching on the future of the TVET in welding education, to produce market driven and industry ready welders.

Many of the companies surveyed welcomed and highly encouraged the existence of a common body, and a common welding certification scheme with welder monitoring facilities such as the AWF CWCS. This will allow us to know the population of the welders in the nation, as well have good quality welders, centralised and common data, and hopefully this will also be able to control the pay rate of the welders so that the welders will not simply quit or jump to another company.

As noticed on the welders coming from welding training institutes, lack of exposure and familiarity on the materials to be welded, filler metals and electrode and the Welding Procedures Specification to be applied. In summary, the industry surveyed the importance of forming a committee/task force to link the educational institution and the industries. The committee members then shall drive the team to come out with well-structured programmes to improve the knowledge and skills of welding personnel (Welding Engineers, Welding Inspectors, Welders, etc). In addition, the committee members will be responsible to gather all important information related to welding issues (e.g. guideline of controlling hardness at the HAZ area for extremely high tensile material) and spread it out as a part of knowledge sharing. It is highly hoped that institutions like the IMM and PETRONAS to play a bigger role in setting requirements i.e.., PTS as well as governing and regulating the welding career. Currently there is no active welding society in Malaysia that safeguards the interest of the welding community in Malaysia.

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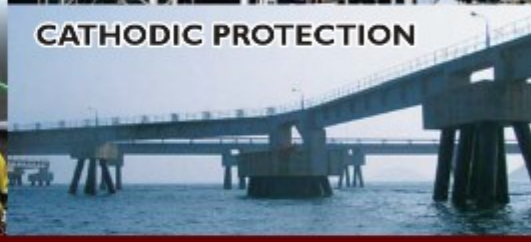

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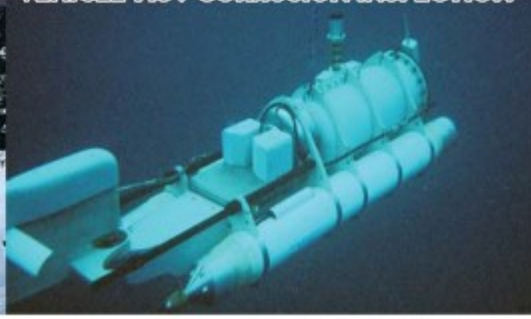

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INSTITUTE OF MATERIALS, MALAYSIA
Centre of Materials Science & Engineering

FORUM ON "TOWARDS POLYMERIC COATING FINGERPRINTING" V

BIG WAVE

4TH APRIL 2019, THURSDAY | 1.00PM - 5.30PM

DEWAN PRESIDEN, KELAB GOLF NEGARA SUBANG, KELANA JAYA, SELANGOR

BACKGROUND TO IMM COATING FINGERPRINTING INITIATIVE

Forum no.5 will present the progress report of Phase 3 (2018-2020) which include the study of FTIR analysis on more coating products such as Inorganic Zinc Coating, Epoxy-Zinc Coating, High Solids Epoxy Coating, Polyurethane Coating, Glass Flake Polyester Coating and Silicone-Aluminium Coating plus comparison of aged (1-2 years old) products.

Phase 1 (2013-2014) initiated the application of Fourier-Transform InfraRed (FTIR) Spectroscopy as a simple and reliable tool for the study of reproducibility (i.e. to fingerprint) of the epoxy coatings (Resin and Hardener). The fingerprinting regions of FTIR for epoxy resin and hardener were identified and the confidence level of acceptance for QA & QC control was proposed at ≥ 90.0%. These were presented in Forums 1 & 2.

Phase 2 (2015-2016) involved the appreciation of the root causes of coating failures throughout the world and the adoption of the Coating Fingerprinting initiative by the Malaysian Oil & Gas Operators as one useful QA/QC tool for ensuring coating quality. It also led to the establishment of the 1-day Foundation Course on Coating Fingerprinting and the 2-day Certification Course for Coating Fingerprint Quality Controller. These were presented in Forums 3 & 4.

TENTATIVE PROGRAM

12.00 pm	**Setting up of exhibition benches**
1.00 pm	**Registration, tour of exhibition and tea-break**
2.00 pm	**Welcoming address** **Opening remarks**
2.20 pm	**Short briefing on the background of Coating Fingerprinting by Assoc. Prof. Dr. Melissa Chan**
2.30 pm	**Speaker 1 (15-min talk + 5-min Q&A) :** *– Owner's perspective and commitment*
2.50 pm	**Speaker 2 (15-min talk + 5-min Q&A) :** *– Implementation of coating fingerprinting in Europe for oil & gas industry*
3.10 pm	**Tea break & tour of exhibition**
3.40 pm	**Speaker 3 (15-min talk + 5-min Q&A) :** *– Coating fingerprinting for different protective coating systems*
4.00 pm	**Speaker 4 (15-min talk + 5-min Q&A) :** *– Possibilities of fingerprinting of paints from a coating manufacturer's perspective*
4.20 pm	**Panel Discussion**
4.40 pm	**Summary & round-up**
4.45 pm	**Tea-break & tour of exhibition**
5.30 pm	**ADJOURN**

Organized by IMM Task Force on Coating Fingerprinting
Jointly organized by IMM Polymer Committee, Student Chapter and Corrosion Committee

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20 // Lim Chuan Gee, SIRIM Bhd
21 // Mark Hew Yoon Onn, Universal Corrosion Engineering (M) Sdn Bhd
22 // Mohd Wahidduzzaman Zainal (alternate), PPG-Sigma Coatings (M) Sdn Bhd
23 // Mokhtar Othman (alternate), International Paints (M) Sdn Bhd
24 // Muhammad Hawari Hasan, PETRONAS Group Technical Solution
25 // Nik Muhmmad Fitri, Norimax Sdn Bhd
26 // Nurul Asni Mohamed, PETRONAS Group Technical Solution
27 // Paramjit Singh Darjit Singh (alternate), Hempel (M) Sdn Bhd
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29 // Quah Kean Gin (alternate), Jotun (M) Sdn Bhd
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2 // 2 PASSES FOR FORUM DELEGATE

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a) Extra delegate will be charged at RM50
b) Exhibition stand does not come with the package. Exhibitors are advised to bring their buntings with stand to be placed around the table

1,000/ package
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REGISTRATION FORM

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WALK IN	RM80	

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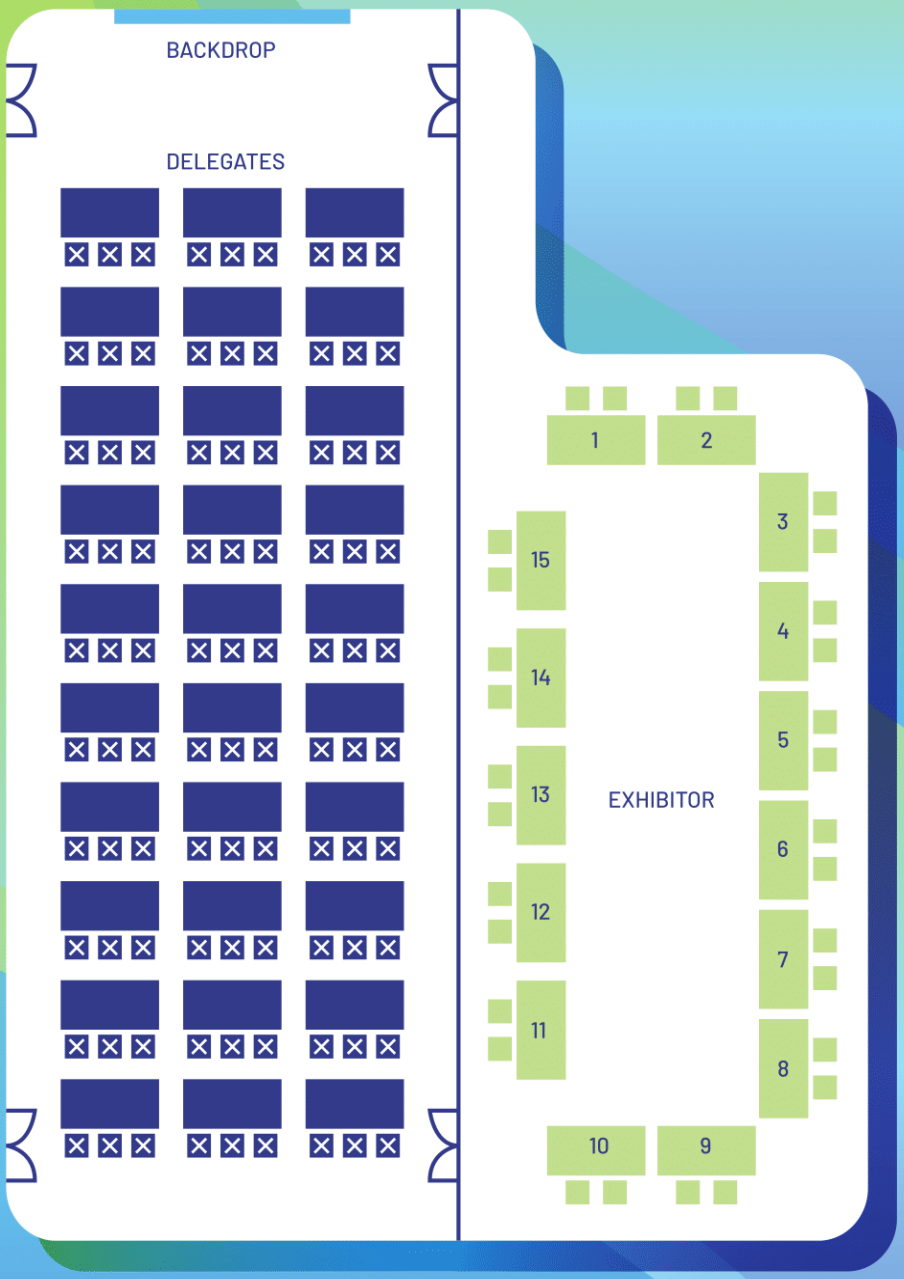
NO	NAME	COMPANY NAME	CONTACT NO	AMOUNT
	TOTAL			

LAYOUT PLAN



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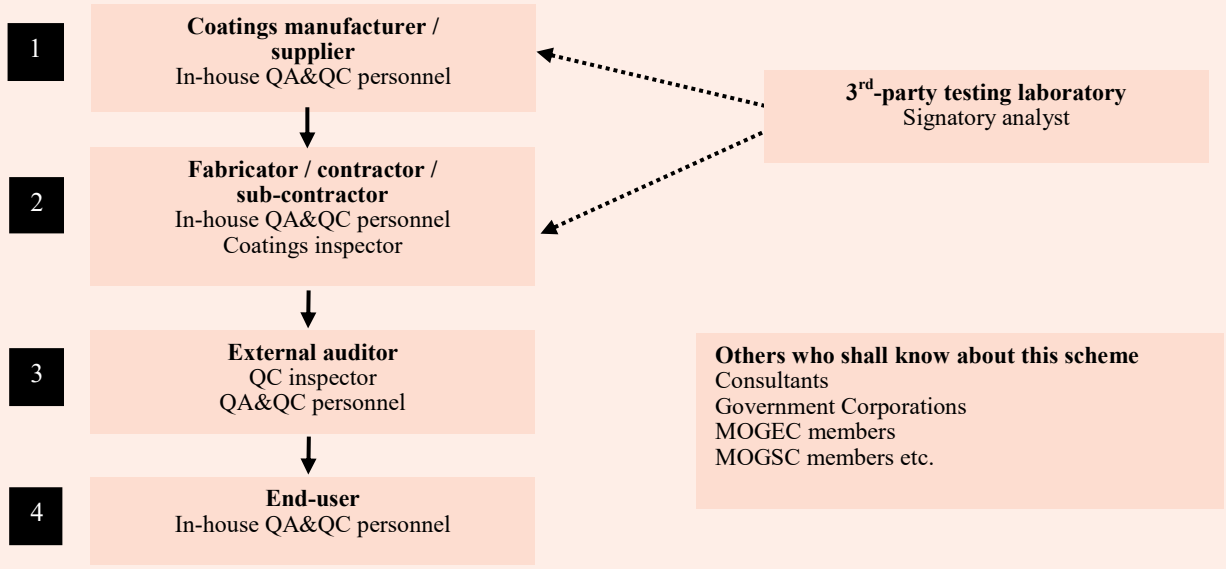


A successful industry-academia collaboration solving an industrial challenge on fingerprinting of polymeric coatings

Background of Coating Fingerprint Certificate and all related articles can be accessed at
http://iomm.org.my/coating-fingerprint-certificate/background-of-coating-fingerprint-certificate/

WHY FINGERPRINT COATINGS?

Why do we need to FINGERPRINT coatings when anti-corrosion paint failures have never caused structural collapse or direct loss of primary containment?

Should the industry allow non-conforming paints to be supplied just because the price of non-conformance is not a direct cause of leak or structural failure?

MORE
with **IMM**

Tentative Coating Fingerprint Certificate for intermediate materials of polymeric coatings

(Rev. 2.5 on 2nd January 2018)

Jointly prepared by:

Company name:	*e.g.* Company ABC	**Country:**	*e.g.* Malaysia
Certificate number:	*e.g.* epoxy/001/02Jan2016	**Date:**	*e.g.* 2 Jan 2016
Number pages:	*e.g.* 05		

Section 1: General information

Product name:	*e.g.* EPOXY123	**Product type:**	*e.g.* epoxy, polyurethane, polyester, inorganic zinc, epoxy zinc, *etc*

Date of issue:	**Base material** (*e.g.* epoxy / epoxy zinc / polyacrylate / polyester / inorganic zinc / silicone)	**Curing agent / hardener** (*e.g.* amine / isocyanate / peroxide / ethyl-silicate)
Specify base material & curing agent	*e.g.* epoxy	*e.g.* amine
Trade name	*e.g.* Epikote123	*e.g.* Amine123
Generic	*e.g.* Epoxy	*e.g.* Hardener
Factory location	*e.g.* Shah Alam, Selongor	*e.g.* Shah Alam, Selongor
Batch number	*e.g.* 1234567A	*e.g.* 1234567B
Production date	*e.g.* 02 Jan 2016	*e.g.* 02 Jan 2016
Product technical data sheet number	*e.g.* TDS123A	*e.g.* TDS123B
Material safety data sheet number	*e.g.* MSDS123A	*e.g.* MSDS123B
Shelf life	*e.g.* 24 months	*e.g.* 24 months

Section 2: Test methods and results

Physical analyses					
Parameters	**Method**	**Base material**		**Curing agent / hardener**	
		Specification with tolerance	**Test result**	**Specification with tolerance**	**Test result**
Viscosity	*e.g.* ASTM D4287 ASTM D5125 ASTM D562 ISO 2431 ISO 2884-1	*e.g.*…..± 0.05 P	*e.g* 3.24.± 0.02 P	*e.g.*…..± 0.05 P	*e.g* 2.78.± 0.03 P
Density	*e.g.* ISO 2811-4	*e.g.*…..± 0.05 g cm^{-1}	*e.g.* 1.48 ± 0.03 g cm^{-1}	*e.g.*…..± 0.05 g cm^{-1}	*e.g.* 0.943 ± 0.02 g cm^{-1}
Color code	*e.g.* BS 4800 RAL Color Standards	*e.g.* colour difference (dE) < 1	*e.g.* Light grey	*e.g.* colour difference (dE) < 1	*e.g.* clear
Non-volatile matter (by mass)	*e.g.* ISO 3251	*e.g.*…..± 2 %	*e.g* 78.± 2 %	*e.g.*…..± 2 %	*e.g* 99.± 2 %
Weight Solid: Zn metal/Total Zn **Note:** submit certificate of % purity by manufacturer **Note:** applicable to organic zinc paint and inorganic zinc paint only	*e.g* ISO14680-2	*e.g.*…..± 1 %	*e.g.* N/A for epoxy system	*e.g.*…..± 1 %	*e.g.* N/A for epoxy system

Structural analysis					
Infrared spectra	**Wet sample as supplied in can. Degree of similarity (*r*) ≥ 0.900*** (tentative tolerance = ± 0.002 or range of *r* = 1.000 – 0.898)				
	Method	**Base material**		**Curing agent / hardener**	
Base material: **epoxy** Curing agent: **amine**	ASTM D7588	600-4000 cm^{-1}	0.988	600-4000 cm^{-1}	0.970
		1000-1300 cm^{-1}	0.995	1000-1400 cm^{-1}	0.957
		700-900 cm^{-1}	0.996	N/A	N/A
Base material: **polyacrylate / polyester** Curing agent: **isocyanate**	ASTM D7588	600-4000 cm^{-1}		600-4000 cm^{-1}	
		1600-1800 cm^{-1}		2000-2500 cm^{-1}	
		3000-3800 cm^{-1}		3000-3800 cm^{-1}	
Base material: **polyester** Curing agent: **peroxide**	ASTM D7588	600-4000 cm^{-1}		600-4000 cm^{-1}	
		1600-1800 cm^{-1}		900-1200 cm^{-1}	
		2700-3100 cm^{-1}		N/A	N/A
Base material: **epoxy zinc** Curing agent: **amine**	ASTM D7588	600-4000 cm^{-1}		600-4000 cm^{-1}	
		1000-1300 cm^{-1}		1000-1400 cm^{-1}	
		700-900 cm^{-1}		N/A	N/A
Base material: **inorganic zinc** Curing agent: **ethyl-silicate**	ASTM D7588	600-4000 cm^{-1}		600-4000 cm^{-1}	
		N/A	N/A	2700-3200 cm^{-1}	
		N/A	N/A	1000-1500 cm^{-1}	
Base material: **Silicone-aluminum**	ASTM D7588	600-4000 cm^{-1}		N/A	N/A
		to be added		N/A	N/A
		to be added		N/A	N/A

*average results of triplicate analyses

Section 3: FTIR test details (as per ASTM D7588)				
Analyst & company name	*e.g.* Name & Company ABC Sdn Bhd			
Brand & model of FTIR	*e.g.* FTIR Brand XYZ & model: 2016			
Type of FTIR spectrophotometer	*e.g.* benchtop / mobile / handheld			
Benchtop: ATR crystal material	*e.g.* diamond, zinc selenide (ZnSe), germanium			
Spectral correction (circle) **Note:** correction is NOT recommended.	YES / NO [**Note**: if **YES**, please state the correction(s) made] *e.g.* automatic baseline correction			
Spectral range (cm^{-1})	*e.g.* 600 - 4000 cm^{-1}			
No. of sample scans (min 32)	*e.g.* 32 scans			
No. of background scans (min 32)	*e.g.* 32 scans			
Resolution (min 4 cm^{-1})	*e.g.* 4 cm^{-1}			
High sensitivity of correlation compare algorithm for matching ratio in absorbance mode	**Note:** Correlation compare algorithm of the FTIR software should depend on both ***x***- (wavenumber) and ***y***- (absorbance) vectors. High sensitivity compare algorithm, which analyzes the variations *via* summation of the squared differences of each variation from the overall mean OR equivalent, should be used.			
	Dependence on BOTH ***x***- and ***y***- vectors (circle)	YES / NO	High sensitivity compare algorithm (circle)	YES / NO
Trade name and batch number of reference spectrum for base material	*e.g.* Epikote123 & 1234567A-Reference			
Trade name and batch number of reference spectrum for curing agent / hardener	*e.g.* Amine123 & 1234567B-Reference			

Notes:

(1) Full range of FTIR spectra for both base and curing agent without automatic baseline correction and in absorbance mode are to be attached with this report (raw data).

(2) Compliance to matching criteria values does not exclude meeting the requirements of other QA/QC checks *e.g.* drying time, gloss, hiding power *etc*.

(3) Methods used shall refer to the latest published document.

(4) This certificate is applicable to all systems.

(5) This certificate can be submitted in CD or other digital formats.

The undersigned, hereby declare that all the analytical tests were performed according to the procedures specified herein and that this report represents a true and accurate record of the results obtained.

Authorized QA/QC Executive:-	**Validated by**:-
e.g. **NAME** **Company ABC Sdn Bhd** (123456-X) QC Department	*e.g.* COATING IMM Yoga Sugama Salim FP002 FINGERPRINT QC
Signature: *e.g.* *Name*	**Signature**: *e.g.* *Yoga Salim*
Date: *e.g.* 2 Jan 2016	**Date**: *e.g.* 2 Jan 2016
IMM membership member: (optional to be IMM member)	**IMM membership member**: *e.g.* O-1234

Section 4: Compulsory appendices (to be submitted in CD or other digital formats)	
Appendix 1	Overlay reference and sample FTIR spectra for base materials (**Note**: In addition, raw data of reference and sample FTIR spectra must be provided in two raw data files)
Appendix 2	Overlay reference and sample FTIR spectra for curing agent / hardener (**Note**: In addition, raw data of reference and sample FTIR spectra must be provided in two raw data files)
Appendix 3	Certificate of analyses which are relevant to the in-house standard testings
Appendix 4	Certificate of % purity of zinc by metal manufacturer for organic zinc paint & inorganic zinc paint **OR** certificate of analysis of alum paste for silicone-aluminum paint / glass flake for glass flake poyester / inorganic filler for any paint

END OF REPORT

Received & checked:

Date: *e.g.* 15 Jan 2016

COATING IMM CHAN CHIN HAN FP001 FP QC

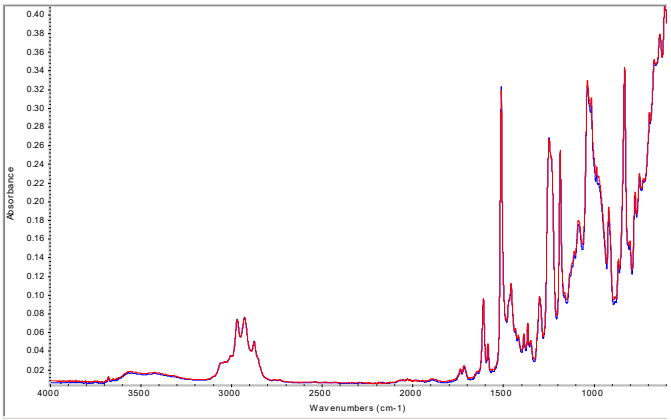
Melissa Chan

Appendix 1 Overlay reference and sample FTIR spectra for base materials

Reference spectrum – red (generated by averaging the FTIR spectra from **T**op, **M**iddle and **B**ottom of the mixing tank for the sample sent for qualification for painting systems and products for offshore application)

Sample spectrum – blue (for each batch of production, sample at the location of **B**ottom of the mixing tank)

Degree of similarity (r) = 0.988

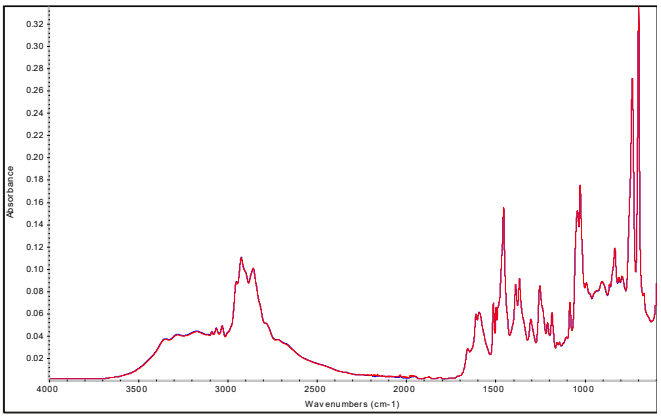


Appendix 2 Overlay reference and sample FTIR spectra for curing agent / hardener

Reference spectrum – red (generated by averaging the FTIR spectra from **T**op, **M**iddle and **B**ottom of the mixing tank for the sample sent for qualification for painting systems and products for offshore application)

Sample spectrum – blue (for each batch of production, sample at the location of **B**ottom of the mixing tank)

Degree of similarity (r) = 0.970



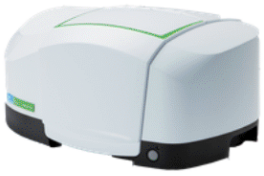
INSTITUTE OF MATERIALS, MALAYSIA

COATING FINGERPRINT CERTIFICATION SCHEME

IMM COATING FINGERPRINT FOUNDATION COURSE

Supported by:

PerkinElmer
For the Better



The paint & coatings industries have initiated the requirement for a polymeric Coating Fingerprint Certificate similar to a Mill Certificate for metals) to improve quality assurance. Fourier Transform Infra-Red (FTIR) method has been selected as the appropriate method to provide the fingerprinting requirement in addition to other physical & chemical tests which are regularly conducted by the paint & coating manufacturers.

This 1 day course will consist of a half-day theory lectures on the FTIR method followed by half-day of demonstration of the FTIR equipment to provide participants to understand the mechanics of the FTIR testing, appreciation of the strengths and limitations of FTIR method, interpretation and analysis of FTIR results, and a first-hand experience of running the FTIR testing with the actual FTIR equipment in the classroom.

Course Content

(1) Coating Fingerprint Certificate
(2) Sampling standards of materials
(3) FTIR analysis standard for protective coatings
(4) Basic introduction to FTIR
(5) Basic application of a FTIR software
(6) Generation of reference FTIR spectrum
(7) Estimation of degree of similarity for samples
(8) Rejection and acceptance of samples
(9) Dos and Don'ts in FTIR analysis
(10) Running samples using ATR accessories
(11) Interpretation of FTIR test results
(12) Quality control tools in a FTIR software
(13) Data analysis using a commercial FTIR software

Who should attend?

Anyone interested in the topic and their applications including graduates with bachelor degree through Ph.D level, researchers, chemists, engineers, physicists, or technicians from academic and industry who work in or are beginning to work in the field. Managers in this industry will greatly benefit from this in-depth lecture course.

Pre-Requisite:

No previous experience required.

Certification:

Upon completion of this course, graduates will be issued an "IMM Coating Fingerprint Foundation Certificate" with validity of 5 years.

Language:

This course will be conducted in English.

REGISTER NOW!

3 April 2019 | Kuala Lumpur

13 November 2019 | Bintulu, Sarawak

HRDF CLAIMABLE

MTE Materials Technology Education Sdn Bhd
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Azlizul: 013-7904903 (azlizul@mte.com.my)
Amirah: 018-6698494 (amirah@mte.com.my)

INSTITUTE OF MATERIALS, MALAYSIA

COATING FINGERPRINT CERTIFICATION SCHEME

IMM CERTIFIED COATING FINGERPRINT QUALITY CONTROLLER

Supported by:

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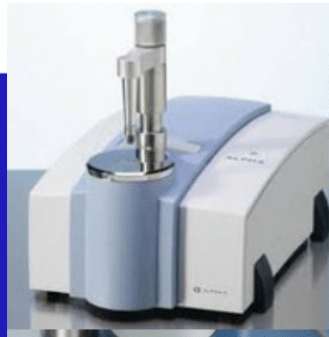
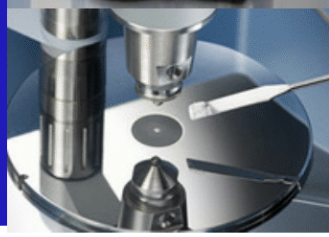
The first-of-its-kind, two-days course on "Coating Fingerprint Certificate" in the world





The oil & gas and petrochemical industries with implement the requirement for Coating Fingerprint Certificate (equivalent to the Mill Certificate for Metals) for all the protective coatings and paints supplied to the oil & gas and petrochemical operators. As such, paint manufactures will be required to engage a **"IMM Certified Coating Fingerprint Quality Controller"** to conduct FTIR structural tests and all associated physical tests to produce a Coating Fingerprint Certificate. This course aims to formalize or improve the skills of carrying out basic quality control test using Fourier Transform Infra-Red (FTIR) method for structural analysis and other related physical analyses (e.g chemical and corrosion tests) associated with protective coatings. The course uses formal lectures, demonstrations & extensive practical exercises as teaching methods.

Who should attend?

This course has been designed specifically for persons carrying out assessment of quality control and quality assurance on coating systems, or those on the behalf of their employer, such as quality assurance managers and supervisors for coating contractors, representatives of coating suppliers, end-client project supervisors and QA/QC personnel, analyst of testing laboratories, coating inspectors, paint factory chemists and assistant chemists, paint QC technicians etc. It will also be of interest to estimators, steel fabricators and structural engineers involved in designing or maintaining steel structures. This course will equip the graduate with the knowledge and skills to demand sufficient authority for his / her decisions to be recognized by both client and contractor, in the preparation of Coating Fingerprint Certificate for 3rd-party or in-house laboratories and on-site testings.

Certification

Upon completion of this course, graduates will be issued an "IMM Certified Coating Fingerprint Quality Controller" certificate with validity of 5 years.

5 - 6 April 2019 | Kuala Lumpur

15 - 16 November 2019 | Bintulu, Sarawak

REGISTER NOW!

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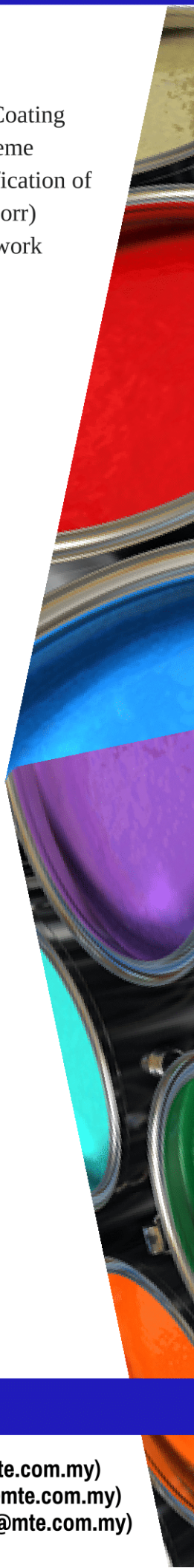
Azlizul: 013-7904903 (azlizul@mte.com.my)
Amirah: 018-6698494 (amirah@mte.com.my)

Pre-requisite

(1) IMM Coating Fingerprint Foundation Course (a 1-day classroom & laboratory course) OR
(2) IMM Coating Inspector Level 2 OR equivalent [e.g. Society for Protective Coatings (SSPC) Coating Inspector Level 2, NACE International Coating Inspector Level 2, the British Gas Approved Scheme (BGAS) Coating Inspector Level 2, the Norwegian Professional Council for Education and Certification of Inspectors for Surface Treatment (FROSIO) Coating Inspector Level 2, Institute of Corrosion (ICorr) Coating Inspector Level 2, Association for Certification and Qualification of Anticorrosive Paintwork (ACQPA) Coating Inspector Level 2 etc].

Course Content

(1) Why do we need to FINGERPRINT coatings?
(2) IMM Coating Fingerprint Certification Scheme & the execution of Coating Fingerprint Certificate by coating manufacturer/supplier, fabricator/contractor/sub-contractor, external auditor, end-user and 3rd-party testing laboratory
(3) Preparation, review and validation of the Coating Fingerprint Certificate and the compulsory & optional appendices
(4) Basic components of protective coatings (e.g. epoxy coatings, inorganic zinc coatings, organic-zinc coatings, polyurethane coatings, acrylic coatings, polyester coatings etc)
(5) Related physical analyses associated with protective coatings (e.g. viscosity, density, color code, non-volatile matter, weight solids for organic- and inorganic-zinc coatings etc)
(6) ISO and ASTM standards on Attenuated Total Reflection-Fourier Transform Infra-Red (ATR-FTIR) testings and the fingerprinting regions for different types of protective coatings
(7) Users' technical specification on FTIR fingerprinting on coatings
(8) Sampling standards of materials for in-house and on-site
(9) In-house and on-site FTIR testings for protective coatings
(10) Basic introduction to FTIR hardware: desktop, mobile and handheld
(11) Basic application of a FTIR software: desktop, mobile and handheld
(12) Generation of reference FTIR spectrum before the qualification for new maintenance painting system and products for offshore application.
(13) Estimation of degree of similarity for in-house / on-site sample FTIR spectrum with reference FTIR spectrum
(14) Rejection and acceptance of samples based on threshold set using different Compare algorithms
(15) Dos and Don'ts in FTIR analysis: desktop, mobile and handheld
(16) Running samples using ATR accessories for desktop & mobile; and running samples using handheld device
(17) Interpretation of FTIR test results: in-house, 3rd-party laboratory and on-site
(18) Common quality control tools in a FTIR software
(19) Data analysis using a commercial FTIR software



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Report on Task Force on Coating Fingerprinting (Phase 3: 2018 – 2020)

Co-chairpersons

Assoc. Prof. Dr. Melissa Chan Chin Han, Universiti Teknologi MARA & Honorary Secretary

Prof. Ts. Dr. Mohamad Kamal Harun, Universiti Teknologi MARA & Immediate Past President

Coating consultants for the task force

Ir. Max Ong Chong Hup, Norimax Sdn Bhd
Abdul Aziz Haron, SIRIM QAS International Sdn Bhd

The local paint users endure high cost of repainting structures when paint coating fails prematurely. One of the attributing factors for the failure of the coating may be due to the formulation of the polymeric paint, which may not be appropriate for the job sites. This implies that the quality of supplied polymeric paint may deviate from the required specifications.

Over the years, the industry was told, there was no simple way to verify or re-test the polymeric paint to confirm its actual chemical nature or origin. One has to put the product through numerous complicated and rigorous testing in a chemical laboratory to verify the product formulation.

An industry-academia collaboration was initiated in 2013 by the Institute of Materials, Malaysia (IMM) where the academic Council Members of IMM from various Malaysian universities in collaboration with oil companies, paint manufacturers, Fourier-Transform Infra Red (FTIR) instrument vendors and Coating Consultants came together to solve an industrial challenge on fingerprinting of polymeric coatings.

A significant break-through to provide a "Mill Certificate" for polymeric paint was showed case here, which it is termed as "Coating Fingerprint Certificate". This certificate is one of the effective QA & QC tools for the enhancement of the overall painting coating quality assurance. This can avoid consumers from applying the wrong paint as the Coating Fingerprint Certificate can ensure the right paint specification is applied for the job. Thus, even the practice of reformulation of paint can lead to the non-compliance of the test specifications as required to be presented in the Coating Fingerprint Certificate. This is the first-of-its-kind fingerprint exercise in the world!

The **objectives** of this Task Force shall include but not limited to the followings:-

(1) To conduct mock-execution on the study of FTIR analysis on more coating products such as Inorganic Zinc Coating, Epoxy-Zinc Coating, High Solids Epoxy Coating, Polyurethane Coating, Glass Flake Polyester Coating and Silicone-Aluminum Coating plus comparison of aged (1-2 years old) products.
(2) To propose the implementation mechanism of the coating fingerprinting and the standards for the execution.

To recapitulate, Phase 1 (2013-2014) initiated the application of FTIR Spectroscopy as a simple and reliable tool for the study of reproducibility (*i.e.* to fingerprint) of the epoxy coatings (Resin and Hardener). The fingerprinting regions of FTIR for epoxy resin and hardener were identified and the **confidence level of acceptance** for QA & QC control was proposed at **≥ 0.900.**

Phase 2 (2015-2016) involved the appreciation of the root causes of coating failures throughout the world and the adoption of the Coating Fingerprinting initiative by the Malaysian Oil & Gas Operators as one useful QA/QC tool for ensuring coating quality. It also led to the establishment of the 1-day Foundation Course on Coating Fingerprinting and the 2-day Certification Course for Coating Fingerprint Quality Controller.

List of committee members of the Task Force on Coating Fingerprinting Phase 3 (2018—2020)

Co-chairman: Prof. Ts. Dr. Mohamad Kamal Harun, Universiti Teknologi MARA

Co-chairman: Assoc. Prof. Dr. Melissa Chan Chin Han, Universiti Teknologi MARA

Treasurer: Nurul Fatahah Asyqin Zainal, Universiti Teknologi MARA

Secretary : Dr. Thang Lee Yien Universiti Teknologi MARA

Members:

1. Assoc. Prof. Dr. Lim Teck Hock, Tunku Abdul Rahman University College
2. Asst. Prof. Dr. Yu Lih Jiun, UCSI University
3. Ts. Dr. Chew Khoon Hee, Tunku Abdul Rahman University College
4. Dr. Ismaliza Ismail, Malaysia Rubber Board
5. Dr. Mahmood Anwar, Curtin University, Sawarak
6. Ir. Max Ong Chong Hup, Norimax Sdn Bhd
7. Ir. Zarina Rasmin, SIRIM QAS International Sdn Bhd
8. Abdul Aziz Haron, SIRIM QAS International Sdn Bhd
9. Ahmad Badli Shah Abdul Aziz, International Paints (M) Sdn Bhd
10. Mohammad Ariff Sukur, Shell Malaysia
11. Chang Yau Chong, Kansai Asia Pacific Sdn Bhd
12. Chow Mee Ling, Agilent Technologies Sales (M) Sdn Bhd
13. Elson Wah Eng Keong (alternate), Perkin Elmer (M) Sdn Bhd
14. Hairunnisa Ramli, Universiti Teknologi MARA
15. Kelly Hong Mun Key, Nexus Analytics Sdn Bhd
16. Kenneth Way, Perkin Elmer (M) Sdn Bhd
17. Lee Choon Siong, Jotun (M) Sdn Bhd
18. Leow Chun Ho (alternate), Shell Malaysia
19. Lim Chuan Gee, SIRIM Bhd
20. Mark Hew Yoon Onn, Universal Corrosion Engineering (M) Sdn Bhd
21. Mohd Wahidduzzaman Zainal (alternate), PPG-Sigma Coatings (M) Sdn Bhd
22. Mokhtar Othman (alternate), International Paints (M) Sdn Bhd
23. Muhammad Hawari Hasan, PETRONAS Group Technical Solution
24. Nik Muhmmad Fitri, Norimax Sdn Bhd
25. Nurul Asni Mohamed, PETRONAS Group Technical Solution
26. Paramjit Singh Darjit Singh (alternate), Hempel (M) Sdn Bhd
27. Phuah Shok Chan (alternate), Agilent Technologies Sales (M) Sdn Bhd
28. Quah Kean Gin (alternate), Jotun (M) Sdn Bhd
29. Renee Teo Yong Yin, Bruker (M) Sdn Bhd
30. Selvandran Vello, Hempel (M) Sdn Bhd
31. Teh Tiong Poh (alternate), Jotun (M) Sdn Bhd
32. Terence Wee Tee Hin, PPG-Sigma Coatings (M) Sdn Bhd

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Fax: +60 3 5621-9303
Email: info.bopt.my@bruker.com

Innovation with Integrity

FTIR

Genesis of IMM Certified Coating Fingerprint Trainer Program: From Foundation to Quality Controller Workshop


Reported by: Dr. Mahmood Anwar, Curtin University, Malaysia, Sarawak, Committee member of Task Force on Coating Fingerprinting
Edited by: Assoc. Prof. Dr. Melissa Chan Chin Han, Universiti Teknologi MARA, Malaysia, Selangor, Co-chairperson of Task Force on Coating Fingerprinting

Date: 7th – 9th November 2018
Venue: Subang Golf Country Club (KGNS), Selangor, Malaysia

What if we need to complete a coating project in the middle of offshore platform surrounded by a team comprising engineers to technicians and only one person to deliver the quality of coating? That was a striking challenge which frequently faced by professionals when need to train their team and leading to the launch of the 3-day hands-on training workshop on Coating Fingerprint Trainer Program by IMM from 7th - 9th November, 2018. The program comprising two different consecutive workshops namely IMM Coating Fingerprint Foundation Course and IMM Certified Coating Quality Controller Course.

Necessity for a polymeric "Coating Fingerprint Certificate" have been instigated from the paint and coating industries in order to improve quality assurance similar to "Mill Certificate" practiced in metal industry. Such initiative leads to selection of Fourier Transform Infra-Red (FTIR) method as an appropriate method to provide the fingerprinting requirement in addition to other routine physical as well as chemical tests practiced by the paint and coating manufacturers [1]. Combination of a half -day theory lectures on the FTIR method with addition to demonstration of FTIR equipment encompass this 1-day Coating Fingerprint foundation course. Such equipment demo facilitates participants to understand the procedure of the FTIR testing, distinguish the strengths and limitations of FTIR method, interpretation as well as analysis of FTIR results. This also provided a trainee in the classroom to get the first-hand experience of running the FTIR testing with the actual FTIR equipment by own self.

Genesis of IMM Certified Coating Fingerprint Quality Controller course was due to imminence of implementation the requirement for Coating Fingerprint Certificates (equivalent to the Mill Certificates for Metals) towards oil & gas and petrochemical industries for all the protective coatings and paints supplied to them. As such, to conduct FTIR tests and all related chemical as well as material tests to produce a Coating Fingerprint Certificate [2]. Five years' valid "IMM Certified Coating Fingerprint Quality Controller" certificate would be issued upon completion of this course. Professionals from various countries including Malaysia, Indonesia & Singapore were participated and sat for the examination during the workshop. However, trainer program involved with delivery theoretical part, demonstrating hands on of FTIR testing to the participants including analysis through software, invigilating exam as well as marking the exam papers.

Figure 1: Participants of the IMM Coating Fingerprint Foundation Course.

Figure 2: Hands-on training for Lab exercise during Coating Fingerprint Quality Controller Course.

Moreover, requirements to be "certified" trainer of 2-day Certified Coating Fingerprint Quality Controller Course (Coating Fingerprint Trainer Course), the pre-requisites for the 1st phase are:

(1) IMM Certified Coating Fingerprint Quality Controller AND

(2) Committee members of IMM Task Force on Coating Fingerprinting AND

(3) To observe for both 1-day Coating Fingerprint Foundation Course and 2-day Certified Coating Fingerprint Quality Controller Course AND

(4) To coach / lecture both 1-day Coating Fingerprint Foundation Course (one or partial of the full course) and 2-day Certified Coating Fingerprint Quality Controller Course (one or partial of the full course) with evaluation of the course developer.

Figure 3: Group photo taken after the completion of Fingerprint Quality Controller Training.

After the successfully completion of the Fingerprint Quality Controller examination, the workshop was concluded through a certificate giving ceremony for participation by Assoc. Prof. Dr. Melissa Chan Chin Han of IMM.

References

1. IMM, FTIR application for Coatings FIngerprinting Master Class. Materials Mind, 2016. Issue 13: p. 28.

2. IMM, IMM training & Certification Program Booklet, 2018: p.16-17.

Young Person's World Lecture Competition 2018



Reported by: Dr. Nazatul Liana Sukiman (Universiy of Malaya), UM-MLC Committee &
Andrew Ng Kay Lup (University of Malaya), MLC2018 Winner/Malaysia Finalist in YPWLC2018
Edited by: Prof. Dr. Esah Hamzah, Chairperson of Materials Lecture Competition Committee

Date: 11th October 2018
Venue: Fairview Course Arena, Port Elizabeth, South Africa

The Young Persons' World Lecture Competition (YPWLC 2018) has been organised and held annually by the Institute of Materials, Minerals and Mining (IOM3) U.K. since 2005. Eight finalists from eight different countries participated in YPWLC 2018 held on 11th October 2018 at Fairview Course Arena, Port Elizabeth, South Africa. The names and presentation topics of the YPWLC 2018 is listed in the Table. In this competition, the finalists have to deliver a 15-minute technical lecture to an audience from diversified background on topics related to materials, minerals and mining. Malaysia was represented by Materials Lecture Competition 2018 (MLC 2018) first winner, Andrew Ng Kay Lup from University of Malaya.

The winners of YPWLC 2018 are as follows;

First Place: Kyle Saltmarch (Australia)

Second Place: Lin Guo (Hong Kong)

Third Place : Andrew Ng Kay Lup (Malaysia)

As the third place winner, Andrew received £1,000 cash award, Macbook Air and one-year complimentary IOM3 membership. His South Africa trip from 6th to 12th October 2018 was also fully sponsored and supported by IOM3, Companhia Brasileira de Metalurgia e Mineração (CBMM) and Rolls-Royce. During their stay in South Africa, the organisers took all the YPWLC 2018 finalists for industrial, academia and township visits such as the Volkswagen Auto Industrial Zone, Nelson Mandela University and Curro Westbrook School. Dr. Nazatul Liana Sukiman from University of Malaya also attended the event as representative of Institute of Materials, Malaysia (IMM) and to give moral support to Andrew.

No	YPWLC 2018 Finalist	Country	Presentation Title
1.	Sam Lawton	United Kingdom	Polymer Power: From Light to Current
2.	Alexandra Kuznetsova	Russia	Extracting Oil from Impossible-to-Extraxt Rock
3.	Kyle Saltmarch	Australia	Acoustic based Condition Monitoring in the Resource Industry
4.	Matheus Santos	Brazil	Insights on the Optimisation of the Steel Ladle Process from a Refractory Perspective
5.	Andrew Ng Kay Lup	Malaysia	Bio-Crude Oil from Lignocellulosic Biomass: A Zero-to-Hero Energy Scenario
6.	Fariraishe Nyoni	South Africa	Burn Cut Optimisation to Increase Blast Advance at Unki Mine
7.	Naveen Tiwari	Singapore	Self-Healable and Flexible Materials for Next Generation Electronic Devices: Smart Materials
8.	Lin Guo	Hong Kong	Combatting Cancers with a New Superweapon

The judging panel includes Kerry Kirkman (Chair of IOM3 South Africa), Dr. Bernie Rickinson (Chief Executive of IOM3) and Cathy Garde (Committee Member of IOM3 South Africa). The panel was chaired by Dr. Philip Bischler (IOM3).

Figure 1: Finalists of YPWLC 2018 (From top left to bottom right): Sam Lawton (UK), Naveen Tiwari (Singapore), Matheus Santos (Brazil), Kyle Saltmarsh (Australia), Alexandra Kuznetsova (Russia), Fariraishe Nyoni (South Africa), Lin Guo (Hong Kong) and Andrew Ng Kay Lup (Malaysia)

Figure 2: Andrew receiving his prize and certificate from Kerry Kirkman

Figure 3: Andrew with Dr. Nazatul Liana Sukiman (University of Malaya) and Dr. Philip Bischler

Malaysia Board of Technologists: Professional Assessment Panel Workshop


Reported by: Assoc. Prof. Dr. Melissa Chan Chin Han, Universiti Teknologi MARA, Honorary Secretary of IMM & Dr. Mohamed Ackiel Mohamed, Serba Dinamik Group Bhd, IMM Council Member

Date: 19th – 21st October 2018
Venue: Royale Chulan, Bukit Bintang, Kuala Lumpur

A three-day Strategic Technology Field Optimization (STFO) workshop was organized by Malaysia Board of Technologists (MBOT) from 4th to 6th May 2018 with the purpose of exchanging their ideas with the industrial technical experts and collect valuable feedback from all attendees. The outputs of the workshops were (1) definition of technology field definition was updated and (2) industry & acidic perspective were shaped together by all the attendees. Assoc. Prof. Dr. Melissa Chan Chin Han and Dr. Mohamed Ackiel Mohamed were the two representatives of IMM who attended the workshop.

Figure 1: Briefing to TEP

After the workshop, a Memorandum of Understanding (MoU) signing ceremony was held at MBOT on 1st June 2018. The IMM President, Mr. Mohd Azmi Mohd Nor and the President of MBOT, Tan Sri Dato' Academician Dr. Ts. Ahmad Zaidee Laidin represented both parties in the signing of the MoU. It was witnessed by the chairman of Examination, Certification and Accreditation Panel (ECAP) of IMM, Mr. Brian Lim Siong Chung and the Registrar of MBOT, Ts. Mohd Nazrol bin Marzuke. Subsequently, MBOT appointed IMM as a member of Technology Expert Panel (TEP) in the related technology field recognized by MBOT. As the TEP of MBOT, IMM will assist and provide necessary advice to the Technology and Technical Accreditation Council (TTAC) for any technology program accreditation.

Over the last 1 ½ years, the number of applications with MBOT recorded at 10,105 (as of 19th Oct 2018). They were

- Graduate Technologists - 5,401
- Professional Technologists – 3,537
- Qualified Technicians – 979
- Certified Technicians - 189

Throughout the 3-day Professional Assessment Panel Workshop (19th – 21st October 2018), MBOT trained the TEP on the compliance of the MBOT's assessment guideline, brainstorm/create/set assessment content and approach, finalize MBOT Guidebook for Technologists and Technicians and new online assessment tools were presented and feedbacks from the TEP were received. The outputs of this workshop were TEP assessors were trained and MBOT guidebook was finalized. Assoc. Prof. Dr. Melissa Chan Chin Han and Dr. Mohamed Ackiel Mohamed represented IMM for this workshop.

Figure 2: Group photo with Tan Sri Dato' Academician Dr. Ts. Ahmad Zaidee bin Laidin (the gentleman behind the LCD projector)

Presentation will be judged against the following criteria:

JUDGING CRITERIA

- Structure of the presentation and clarity of explanation and argument
- Standard of presentation
- Personal enthusiasm for the subject
- Ability to deliver presentation spontaneously
- Technical content of the presentation
- Clarity and relevance of any visual aids used
- Ability to deliver a concise and meaningful summary at the end of presentation
- Ability to present within the specified time allocated
- Ability to handle judges' questions

FOR FURTHER INFORMATION

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MATERIALS LECTURE COMPETITION 2019

Organized by;

UTeM
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

IMM
INSTITUTE OF MATERIALS, MALAYSIA
Centre for Materials Science & Engineering

IOM3
The Institute of Materials, Minerals and Mining

Co- Organized by;

FKP
Faculty of Manufacturing Engineering

AMC
ADVANCED MANUFACTURING CENTRE

MATERIALS LECTURE COMPETITION 2019

INTRODUCTION

Materials Lecture Competition (MLC) is a National event mainly organized by Institute of Materials, Malaysia (IMM) and Institute of Materials, Minerals and Mining (IOM3) UK. This national-wide competition is an initiative intended to enhance awareness among young Materials Scientists and Engineers in Malaysia on the importance of Materials Engineering and sustainability in the advancement of technology and humankind.

For MLC 2019, Universiti Teknikal Malaysia Melaka (UTeM) has been given the honour by IMM to host the competition alongside with IMM and IOM3. We look forward to welcome all participants for the semi final and Final Competition that will be held in UTeM- the 1st Technical Public University in Malaysia, located in the UNESCO world heritage city of Melaka.

RULES AND ELIGIBILITY

The Materials Lecture Competition 2019 (MLC 2019) is open to any profession/students in Malaysia (except academic staff) of age 28 or under on 1st November 2019. Participant must deliver a 15-minutes presentation on a topic related to Materials or Minerals Science and Engineering. The topic may cover on the participant's current research work or project from the following areas of interest (but not limited to) Materials Development, Characterization, Processing and Applications, Minerals and Geologically related disciplines.

SUBMISSION PROCEDURE FOR COMPETITION

To take part in the MLC 2019 competition, please \complete the online form e-mail with your name, a copy of IC (Malaysian Participant) or Passport (International Participant), phone number and e-mail details as well as an abstract of a maximum of 150 words, via the following link:

MLC 2019 Registration Form
https://form.jotform.me/MLC22019/registration

Student participant shall attend the internal competition organized by their respective university to select only one (1) representative to participate in the MLC 2019, while other participants from the industries shall attend the internal competition organized by IMM to select only one (1) representative to compete in the Semi-final.

PRIZES

First Winner: RM 3,000

Second Winner: RM 2,000

Third Winner: RM 1,000

Fourth Place Winner: RM 500

Fifth Place Winner: RM 500

The winners of MLC 2019 will also receive a certificate and a plaque.

The Champion of MLC 2019 will represent Malaysia to attend and compete in the Young Persons' World Lecture Competition 2019 (YPWLC 2019) which will be held in London, United Kingdom organized by IOM3.

IMPORTANT DATES

Internal Competition (University Level):
December 2018 – 14th March 2019

Submission of the university participant details (name, contact info, passport size photo, abstract) to MLC 2019 committee:
15th March 2019

MLC 2019 Semi-final :
4th April 2019

MLC 2019 Final :
30th April 2019

For more details, please visit event website at

http://mlc2019.utem.edu.my

Curtin University Malaysia Materials Lecture Competition 2018

Reported by: Christopher Chia Xiao Hui, IMM-Curtin Student Chapter Chairman
Edited by: Ir. Assoc. Prof. Dr. Edwin Jong Nyon Tchan, IMM Miri Committee Chairman

Date: 12th October 2018
Venue: Sarawak campus, Curtin University, Malaysia

On the 12th of October 2018, Institute of Materials Malaysia-Curtin Student Chapter (IMM-CS) has successfully organized their very first Materials Lecture Competition (MLC) in their Sarawak campus. Materials lecture competition is a conference-based competition that enables students who are interested or undergoing materials-based research to showcase their research findings to the public and at the same time to seek industrial advices and improvements from invited professional personnel. The event is aimed at instilling interest and awareness on the importance and the potential in the field of engineering materials research and development. A total of 10 undergraduate engineering students participated in this competition. Under the courtesy of Topfields Borneo Sdn Bhd as our generous financial sponsor, the event was able to include cash prizes as part of the award with a certificate of participation from IMM Miri chapter for the competition winners to further increase the attractiveness of the competition.

The panel for this event comprised of several highly qualify academic and industrial personnel. The first panel was Prof. Dr. Beena Giridharan, who is also the Deputy Pro-vice chancellor (DPVC) of Curtin University Malaysia (CUM) and a fellow member of IMM-Miri Committee. The second panel was Dr. Denni Kurniawan, the departmental head for mechanical engineering department of Curtin University Malaysia. Finally, Mr. Divina Kumar who is from Topfields Borneo Sdn Bhd is an IMM Professional Member of IMM-Miri Committee too. Under their experienced judgement, the winners and their respective topics were as follows.

From this first challenging MLC, we finally have the clear winners; the champion went to Ms. Yap Yean Weiy (a mechanical engineering student) with her topic, “Biodegradation behavior of Nani-Silver doped Gallium in simulated Body Fluid”. She was awarded with a cash prize of RM200.00 and the first runner-up went to Mr. Hein Htat (a mechanical engineering student) with the topic, “Graphene: The beginning of a new age”. Similarly, he received RM150.00 as part of the award. Lastly, the third prize of RM100.00 cash was awarded to Mr. Gary Wong Ang Kui with his research topic, “Oil Palm Fiber with Clay Composite Material for Environmental Friendly Roofing Material”.

This event served as the cornerstone for future MLC to be organized at Curtin University Malaysia. In conclusion, Curtin Materials Lecture Competition has not only successfully instilled interest in engineering materials studies among students and identified several highly potential engineering students to be enlisted as contingents to international conferences and competitions primarily Young Person’s Lecture Competition.

Figure 1: The Champion, Ms. Yap Yean Weiy (left) received cash award from Prof. Dr. Beena Giridharan (mid) accompanying by Dr. Sumaiya, IMM-Curtin Student Chapter Advisor (right)

Figure 2: The first runner-up Mr. Hein Htat (left) received his cash award.

Figure 3: The 3rd Prize winner Mr. Gary Wong (left) received cash award

Figure 2: A group photo with the organizer of IMM-Curtin Student Chapter and the MLC participants

4th Malaysian Oil and Gas Services Exhibition and Conference


Reported by: Jacqueline Lim, IMM Secretariat
Reviewed by: Assoc. Prof. Dr. Melissa Chan Chin Han, Universiti Teknologi MARA, Honorary Secretary of IMM

Date: 25th – 27th September 2018
Venue : Kuala Lumpur Convention Centre

Figure 1: Ts. Sharifah Zaida Nurlisha, President of MOGSC (far left) with Y.Bhg. Tan Sri Wan Zulkiflee Wan Ariffin, President & Group CEO of PETRONAS (second from left) and YB Darell Leiking, Minister of MITI (second from right) during MOGSEC 2018 official launch.

Malaysian Oil and Gas Services and Conference (MOGSEC) 2018 was well received with tremendous support from the Malaysian Government and top Oil & Gas industry players as the auspicious event was inaugurated by Y.Bhg. Tan Sri Wan Zulkiflee Wan Ariffin, President & Group CEO of PETRONAS and YB Darell Leiking, Minister of International Trade & Industry (MITI) Malaysia during the MOGSEC 2018 Opening Ceremony on 25th September 2018.

Three important individuals with prominent roles in the development of the Malaysian Oil & Gas industry namely Y.Bhg. Datuk Ahmad Nizam Salleh, Chairman of PETRONAS, Y.Bhg. Tan Sri Wan Zulkiflee Wan Ariffin, President and Group CEO of PETRONAS and Y.Bhg. Datuk Mohd Anuar Taib, Executive Vice President CEO of Upstream made their presence at the MOGSEC 2018 on 26th September 2018.

The VIPs toured the exhibition halls and spent their time meeting and discussing with MOGSEC 2018 exhibitors who showcased their latest innovations, products and expertise. Mr. Azmi Mohd. Noor (IMM President), Y.Bhg. Dato' Dr. Ir. Hj. Mohd Abdul Karim Abdullah (IMM Deputy President) together with IMM Council Members - Mr. Sofiyan Yahya and Y.Bhg. Dato' Udani Dato' Seri Mohamed Daud were at IMM booth to greet the VIPs on Day 1 and Day 2 of MOGSEC 2018.

Figure 2: Minister of International Trade and Industry (MITI), YB Darell Leiking (left) listening attentively to IMM President Mr. Mohd Azmi Mohd Noor (right) during his visit to IMM booth at MOGSEC 2018 in KLCC

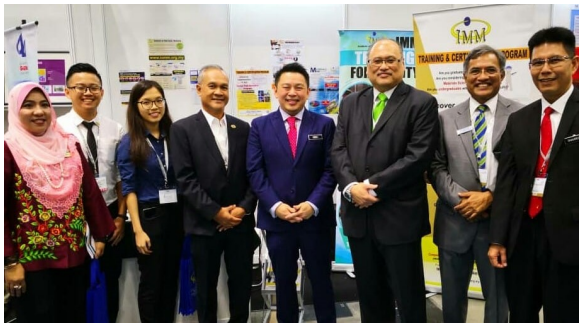

Figure 3: Minister of International Trade and Industry (MITI), YB Darell Leiking (fifth from the left) visited IMM's booth during MOGSEC 2018 at KLCC. Also present were MATRADE CEO Ir. Dr. Mohd Shahreen Zainooreen (far right) and Ts. Sharifah Zaida Nurlisha (far left)

IMM had a Minister Visit from YB Datuk Seri Mohd Redzuan Yusof, Minister of Entrepreneur Development MOGSEC 2018 who was greeted by IMM Education Committee Chairman, Ir. Max Ong Chong Hup and IMM Student Chapter Chairman, Assoc. Prof. Dr. Lim Teck Hock, on the Day 3, 26th September 2018.

Figure 5: Assoc. Prof. Dr. Lim Teck Hock (centre) presented a souvenir to YB Datuk Seri Mohd Redzuan Yusof, Minister of Entrepreneur Development (left) while Ir. Max Ong Chong Hup (right) looked on

At MOGSEC 2018, we saw 3,237 trade professionals of the Oil & Gas industry from all over the world showcasing their products and services; from the top stakeholder PETRONAS and key players including Sapura Energy Bhd, Velesto Energy Bhd, MMC Oil & Gas Engineering, Serba Dinamik and TM, among others.

The Innovation Centres located in Halls 1 and 2 kicked off with talks from industry experts including Y.Bhg. Dato' Ir. Guntor Tobeng (Managing Director of Gading Kencana Sdn Bhd) who presented his topic on "Business Opportunity in Renewable Energy Sector" and Mr. Fadhlan Nik Abdul Aziz (Head of Innovation from PETRONAS) who presented his topic on the Innovation Gateway @ PETRONAS.

Technical Talk by Prof. Dr. Atsushi Kajiwara


Reported by: Assoc. Prof. Dr. Melissa Chan Chin Han, Honorary Secretary of IMM
Reviewed by: Ts. Dr. Chew Khoon Hee, Chairman of Polymer Committee

Date: 5th November 2018
Venue : Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam

Polymer Committee of Institute of Materials, Malaysia (IMM) has been playing an active role in promoting polymer science locally and internationally. IMM Polymer Committee co-organized a technical talk with Faculty of Applied Sciences (FSG), Universiti Teknologi MARA (UiTM), Shah Alam on 5th November 2018. Prof. Dr. Atsushi Kajiwara from Nara University of Education, Japan, presented his talk entitled "Radical Polymerization Reactions Observed by Electron Spin Resonance Spectroscopy (ESR)" to the researchers and the postgraduates in FSG.

Prof. Dr. Atsushi Kajiwara shared his vast experience on ESR spectroscopy to clarify the fundamentals of radical polymerizations. Optimization of measurement conditions allows direct detection of radicals in polymerization reactions and well-resolved ESR spectra can be obtained. The spectra provide information not only on the structure, properties, and concentration of radicals but also information on the initiating and propagating (oligomeric and polymeric) radicals in radical polymerizations. He received a lot of questions from the floor and the interactive discussion was beneficial to the participants.

Figure 1: Some of the participants

Figure 2: Assoc. Prof. Ts. Dr. Rozana Mohd Dahan (left) presented a token of appreciation to Prof. Dr. Atsushi Kajiwara

Figure 2: The local organizing team in FSG
Assoc. Prof. Ts. Dr. Rozana Mohd Dahan (front row, left two); Assoc. Prof. Dr. Melissa Chan Chin Han (front row, right two) and Dr. Nor Juliana Mohd Yusof (Second row, left two)

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First IMM International Applied Vibration Conference


Reported by: Dr. Mohamed Ackiel Mohamed, Serba Dinamik Group Bhd, IMM Council Member
Edited by: Dr. Zulkarnain Kedah, Serba Dinamik Group Bhd, IMM Hon-Treasurer

Date: 21st – 22nd November 2018
Venue: Parkroyal, Bukit Bintang, Kuala Lumpur

Asset owners and engineers from Oil & Gas, marine, automotive and locomotive industries and even academicians cannot deny the need and importance of vibration technology as an effective diagnostic tool to troubleshoot various problems related to design, construction, operation or maintenance. It has been a proven technology for decades and is very relevant in the era of Industry 4.0. especially when Internet of Things (IOT), Big Data & Data Analytics, Artificial Intelligence (AI) and smart technology are the current trend, it is important to know how to take advantage of the trend and remain relevant while performing vibration analysis. Taking this into consideration, the IMM vibration committee organized a 2-day International Applied Vibration Conference (IAVIC), themed 'Advancement of Vibration Technology in the 21st Century' which is the first of its kind. The IMM vibration committee is the largest technical committee that represents the Vibration community in Malaysia. The IMM vibration committee consist of captains of the industry as well as senior technical specialists from leading organizations such as Petronas, Shell, Woodgroup, Vibratec, Serba Dinamik, RZF Engineering, Baytech and AFCM as well as renowned academicians from UTM, UiTM, UM, UTAR, USM and UNIKL. In addition to that, senior engineers from government agencies such as SIRIM, the R&D arm of the Ministry of Defence and the Royal Malaysian Navy are also active members of the organising committee.

The event started with the prayer recital by Dr. Zulkarnaen Kedah, the IMM Hon-Treasurer and continued with Opening speech by the IMM President, Tuan Mohd Azmi Mohd Noor. IMM Deputy President and the Chairman of the Vibration Committee, Dato' Dr. Ir. Mohd Abdul Karim Abdullah then delivered the welcoming speech, while addressing the importance of embarking on the key components of the industrial revolution 4.0 related to vibration technologies. Next on stage was the much awaited guest speaker, Mr. Fadhlan Nik Abdul Aziz, Head of Innovation, Petronas, who delivered his speech entitled "Innovation Gateway@Petronas. He explained that, using PETRONAS crowdsourcing platform, the Innovation Gateway @ PETRONAS, innovative solutions from across the globe are welcome to submit proposals and pitch their ideas and that PETRONAS issue Technology Challenges to the global community to seek innovative solutions.

Continuing the morning session after the networking tea break was Keynote 1, Mr. Khairul Anwar Mohd Nor from Petronas, who delivered a thoughtful speech entitled 'Application of Vibration Signature to Diagnose Gas Turbine Engine Stall'. He stressed that starting up a gas turbine can be very time consuming when dealing with rare issues that had never been experienced before or problems with the least anticipated probability of occurrences. He then shared how vibration measurement as a part of Condition Monitoring Technique can help to determine immediate root cause of GE LM2500 aero derivative Gas Turbine engine stalled during start-up, for non-related vibration issue or case. The morning session continued with the presentation entitled 'Frequent Centrifugal Compressor Failure on Production Platform' by Mr. Juarez Lowe, VROC (Australia). Mr. Juarez explained the possibilities and successful cases of applying big data analytics, neural networks and deep learning to extrapolate the data with incredible speed and learn over time. The third speaker of the morning session on Day 1 was Ir. Dr. Alex Ong Zhi Chao from University Malaya who delivered a speech on 'Impact - Synchronous Modal Analysis (ISMA) - An Alternative for Operational Modal Testing'. His presentation and work received a loud applause from the floor with many keen questions and enquiries on furthering his research and work on the presented title. The final speech for the morning session of Day 1 was delivered by Ahmad Nu'man Ahmad Fawzal from AF Condition Monitoring who talked about 'Dealing Vibration with Ageing Process Facilities Rotating Equipment'. He sparked interest from the delegates by shedding light on how to determine the priority in solving the malfunction issues related to vibration because ageing facilities are also exposed to combination of machinery faults which contributes to high vibration issue. The event then stopped for lunch and networking session.

Keynote Speaker 2, right after the lunch break was Mr. Nicholas Vincent from Vibratec (France), who conveyed a presentation titled 'A Methodology for Railway Ground Borne Noise and Vibration Prediction'. Moving away from the oil and gas industry, Mr. Nicholas gave the audience new application perspectives by explaining the development and validation of 3D FEM models that include boundary conditions to avoid wave reflections at the model extremities, adapted for railway ground borne vibration. He presented a case study that covered all the physical phenomena, from the simulation of the train-track interaction to the inside building response. Mr. Fairuz Salleh from Serba Dinamik Group Berhad came up next with his topic of choice, namely 'Motion Ampli-cation - Seeing is Believing'. As much as the title, he managed to keep the delegates glued to their chairs, with an exciting new concept in vibration measurement that is bound to cause a certain amount of disruption in the market. The final speaker of Day 1, Mr. Henry Chua from Emmerson then presented with the title, 'Digital Transformation of Monitoring Assets Case Stories and Coming Trends'. He clarified on how Emerson's development of vibration monitoring products and solutions are changing and keeping pace with the current Digital Transformation wave. Before concluding the Day 1, a forum entitled 'The Significance of Vibration Technology in the Industry 4.0' was held, moderated by Prof. Dr. Andy from UTAR. The panelist consisted from the list of speakers in Day 1.

Figure 1: Forum on Day 1 entitled 'The Significance of Vibration Technology in the Industry 4.0'

Figure 2: Delegates on Day 1 of the IAVIC

Day 2 started with the same amount of energy and excitement through a well delivered talk by the Keynote speaker 3, Mr. Mohd Syukri Mohd Khalid from Sarawak Shell Bhd who spoke about 'Vibration Analysis on Turbomachinery'. His thoughts as well as case study presented caused an interesting debate and questions from the delegates as he provided them a comparison of the advantages and disadvantages of the varied modern techniques used or recommended in today's industry for condition monitoring. Mr. Rob Swindell from Wood PLC, United Kingdom went up next, right after the morning break with a thought-provoking topic, 'The Energy Institute AVIFF Guidelines: 10 Years of Learning'. His presentation examined what has been learned from using the guidance over the last 10 years, as well as some of the key technical aspects from several recent Joint Industry Projects that will feed into the new revision. The session continued with a renowned senior engineer from the local automotive industry, Ir. Azmi Osman from Proton Bhd. His topic of choice was 'Essential Design Concepts and Features to Improve NVH in Modern Engines'. He deliberated the various design concepts and features to reduce noise and vibration that can be applied to critical engine parts like cylinder block, oil pan and windage tray.

The final speaker of the Day 2 morning session was Ir. Dr. Zainal Fitri Zainal Abidin from UNIKL MFI with his speech entitled, 'Door Closing Jury Testing Using Non Parametic Statistical Method'. His fascinating study explored the parametric test for doing the ranking for the selection of the best to worst door closing sound. The morning session on Day 2 was then adjourned to pave way for the much awaited lunch break and networking session. Continuing the conference after the lunch break, the delegates were again glued to their seats with an eye opening presentation and superb oral skills by Commander Ir. Dr. Arman Ariffin, from the Royal Malaysian Navy entitled 'Vibration Battle on Royal Malaysian Navy Warships'. In his speech, an overview of the preparation of the Royal Malaysian Navy towards the Industrial Revolution 4.0 was presented as well as some existing project and future development program in the Royal Malaysian Navy were also discussed.

Continuing the momentum, the next speaker on stage was Mr. Ngeow Yeong Ken from SKF with his presentation entitled 'Wireless Vibration Monitoring'. He introduced the latest technology and process to transform industry through data connection, collection, correlation and collaboration in SKF and explained further how machine can keep track of themselves instead, issuing a warning if something needs to be fixed and indicating the best time to do the repair work. The last speaker of the conference, Mr. Tiago Feliaciano from SEMEQ, Brazil talked about the 'Advancement of Vibration Technology In the 21st Century'. He explained the major features they should consider when comparing and buying vibration sensors available on the market. Before the very well summarized closing speech by Dato' Dr. Ir. Mohd Abdul Karim, a forum was again held on Day 2 entitled, 'Challenges to Increase Vibration Analysis Relevance in the 21st Century' moderated by Ir. Azmi from Proton with the Day 2 speakers participating as the panelists. All in all, the conference was attended by 150 delegates, 12 exhibitors, with 5 key notes and 12 speakers delivering various topics from a wide range of industries. This international conference showcased the latest technologies and methodologies from the vibration world through relevant topics and case studies to support and enlighten the above mentioned statements. Participants were able to engage and learn something new from industry leaders and academicians from top universities. From keynote speeches to exhibition, from forum to demonstration, IAViC covered it all. Kudos to the organising committee and all the conference sponsors.

ACADEMIC VISIT TO IMM INTERNATIONAL APPLIED VIBRATION CONFERENCE (IAViC) 2018

Reported by: Anis Syahirah Ramli, Universiti Teknologi MARA, Shah Alam

Reviewed by: Dr. Tay Chia Chay, Universiti Teknologi MARA, Shah Alam

Date: 22nd November 2018
Venue: Royale Chulan Hotel, Kuala Lumpur

The IMM International Applied Vibration Conference (IAViC) 2018 was organized on 22nd November 2018 at Royale Chulan Hotel, Kuala Lumpur. Forty students from the Faculty of Applied Sciences, Universiti Teknologi MARA (UiTM) Shah Alam joined this event. The panels of experts from industry presented on applied vibration. Asset owners and engineers from oil & gas, marine, automotive and locomotive industries cannot deny the need and importance of vibration technology effective diagnostic tool to troubleshoot various problems related to design, construction, operation or maintenance. Professionals have shared their challenges as well as hands-on experiences, thus providing students a glimpse of the real-life working environment in the industry. During the conference session, the students also visited the exhibition booths. The exhibitors shared their experience and introduced applied technology to the students.

Overall, this event has received positive feedback from the students. Their interest and knowledge in materials sciences and applied vibration were greatly increased and they would be interested to attend similar events in the future. In a nutshell, students from Faculty of Applied Sciences, UiTM Shah Alam would like to express their sincere appreciation to IMM for the opportunity to attend this event.

Figure 1: Student members of IMM from UiTM student chapter attending the conference

One-Day Conference on Ageing Facilities Management 2018

Reported by: Syarifah Nazliah Syed Abdul Rahman, BSSTECH CP (M) Sdn Bhd, IMM Corrosion Committee, Secretary
Edited by: Leow Chun Ho, Sarawak Shell Bhd, IMM Corrosion Committee, Treasurer & Ir. Ong Hock Guan, Sarawak Shell Bhd, IMM Corrosion Committe, Chairperson

Date: 18th October 2018
Venue: Corus Hotel, Kuala Lumpur

Ageing Facilities Management conference was successfully organized by Institute of Materials, Malaysia (IMM), Corrosion Committee at Corus Hotel, Kuala Lumpur on 18th October 2018. The event was attended by a total of 104 participants, 10 esteemed speakers, 14 exhibitors and a keynote speaker.

Figure 1: Keynote Presentation by Ir. Ong Hock Guan

Across the world, heavy engineering facilities contribute a major proportion of the GDP of all advanced and developing nations. However, majority of these assets are ageing, and many have already exceeded their design life. Replacing these facilities with entirely new assets is not economically feasible so it is imperative that comprehensive asset integrity, corrosion management and life extension programmes are initiated.

As the facilities age the profitability and returns from the assets are threatened by integrity, safety and reliability issues. The global costs associated with keeping mature facilities in service is expected to be USD 31.66 Billion by 2023. However, if their production capability can be maintained, extending the life of these assets provides benefits that far outweigh the costs. Realising these benefits is challenging and any life extension programmes needs to be cost effective while preserving the integrity and capability of the assets.

Many of these issues of aging assets are attributable to corrosion degradation and may lead to; disruption of smooth operations, failures, LOPC/leaks, accidents and unplanned shut-downs. This one-day conference is organised to focus on corrosion management of ageing assets. However, the subject is complex and conference also explored the latest industry strategies, best practices, research program, lessons learned and innovative thinking surrounding the wide range of issues that affect the integrity, ageing, and life extension of mature assets.

Figure 2: Networking session during break time

Figure 3: Participants during the presentation session

Figure 4: Expert Panel Session

The one-day conference provided an effective platform at bringing together experiences, knowledge and ideas to share and manage ageing assets in a holistic way going forward. Presenters from various industries and academia who are involved in plant/facilities operations and maintenance, inspection and monitoring, protective coatings, corrosion management and insulation gathered to present their knowledge and sharing their experiences. Furthermore, the expert panel session which was the last session of the day has drawn much attention and constructive conversations among the participants. As always, “An ounce of prevention is worth a pound of cure” because the time spent today to manage our ageing facilities will improve SAFETY, RELIABILITY and reduce COSTS in effective asset integrity management.

Finally, IMM Corrosion committee would like to express appreciation to our local and overseas presenters, delegates and exhibitors who participated in the conference: -

- IEV Malaysia Sdn Bhd & IEV Technologies Pte Ltd (Singapore) (Sponsor)
- Integrity Synergy Solutions Sdn Bhd (Sponsor)
- Suez Water Sdn Bhd (Sponsor)
- Temperlite Insulation (M) Sdn Bhd (Sponsor)
- Greenfield Products Sdn Bhd
- Flakeshield Sdn Bhd
- Universal Corrosion Engineering Sdn Bhd.
- Rohrback Cosasco Systems, Inc.
- GPT Resources Sdn Bhd
- Norimax Sdn Bhd
- Rosen Group
- Oxifree Global LLC
- MCU coatings (Geopolitan Sdn Bhd)
- Whitebread Engineering Sdn Bhd

30th Asian Welding Federation Meeting


Reported by: Tan Su Anne, Petroliam Nasional Bhd, IMM Council Member, Chairperson, IMM Welding Committee
Edited by: Dr. Mohamed Ackiel Mohamed, Serba Dinamik Group Bhd, IMM Council Member, Deputy Chair Welding Committee

Date: 24th – 28th October 2018
Venue: Myanmar Engineering Society (MES) Head Office, Yangon

The 30th Asian Welding Federation Meeting (AWF) was held on the 24-28th October 2018 at the Myanmar Engineering Society (MES) premises within the Hlaing Universities Campus, Yangon. Representing the IMM Welding Committee at the meeting were Dr. Mohamed Ackiel and Ms. Tan Su Anne, while other participants included delegates from China, Japan, Indonesia, Malaysia, Myanmar, Philippines and Singapore.

On the first morning, the delegates were chauffeured to the Myanmar Engineering Council Building, where they had the honour of officiating the Myanmar Welding Show 2018. Welding show included welding technologies such as Auto-TIG machines, welding consumables, training bodies as well as inspection and NDT technologies. After visiting the booths at the welding show, the delegates made their way to the Myanmar Engineering Society for the AWF meeting.

Figure 1: AWF meeting held at the MES Head Office

The second day of the AWF meeting began in the morning, with the topic of discussion geared towards the requirements and implementation plan of the Common Welder Certification Scheme (CWCS) in the various member countries. The establishment of a common certification scheme for welders has been a common goal since the founding of the AWF and is an integral part of the federation's aim of providing knowledge, skills, and qualifications to the people of Asia while supporting the Asian countries' economic development.

On the same afternoon, the delegates attended the launching ceremony of the Myanmar Society of Welding Engineering (MSWE). The event was officiated by the president of the MES, Mr. U Aung Myint, while the congratulatory address was provided by Mr. Sze Thiam Siong, Honorary Treasurer of the Singapore Welding Society, who expressed his admiration at how fast Myanmar has progressed since her economic liberalisation in 2011.

Figure 2: Launching ceremony of the Myanmar Society of Welding Engineering

In the evening, the delegates were at the Sedona Hotel, where the AWF dinner was held. It was a warm and friendly event and a great opportunity for the delegates to network and gain a better appreciation of the similarities and diversity of each other's cultures.

The AWF Auditor workshop was conducted on the final day, followed by the AWF auditor and examiner examination, for delegates who wished to sit for the examination. About 30 other local examinees were also present at the examination for both auditor and examiner papers. The examination ended at around 4 pm, after which the delegates returned to their respective destinations.

IMM TRAINING & CERTIFICATION PROGRAM

Coating Certification Scheme

1. Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2 (discontinued)
2. Certified Blasting and Painting Supervisor (discontinued)
3. Certified Coating Inspector Level 1 & Level 2
4. Certified Coating Quality Control Technician
5. Corrosion Control by Protective Paints
6. Certified Thermal Spray Coating Applicator
7. Basic Knowledge on Corrosion Protection for Technicians and Engineers
8. Certified IMM-SSPC C6 Surface Preparation and Paint Application for Power Tool Cleaning Operators and Brush and Roll Paint Applicators
9. Certified IMM-SSPC C7 Abrasive Blasting [a]
10. Certified IMM-SSPC C12 Spray Application [a]
11. Certified IMM-SSPC CAS L1 Coating Applicator Specialist Level 1 [a]
12. Certified IMM-SSPC CAS-L2 Coating Applicator Specialist Level 2 [a]
13. Certified IMM-SSPC CAS L3 Coating Applicator Specialist Level 3 [a]
14. Certified IMM-SSPC C7 (Blasting) & C12 (Painting) Instructor [a]

Materials Courses

1. Materials Selection & Corrosion
2. Metallurgical Failure Investigation
3. Basic Course on Operation of Mobile Air Compressor

Coating Fingerprint Certification Scheme

1. Coating Fingerprint Foundation Course
2. Certified Coating Fingerprint Quality Controller
3. Certified Coating Fingerprint Trainer
4. Refresher Course of Certified Coating Fingerprint Quality Controller

Welding Certification Scheme

1. Certified Welding Inspector
2. IMM-JWES Welding Engineers Certification Courses (AWE/WE/SWE) [b]
3. Repair Welding of Pressure Equipment in Refineries & Chemical Plants
4. Welding & Joining Technology for Non-Welding Personnel
5. Steel Technology for Non-Technical Personnel

Flange Integrity Certification Scheme

1. Certified Flange Integrity Technician

A.P.I Courses

1. A.P.I 510 Pressure Vessel Inspector
2. A.P.I 570 Piping Inspector
3. A.P.I 653 Above Storage Tank Inspector

Vibration Certification Scheme

1. Certified Vibration Practitioner Category 1 [c]
2. Certified Vibration Practitioner Category 2 [c]
3. Certified Vibration Specialist Category 3 [c]
4. Certified Vibration Specialist Category 4 [c]

Corrosion Certification Scheme

1. Certified Corrosion Technician Level 1 & Level 2
2. Certified Cathodic Protection Technician Level 1 & Level 2
3. Certified Cathodic Protection Engineer
4. Corrosion Control by Cathodic Protection
5. Basic Corrosion & Coating Course
6. Certified Cathodic Protection Technologist

Thermal Insulation Certification Scheme

1. Introduction to Thermal Insulation
2. Certified Thermal Insulation Installer

Thermal Analyst Certification Scheme

1. Thermal Analyst Foundation Course
2. Certified Thermal Analyst
3. Certified Thermal Analyst Trainer
4. Refresher Course of Certified Thermal Analyst

and many more !!

[a] non-IMM course; certification scheme of the IMM in collaboration with The Society for Protective Coatings (SSPC) based on SSPC certification requirements.

[b] non-IMM course; certification scheme of the IMM in collaboration with the Japan Welding Engineering Society (JWES).

[c] based on ISO 18436

Updated on 23rd Mar 2018

INSTITUTE OF MATERIALS, MALAYSIA

ANNUAL REPORT OF THE COUNCIL FOR THE FINANCIAL YEAR ENDING 31ST DECEMBER 2018

Dear IMM Members,

On behalf of the IMM Council, I am pleased to present the Report of the activities of IMM covering the period from 1st January 2018 to 31st December 2018.

(I) IMM COUNCIL AND IMM MANAGEMENT COMMITTEE MEETINGS

For the year under review, the IMM Council held 4 meetings while the IMM Management Committee held 6 meetings.

Date	Event
	Council term: 2016 – 2018
9th February 2018	Council Meeting No. 8
	Council term: 2018 – 2020
13th April 2018	Council Meeting No. 1
27th July 2018	Council Meeting No. 2
23rd November 2018	Council Meeting No. 3
15th February 2019	Council Meeting No. 4 (to be held)

Date	Event
	Council term: 2016 – 2018
5th January 2018	Management Committee Meeting No. 11
2nd February 2018	Management Committee Meeting No. 12
	Council term: 2018 – 2020
6th April 2018	Management Committee Meeting No. 1
11th June 2018	Management Committee Meeting No. 2
20th July 2018	Management Committee Meeting No. 3
23rd November 2018	Management Committee Meeting No. 4

During the penultimate IMM Council Meeting No. 7 (term: 2016 – 2018) on 24th October 2017 at Kelab Golf Negara Subang, the IMM Council conducted elections from within the Council, in accordance with Clause no. 3.3.2.2 of the IMM Constitution for the posts of Deputy President, Honorary Secretary and Honorary Treasurer for the 2018-2020 Council Term.

Mohd. Azmi Mohd Noor (F3820) from Kebabangan Petroleum Oil Company Sdn Bhd continued his second term as President for 2018 – 2020 Council Term. The term of office for the President shall be two consecutive terms in accordance with Clause no. 3.3.2.1 of the IMM Constitution.

The following were elected:-
(1) Deputy President: Dato' Dr. Ir. Hj. Mohd Abdul Karim Abdullah (F7442)
(2) Honorary Secretary: Assoc. Prof. Dr. Melissa Chan Chin Han (F4118)
(3) Honorary Treasurer: Dr. Zulkarnain Kedah (F7911)
The IMM Council congratulated the above elected officials and look forward to their contribution towards the development of materials technology through the IMM.

(II) THE ACTIVITIES CARRIED OUT BY THE VARIOUS IMM WORKING COMMITTEES AND REGIONAL CHAPTERS ARE LISTED BELOW:-

DATE	ACTIVITY	COMMITTEE
	Council term: 2016 - 2018	
JAN	**Materials Mind Issue 19**	Editorial Board of Materials Mind
11 Jan	Website Committee meeting at IMM Secretariat office	Hon. Secretary, Dr Yong & IMM Secretariat staff
15 Jan	7th IMM Vibration Committee Meeting at Menara Dayabumi, Kuala Lumpur	Vibration Committee
16 Jan	Treasurer meeting at IMM Secretariat office	Dr. Zul, Suradi & Sarahah
23 Jan	Meeting with PlaTCOM Ventures Sdn Bhd at IMM Secretariat office	Hon. Secretary & IMM Secretariat staff
24 Jan	Inaugural symposium of Railway Infrastructure and Engineering – Theme: Benefits & Sustainability of Railway at Universiti Tunku Abdul Rahman, Bandar Sungai Long	Vibration Committee
27 Jan	2018 New Year Gathering Dinner at Imperial Palace Hotel, Miri, Sarawak	Miri Chapter
6 Feb	Signing Ceremony between IMM & Pusat Pembangunan Kemahiran Sarawak at Parkcity Everly Hotel Bintulu	Bintulu Chapter
27 Feb	8th Vibration Committee meeting at Menara Dayabumi, Kuala Lumpur	Vibration Committee
1 Mar	Corrosion Committee meeting at Menara Shell	Corrosion Committee
9 Mar	8th IMM Coating Committee meeting at Menara Dayabumi Kuala Lumpur	Coating Committee
16 Mar	IMM Vibration Seminar on Vibration Technology in the Era of Industry 4.0 at Impiana Hotel KLCC	Vibration Committee
16 Mar	The 28th Annual General Meeting at Impiana Hotel KLCC	All members
	Council term: 2018 – 2020	
20-23 Mar	Exhibition at Offshore Technology Conference Asia at Kuala Lumpur Convention Centre (KLCC)	IMM Secretariat staff
23 Mar	Meeting with PlaTCOM Ventures Sdn Bhd at Kuala Lumpur Convention Centre (KLCC)	Hon. Secretary
APR	**Materials Mind Issue 20**	Editorial Board of Materials Mind
3 Apr	1st IMM Vibration Committee meeting at Menara Dayabumi, Kuala Lumpur	Vibration Committee
6 Apr	Easter get together Dinner at Imperial Palace Hotel, Miri, Sarawak	Miri Chapter
12 Apr	Technical Talk/Visit at Navy Base, Lumut	Vibration Committee
13 Apr	1st IMM Coating Committee meeting at Jotun Paint, Section 23, Shah Alam	Coating Committee
21 Apr	IMM Workshop on Vision & Mission at Universiti Malaya's Engineering Cubes	Council
20 Apr	1st ISO meeting at Asia Pacific University	ECAP

25-26 Apr	2-day Comprehensive Rheology Workshop jointly organized by TA Instruments Sdn. Bhd. and Institute of Chemical Engineering (IchemE), UK held at Waters Analytical Instruments Sdn Bhd, Ara Damansara	Polymer Committee
3 May (MLC)	Materials Lecture Competition - Finals at University Teknologi Malaysia, Kuala Lumpur	MLC Committee
4-May	Strategic Technology Field Optimization Lembaga Teknologis Malaysia (MBOT) WP Hotel Kuala Lumpur	Hon. Secretary & ECAP Chairman
9 May	2nd Corrosion Committee meeting at Menara Shell	Corrosion Committee
14 May	Half day Seminar on "Corrosion Controls and Prevention" and a half day site visit to Cawangan Penguasa Kejuruteraan Armada Pangkalan TLDM, Lumut, Perak.	Corrosion Committee
22 May	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary, Hon. Treasurer & IMM Secretariat staff
25 May	Materials Mind – Website - Student Chapter- Polymer meeting at Paradigm Mall, Petaling Jaya	Materials Mind Editors, Website Committee, Student Chapter and Polymer Committee
26 May	2018 Buka Puasa Dinner at Imperial Palace Hotel, Miri, Sarawak	Miri Chapter
28 May	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary & IMM Secretariat staff
30 May	IMM Secretariat meeting at IMM Secretariat office	ECAP Chairman & IMM Secretariat staff
1 Jun	MoU Signing Between IMM and MBOT at Malaysia Board of Technologist, Putrajaya	ECAP Chairman
6 Jun	IMM Secretariat meeting at IMM Secretariat office	ECAP Chairman & IMM Secretariat staff
20 Jun	IMM ECAP meeting at IMM Secretariat office	ECAP
28 Jun	IMMR Staff meeting at IMM Secretariat office	IMM Secretariat & IMMR staff
28-29 Jun	Workshops to develop MJI-MR training modules at Corus Hotel	Asset Integrity Committee
JULY	**Materials Mind Issue 21**	Editorial Board of Materials Mind
2 July	2nd Corrosion Committee meeting at Menara Shell Kuala Lumpur	Corrosion Committee
11-13 July	Fatigue Analysis and Numerical Fatigue Assessment of Welded Steel Structure at Faculty of Mechanical Engineering, UiTM Shah Alam	Welding Committee
18 July	ECAP meeting at IMM Secretariat office	ECAP
23 July	2nd IMM Vibration Committee meeting at Menara Dayabumi, Kuala Lumpur	Vibration Committee
23 July	1st Polymer Committee meeting at IMM Secretariat Office	Polymer Committee
26 July	Eco-System Kick-Off meeting at Prescott Hotel Kuala Lumpur	Task Force on Eco-System
28 July	IMM-Miri Chapter: Get together Dinner at Han Palace, Grant Palace Hotel, Miri, Sarawak	IMM-Miri Chapter
7 Aug	2nd Young Professionals meeting at VibraTec Asia Pacific Sdn Bhd, Menara UOA Bangsar, Kuala Lumpur	Young Professionals Committee
8 Aug	3rd Corrosion Committee meeting at Menara Shell, KL	Corrosion Committee
9 Aug	3rd Young Professionals meeting at SUEZ Water Treatment (M), KL Sentral	Young Professionals Committee
10 Aug	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary, Hon. Treasurer & IMM Secretariat staff
16 Aug	Strategic Collaboration Signing Ceremony between Politeknik Sultan Azlan Shah (PSAS) at Politeknik Sultan Azlan Shah, Behrang, Shah Alam	Hon. Secretary
29 Aug	1st Internal Audit Meeting at IMM Secretariat office	ECAP & IMM Secretariat staff
30 Aug	1st Welding Committee meeting at Menara Dayabumi	Welding Committee
3 Sept	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary, Hon Treasurer & IMM Secretariat staff
13 Sept	Signing Ceremony of IMM-UiTM Student Chapter at Universiti Teknologi MARA, Shah Alam	Prof. Kamal, Hon. Secretary, Hon. Treasurer & IMM Secretariat staff
13-14 Sept	Comprehensive Rheology Workshop at Institute of Materials Research and Engineering, Singapore	Rheology Committee
21 Sept	1st meeting of Task Force on Coating Fingerprinting at Kelab Golf Negara Subang	Task Force on Coating Fingerprinting
22 Sept	Photo-session cum Dinner	Miri Chapter
24 Sept	3rd Corrosion Committee meeting at Menara Shell	Corrosion Committee
24 Sept	Memorandum Signing Ceremony with Malaysian Board of Technologies at Kementerian Pendidikan Malaysia	President & ECAP Chairman
OCT	**Materials Mind Issue 22**	Editorial Board of Materials Mind
5 Oct	Meeting with National Institute of Occupational Safety and Health (NIOSH) for Training Collaboration	Vibration Committee
5 Oct	1st meeting of Student Chapter	Student Chapter
6 Oct	Convocation of Politeknik Sultan Azlan Shah (PSAS) at Politeknik Sultan Azlan Shah, Behrang, Perak	President
10 Oct	1st Mock Execution Sub-Committee meeting at SIRIM Shah Alam	Task Force on Coating Fingerprinting

11 Oct	Dr. Andrew Ng won third place in the Young Person World Lecture Competition 2018 in South Africa	Materials Lecture Competition (MLC) Committee
12 Oct	Internal University Malaysian Lecture Competition at Curtin University Malaysia	IMM-Miri Chapter and Curtin University Malaysia
13 Oct	Signing Ceremony of Certificate of collaboration with Politeknik Kota Kinabalu Sabah 2018	President
18 Oct	Corrosion Conference "Ageing Facility Management" at Corus Hotel Kuala Lumpur	Corrosion Committee
18 Oct	1st Coating Committee meeting at PETRONAS Twin Towers, Kuala Lumpur	Coating Committee
24 Oct	2nd Mock Execution Sub-Committee meeting at SIRIM Shah Alam	Task Force on Coating Fingerprinting
24-28 Oct	Participation of Asian Welding Federation meeting in Yangon, Myanmar	Welding Committee (Chairman & Deputy Chairman)
25 Oct	ECAP Audit Findings meeting at IMM Secretariat office	ECAP, Hon. Secretary and IMM Secretariat staff
26 Oct	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary & IMM Secretariat staff
30 Oct	IMM Website hands-on training by SWD Webtech on at UiTM	Dr Tay Chia Chay and Dr Yong Soon Kong
31 Oct	Industrial Talk by Datuk Ir. Murad	Southern Chapter & IMM –UTM Student Chapter
1 Nov	IMM-Curtin Industrial/Technical Talk on "Advance NDT – Digital Radioigraphy" at Curtin University Malaysia Miri Campus	Miri Chapter
2 to 4 Nov	Kuala Lumpur Engineering Science Fair (KLESF 2018) at Mines International Exhibition & Convention Centre, Seri Kembangan	Student Chapter
5 Nov	Technical talk on "Radical Polymerization Reactions Observed by Electron Spin Resonance Spectroscopy (ESR)" at Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam	Polymer Committee
5 Nov	Participation of One-day Industry 4.0 Awareness Program" organized by Institute of Engineers, Malaysia (IEM)-Miri Branch at Curtin University Malaysia Miri Campus	Miri Chapter
6 Nov	Participation of One-day IEM Conference & Dialogue Forum on Plant Reliability" organized by IEM-Bintulu Region at Multipurpose Hall, Kelab Kidurong Bintulu, Sarawak.	Bintulu Chapter
9 Nov	2nd meeting of Task Force on Coating Fingerprintinh at Kelab Golf Negara Subang	Task Force on Coating Fingerprinting
16 Nov	MLC2019 committee meeting at Universiti Teknikal Malaysia Melaka	MLC committee
19 Nov	1st IMM Southern Chapter meeting	Southern Chapter
21-22 Nov	IMM International Applied Vibration Conference (IAViC) 2018-Advancement of Vibration Technology in the 21st Century at Park Royal Kuala Lumpur	Vibration Committee
23 Nov	1st Year Material Student Welcoming Event	Southern Chapter
26 Nov	4th Corrosion Committee meeting at Menara Shell	Corrosion Committee
26 Nov	Social Environmental Value meeting at Subang Parade	Polymer Committee
30 Nov	IMM Secretariat meeting at IMM Secretariat office	Hon. Secretary & IMM Secretariat staff
1 Dec	IMM-Miri Chapter: Get-together Dinner for celebrating Christmas and Year-End of 2018 at Imperial Palace Hotel, Miri, Sarawak.	Miri Chapter

In addition to the above committee & regional chapter activities, numerous IMM training courses and certification schemes such as the IMM Coating Inspector Course, IMM Blaster & Painter Scheme, IMM Coating Fingerprint Certification Scheme, The Japan Welding Engineer Society (JWES) Welding Engineer Course, IMM Corrosion Technician Certification Course, the new IMM Materials Selection & Corrosion and many others were held in 2018. Many of these certifications are mandatory requirements in the Malaysian Oil & Gas industry. IMM, through its subsidiary company, Materials Technology Education Sdn Bhd (MTE) organized these activities and MTE will present a separate report (**APPENDIX 1**) to members.

IMM understands the importance of impartiality in carrying out its certification activities and ensuring the objectivity of all its certification. Over the years, MTE have conducted numerous IMM courses on Coating, Coating Fingerprinting, Corrosion, Welding, Insulation, Vibration *etc*. Over 600 Coating Inspectors have been trained and certified as well as 2500 Blasters & Painters, Supervisors, Corrosion Technician and Vibration Practitioners. Its certification programs are recognized by PETRONAS and all oil & gas operators. Since January 2011, more than 70 Associate Welding Engineers, 80 Welding Engineers, 20 Senior Welding Engineers and 20 Coating Fingerprint Quality Controllers were trained and certified.

(III) HIGHLIGHTS OF ACTIVITIES IN 2018

FULL REPORT ON SECTION (III) CAN BE ACCESSED ELECTRONICALLY ON IMM WEBSITE (www.iomm.org.my).

(IV) SUMMARY AND MOVING FORWARD

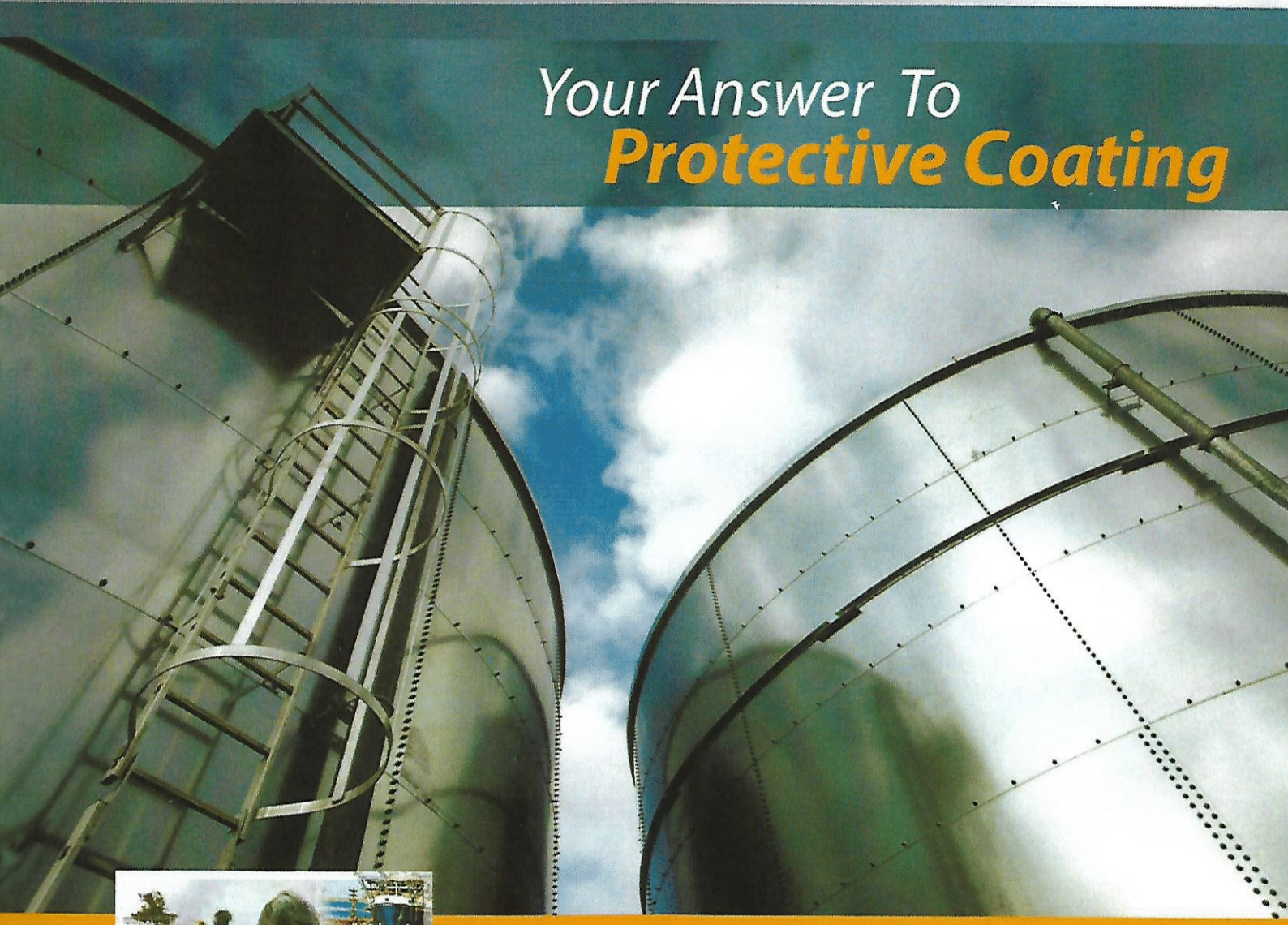
2018 was an eventful year for IMM. IMM aims to bring greater awareness of Materials Science & Engineering to all sectors of industry and academia and encourages everyone to join and share their knowledge, experience and expertise for the benefit of the nation.

The IMM Council would like to express sincere gratitude to all members of the Working Committees, Regional Chapters, and staff of the IMM Secretariat, staff of IMM Resource Sdn Bhd and staff of Materials Technology Education Sdn Bhd (MTE) for their continuing efforts to promote and fulfill the objectives of the IMM.

On behalf of the Council

Assoc. Prof. Dr. Melissa Chan Chin Han
Honorary Secretary
Date: 15th Jan 2019

Your Answer To
Protective Coating



Blasting & Painting Services

STANDARDS MALAYSIA
ACCREDITED CERTIFICATION BODY

QS 04082009 CB 10

ISO 9001:2015
BUREAU VERITAS
Certification

UKAS QUALITY MANAGEMENT
0008

UCE

UNIVERSAL CORROSION ENGINEERING (M) SDN BHD