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Institute of Materials, Malaysia

HIGHLIGHTS

- Vibration is a Hidden Peril in Human Life
- Permanent Magnetic Bearing for an Overhung System
- Materials Lecture Competition 2025, Semi-Final
- IMM Miri Regional Chapter – One-Day Corrosion and Corrosion Control Awareness Course for Oil & Gas Industry
- Oil & Gas Asia 2025



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ANNOUNCEMENT

NEW FORMAT FOR MEMBERSHIP EXPIRY DATE

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 Expiry Date: 4 November 2024



The membership expiration date is the day before the initial date of becoming a member



INSTITUTE OF MATERIALS, MALAYSIA

Suite 1006, Level 10, Block A, Kelana Centre Point,
No. 3 Jalan SS 7/19, 47301 Petaling Jaya, Selangor.

Tel: 03-76611591

03-76611592



secretariat@iommm.org.my



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Ts. Dr. Chew Khoo Hee
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29th March 2024

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 Suite 1006, Block A, Kelana Centre Point (Lobby A),
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Institute of Materials, Malaysia

Application for renewal of membership can be sent to secretariat@iommm.org.my

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INSTITUTE OF MATERIALS, MALAYSIA

CONTINUING PROFESSIONAL DEVELOPMENT REPORT

NAME: YEAR:.....
 IMM MEMBERSHIP NO:..... CERTIFICATION NO:.....
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CONTINUING PROFESSIONAL DEVELOPMENT (CPD) LOG (Supporting documents to be submitted wherever applicable)

Date or Period	Professional Development Activity Code & Description	Role	No. of Activity Hours	Weightage	No. of CPD Points
TOTAL					

Professional Development Activity Code	Professional Development Activity Scope	Weightage Factor
A	Attending Online or Physical Training Courses/Workshops	4
B	Online or Physical Course Trainer/Facilitator/Examiner/Conference Presenter	3
C	Attend Online or Physical Seminar/Conference/Webinar	2
D	Paper Author Main Author (max 30 hours/year) Co-author (max 10 hours/year)	2
E	Attend Online or Physical Committee Meeting	1
F	Fieldwork (max claimable 480 hours per year) **	0.1

- ** 1. Need to submit an endorsement from the superior/supervisor as evidence.
 2. Calculated based on the assumption that the minimum project duration of 3 months and 8 hours per day for 20 days.
 3. The minimum number of CPD Points accumulated for 5 consecutive years shall be 100 points.

CPD Points per year : 10 points minimum.
 CPD Points per 5 year for re-certification : 100 points.

Year						Total CPD Points
CPD Points						

I hereby declare that the information and particulars provided by me in this form is true and correct.

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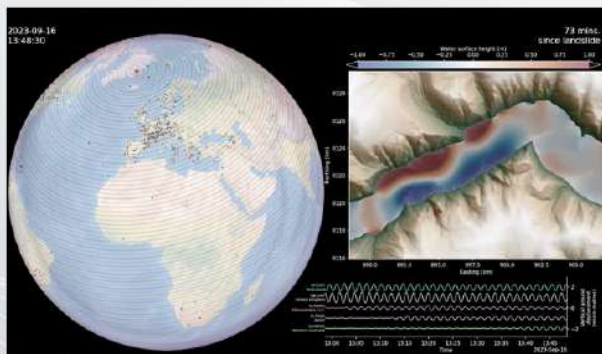
COVER STORY

VIBRATION IS A HIDDEN PERIL IN HUMAN LIFE



Azman Jamaludin
Institute of Materials, Malaysia (IMM)
Chairperson, Vibration Committee

Does anyone know that on 16th September 2023, the entire earth vibrated for nine days? The incident was triggered by the collapse of a glacier that occurred in Greenland, which has thinned in recent years as a result of climate change. The impact from the incident caused the ocean's water to slosh back and forth every 90 seconds across 20,000 km for nine days. The incident has been categorised among powerful vibration incidents that triggered beyond existing human knowledge of tsunami models. What does vibration mean for humans in our everyday lives? Is vibration a kind of waste energy and should be avoided? From my perspective and experience dealing with everything from the microscopic level of atoms to the level of planets like the earth, the sky, wind, fire, water, machines, trees and humans, they all vibrate at their own unique frequencies. I have mixed feelings about vibrations; some of the vibrations are useful, we need them in life, but some of them should be eliminated and avoided.



Looking at the context of the human body such as the heart, nerve, organs, blood including feeling, they are all vibrate, and we need them for our lives. The feelings that vibrate connect to the brain that syncs to a specific vibration frequency and can evoke strong emotions, leading to physical reactions like tears and laughs. So, what is vibration in the perspective of a mechanical engineer like me in our real life? From the scientific point of view, vibration is an energy that refers to the kinetic energy associated with the oscillatory motion of an object that is capable of being renewed, transformed or distributed to become another form of energy. It makes sense for an engineer, but what is it? A simple analogy we can take from a "buzz" sound from an insect, such as a bee, wasp, or fly, is created by the rapid flapping of its wings, which generates vibration energy in the air that is actually a pressure wave that we perceive as sound. Sound is always referred to the wave of particles in the air that swing back and forth in a regular rhythm, creating

a pressure wave and transmitting the pressure wave to the human's ears. In simple terms, sound is always referred to the effect of vibration. Like the above analogy, sound is a pressure wave for the "buzz", and vibration is the energy created by the flapping of wings.



Here, we recognised that sound was the result of a vibration event. The sound is measured by its pressure wave, quantifying the pressure variations in a sound wave and comparing it to a reference pressure with expressions in decibels (dB). The higher the vibration energy, the higher the sound pressure wave created from the event. A lower reference sound pressure of 0 dB represents the faintest sound a human can hear, 40 dB is as quiet as in a library, 60 dB is ordinary spoken conversation, while a higher sound pressure wave at 120 dB, like a rock concert, can cause pain, and ultimately 200 dB is almost certainly lethal to humans, causing instantaneous and catastrophic internal injuries such as ruptured lungs and blood vessels, potentially leading to death. Some references that we can refer to state that sperm whales are being recognised as the loudest mammals on Earth. Sperm whales produce sound pressure waves that can reach up to 230 dB and instantly can kill humans within their vicinity. The harmfulness of sound from sperm whales in the water is reduced to the ground because of density of water is higher than air. "Sperm whales are so loud they could potentially "vibrate" you to death—a title found in an online article written by Samantha Hartery (Hartery, n.d.).

The unpleasant sound created from the high pressure of a sound pressure wave is labelled as a noise, often defined in the public as an unwanted sound that is harmful, annoying, or interferes unreasonably with the convenience, peace, or comfort of a person or the public. Many developed countries, such as the European Union, Great Britain, China, the United States of America, Japan, and Korea, recognise that both vibration and noise have their own risks of harming society.

They are implementing laws on vibration and noise, focusing on specific areas for occupational health and safety in the workplace, structure, equipment and environment. But most of the countries in the world, including Malaysia, recognised noise as a threat, implementing laws to maintain social order, regulate behaviour and protection to the societies.

Noise is regulated under the Environmental Quality Act 1974 and Guidelines for Environmental Noise Limit and Control 2019 by the Department of Environment (DOE) and Occupational Safety and Health (Noise Exposure) Regulations 2019 and Guidance on Occupational Noise Control 2024 by Department of Occupational Safety and Health (DOSH).

Vibration is addressed by The Planning Guidelines for Vibration Limits and Control in the Environment, 2021 by Department of Environment (DOE) and Guidelines on Occupational Vibration, 2003 by Department of Occupational Safety and Health (DOSH). DOE manages environmental vibration while DOSH oversees occupational vibration and related industry codes, addressing human exposure to vibration from machinery in the workplace.

The key different between noise and vibration control in Malaysia is that noise have legally binding rules that are enforced, and carry penalties for non-compliance by the legal authority that also provides guidance and interpretations of the law while vibration carries guidelines for voluntary recommendations or suggestions that provide direction or clarification but do not carry legal obligations. Both the intentions of the noise regulations and vibration guidelines carry advantages for the country's economic growth.

We noted that noise is the result of a vibration event, but in some of the events, noise does not always reflect the magnitude of the vibration. Noise and vibration are measured by amplitude and frequency, but with different focuses on the pressure wave and motion. In modern days, mechanical manufacturing, production machinery, transportation and tools are considerably noisy to the environment. Different legislative acts and guidelines that followed limited the noise emission, especially in the public domain, driving a real deal for engineering to eliminate noise from manufacturing processes, tools, machinery and transportation to the environment. Noise separation systems have been introduced as a supportive system to reduce and eliminate noise, such as soundproofing materials, acoustic treatments, and barriers designed to absorb or insulate against noise. It is fair to say that most of the new generation of machinery, tools, cars are quieter than before. But reducing noise by a noise separation system will not reduce the actual vibrations from the machine. For example, a thick casing machine will reduce noise than a thin casing even they

experience the same vibration values or a new generation of magnesium-aluminium-cgi alloys for engine block with ribbing are quieter than traditional cast iron and aluminium engines. It has been obviously shown that sometimes noise and vibration are two different risks, and they are not reflecting on each other. These are the gaps that had proven the reason why vibration analysis is important and plays a crucial role in manufacturing, production and society. Vibration analysis is a technique that involves measuring and analysing the vibration patterns of machinery to detect early signs of mechanical problems and predict potential failures.

Some quote says, "The disadvantage of driving a luxury car today is not because of its comforts, but because of its running without noise".

Several providers in Malaysia offer vibration analysis training, adhering to international standards ISO 18436-2. These courses are designed to equip participants with the essential knowledge and skills required to identify potential machine failures through vibration analysis, thereby improving reliability and minimising downtime. Available training options include certification, public courses, virtual instructor-led sessions, and on-site training.

Organisations such as the Institute of Materials, Malaysia (IMM)-MTE, Mobius Institute, SPM Instrument, the Japan Society of Mechanical Engineers (JSME), Global Horizon Training Center, and Asset Reliability Practitioner provide training services aimed at enhancing knowledge in vibration analysis. They offer structured training programmes and assessments for vibration certification that globally recognised by industries. Some of the training organization provides a unique training program to enhance understanding of vibration such the Institute of Materials, Malaysia (IMM)-MTE covers practical learning experience in a workshop through enhancing their knowledge in balancing, alignment, collecting data and performing vibration analysis in real-time.

Furthermore, the Society of Vibration and Acoustics Malaysia (SVAM) is an organisation dedicated to raising awareness about vibration and acoustics. It actively stimulates research and development while facilitating the exchange of information within the fields.

In conclusion, the impact of vibration energy to human is unpredictable, even the vibration creates noise, but in many cases, noise does not reflect on the actual vibration in the real world. Malaysia well-governs the noise and vibration emission to the environment with regulation and guideline for the public and industries, but the level of awareness needs to be supported by the public and industries. Many organizations support to enrich knowledge of vibration in the Malaysia society and it appears to be increasing, particularly through training. Gaps in knowledge management still need to be assessed for the necessary enhancement in educational programs, robust enforcement of regulations and adequately informed

industries for continual improvement particular for safety and health of the public across various industry sectors in the country.

"Everything in life involves vibration." It was Albert Einstein, and it's true.

Have you ever thought that driving makes you drowsy?

Falling asleep at the wheel is due to the hidden hazard of artificial vibration to the human body. It is thought to be a factor in 250,000 deaths around the world every year. According to scientific research, being in a moving car for as little as 15 minutes can make you sleepy. In fact, seven cycles per second is the right frequency of vibration that matches to theta wave activity in the brain. In other words, that is linked to falling asleep. When you feel tired, don't drive!



Happy Deepavali

The Festival Of Lights



TECHNICAL TRAINING AND CERTIFICATION PROGRAM

THE FIRST VIBRATION PRACTITIONER COMPETENCY CERTIFICATION IN ASIA



CERTIFIED VIBRATION PRACTITIONER CATEGORY 1

BASED ON ISO 18436



The course aims at introducing the participants to entry level in vibration monitoring. It comprises of understanding the fundamentals of condition monitoring, basic vibration concepts and applications, and a hands-on session on the Dos and Don'ts in vibration data collection. The learning outcomes from the course include:

- Understand the different machinery maintenance programs
- Understand the basic principles of vibration (harmonic response)
- Identify suitable measurement points on machines
- Upload route measurements and download recorded data
- Recognize points that exceeds alarm limits
- Conduct route data collection
- Analyze synchronous, non-synchronous, and sub-synchronous vibration signature.

Course Objectives

- Introduce the concept of condition monitoring
- Introduce the basic principles of vibration
- Understand general vibration severity criteria
- Basic vibration instrumentation and signal analysis
- Practical session on data collection and data transfer

Course Content

1. Introduction to condition monitoring
2. Principles of vibration
3. Instrument & data acquisition
4. Signal processing
5. Basic vibration fault analysis
6. Correction action
7. Equipment knowledge (incl. Lab session)
8. Acceptance testing

Course Duration

4 days (include exam)

Who Should Attend

Engineers, supervisors, inspections and technicians.
Pre-requisite includes

Pre-requisites

SPM (sciences stream or vocational or equivalent) with at least credit in English and Mathematics with at least 6 months' experience in vibration monitoring.

Certificate

Competency Certificate of
IMM Certified Vibration Practitioner Category 1

Eligible for



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TECHNICAL TRAINING AND CERTIFICATION PROGRAM

THE FIRST VIBRATION PRACTITIONER COMPETENCY CERTIFICATION IN ASIA



CERTIFIED VIBRATION PRACTITIONER CATEGORY 2 BASED ON ISO 18436



This course helps prepare attendees to perform basic machinery vibration analysis on industrial machinery using single-channel measurements, with or without triggers signals, according to established and recognized producers. It covers basics of sensors, database and data collector setup, data collection, signal processing, fault analysis, and basics of single plane balancing. It is partial preparation for the Vibration Practitioner Category II certification exam. The workshops and demonstrations, scheduled throughout the training course, are used to illustrate theory and applications.

Course Objectives

- To highlight the impact of vibration management on health, safety and environment.
- To identify common vibration problems on machinery & its impact on production.
- To highlight the importance of vibration technology from the efficiency and productivity perspective.
- To equip participants with a strong testing, analysing, and diagnosing skills.

Course Content

1. Principles of Vibration
2. Data Acquisition
3. Signal Processing
4. Condition Monitoring
5. Fault Analysis
6. Correction Action
7. Equipment Knowledge
8. Reference Standards
9. Fault Serenity Determination

Who Should Attend

Technicians, supervisors, engineers or anyone who is holding Certified Vibration Practitioner Category 1 competency certificate is interested to upgrade his/her knowledge and career in vibration monitoring and analysing.

Pre-requisites

Passed Vibration Practitioner Category 1 and/ or possesses at least 18 months in vibration monitoring

Certificate

IMM Certified Vibration Practitioner Category 2

Course Duration

5 Days

Eligible for



CPD Points 25



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For Training Registration



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INSTITUTE OF MATERIALS, MALAYSIA

Background and History

The Institute of Materials, Malaysia (IMM) is a professional society and certification body that promotes honorable practice, professional ethics and encourages education and skills in materials science, technology and engineering. Engineers, academicians, technologists and technicians, skilled workers and other professionals are amongst its members and number more than 6000.

Vision

To be internationally recognized competency certification institution in Materials Science, Technology and Engineering

Mission

1. To be the technical authority on Materials Science, Technology and Engineering
2. To positively contribute to society and quality of life
3. To become an internationally recognized certification body
4. To develop and enhance competency and skills for all categories and practitioners
5. To be the platform for industry and academia collaboration



INSTITUTE OF MATERIALS, MALAYSIA

IMM Membership Grade

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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

★ Note: Associate, Affiliate Ordinary and Ordinary grade members can apply to upgrade their membership status to Professional if they meet the criteria

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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.

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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.

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

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A person at least 35 years of age with approved academic qualifications, training and 8 years relevant responsible experience of Materials Science and Engineering or has given distinguished service to industry or education

★ Note: No direct application is allowed. Only upgrading of membership is allowed. Professional, Associate, Affiliate Ordinary and Ordinary grade members can apply to upgrade their membership status to Fellow if they meet the criteria.

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

ORDINARY

Any Malaysian Citizen and above the age of 18 years engaged in activities related to research, development and application 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

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

TECHNICAL ARTICLE 1

Permanent Magnetic Bearing (PMB) for an Overhung System

Azman. Jamaludin¹, M Zarhamdy M Zain¹, Nur Safwati Mohd Nor¹, M Azmi Kamari²

¹Faculty of Mechanical Engineering, Universiti Teknologi Malaysia, 81310 Johor Baharu, Malaysia.

²Engineering Department, Crescent Engineering (M) Sdn Bhd, 42100 Klang, Malaysia.

Introduction

The application of the overhung rigid rotor system has commonly been used in the industries since the beginning of industrial era. Reliable engineering standards have been developed to support the manufacturing and operation of an overhung rigid rotor system for a machine. Elijah [3] has clearly defined an overhung rigid rotor system as one in which the balance correction plane is situated outside the supporting bearings and whose rotational speed is significantly below the first critical speed. This research aims to adopt existing industrial engineering standards for an overhung rigid rotor system while exploring the usage of permanent magnetic bearing for replacing the function of conventional radial as shown in Figure 1. In nature, the usage of permanent magnet as a bearing for an overhung rigid rotor system is a significantly unstable system that requires control elements for system stabilization. These claims are supported by British mathematician Samuel Earnshaw who demonstrated his theorem, which states that no stationary object made of magnets in a set arrangement can achieve stable equilibrium through any combination of static magnetic or gravity forces. A dynamic rigid rotor system must possess at least one control element at any axis to achieve stability. This study focuses on the construction of a radial magnetic bearing, employing a hybrid technique for the development of a radial bearing element. An analysis will be conducted focusing on parameters such as bearing stiffness, equipment lifespan, and electrical power consumption under varying loads, temperatures, and bearing clearances.

Related Work

According to Greek legend, magnetism was first discovered by a shepherd named Magnes who found his stick attracted to the magnetic rock. The stone was named magnetite. Later in ancient China, people used a spoon made of magnetite that pointed south as a compass from the 2nd century BC as per Figure 2.

The scientific term of Magnetic fields (H) begins with the discovery of electromagnetic, discovered by the Danish physicist Hans Christian Oersted in 1820. This sparked great research by André-Marie Ampère, who discovered

Ampère's law on the relation between the two magnetic forces of two current-carrying wires. 40 years later, James Clerk Maxwell introduced the concept of Magnetic flux density (B) and Magnetic Moment (m) which establishes the concept of Magnetization (M) for a permanent magnet. A series of practical innovations in the 20th century, most notably, the discovery the development of magnet applications.

In 1954, Baermann [1] developed the permanent magnetic bearing, and Backers [4] provided an in-depth review of his work at Philips Laboratory.

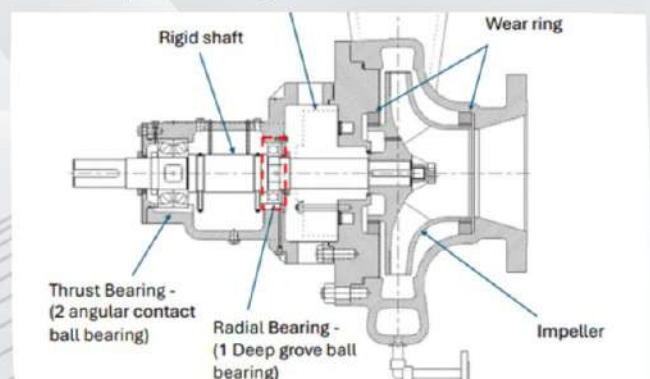


Figure 1: Schematic of an overhung system and the location of radial bearing for the B-Series API 610 OH1 Pump. (Amarinth [1])



Figure 2: South-pointing spoon of Si Nan spoon compass Model of a magnetic compass used in Chinese ancient. (Tsurkan, V. & Nidda, H. & Deisenhofer, J. & Lunkenheimer, Peter & Loidl, Alois [5])

Mathematical Model for a Horizontal Radial Magnetic Bearing

This research has developed a mathematical model and simplified the overall maximum force (F_{MAX}) for $d=10\text{mm}$ is standardized with $(\frac{d}{\lambda})$ by a constant C_{10} of 1.2783 as given below,

$$F_{MAX} = 1.2783 \left(\frac{2LRB_r^2}{4\mu_0} \right) \quad (1)$$

d = ring thickness

λ = ring width

L = total width

R = mean radius

B_r = remanence magnet

μ_0 = magnetic air permeability

A rigid structure for the base plate and rotor has been constructed according to industrial standard to achieve stability of the overhung system. A multi-ring of N35 grade magnet axially magnetized for an operating temperature of 80°C has been considered for a total 17.8 kilogram (kg) of rotor mass. Rotor deflections, ambient temperature, base plate size and weight are considered as the external factors that has been validated to minimize system distributions that may occurs in overall result for vibrations to the system.

Designing the magnetic bearing housing requires a proper design for rotating and static element sections (Figure 3). A stiff housing structure is required to separate this section, especially for handling high axial force. Equation (1) created a pressure (Pa) between static and rotating element section for an air gap with found to be maximum at 0.344 mega-pascal (mPa) in generative pressure between the rings, above than design load of the rotor. High axial force acting on rotating sleeve secured to the shaft with calculated multiple grab screws and shaft inference with rotating sleeve at is designed to accommodate misalignment according to JIS B 0401 (1999). Overall axial thrust system is suited with two angular contact ball bearings, arranged in back-to-back arrangement with a split casing bearing housing according to ISO 113:2010. Maximum tolerance for axial movement to the rotor is at $300\text{ }\mu\text{m}$ according to American Petroleum Institute (API) 610 11th edition.

Designing the shaft manufactured from rolled round steel forgings for $\varnothing 50\text{ mm}$ step diameters withstand the role of bending moment and torque with Marine grade according to DIN 1.4401, X5CrNiMo17-12-2, 316S16, Z6CND17.11, SUS316, 2347 in a consideration of load and wear, corrosion resistance, temperature and thermal expansion and machinability and maintainability. The shaft flexibility factor (SFF) is according to the overhung system calculation and Industrial Standard American Petroleum Institute (API) 610 11th edition for Shaft flexibility index (I_{st}) for length 1 (L_1), length 2 (L_2), diameter 1 (D_1) and diameter 2 (D_2) as shown in Equation (2) and Figure 4.

$$SFF = \frac{L_1^3}{D_1^4} + L_1 \cdot \frac{L_2^3}{D_2^4} \quad (2)$$



Figure 3: The arrangement of magnetic bearing assembly

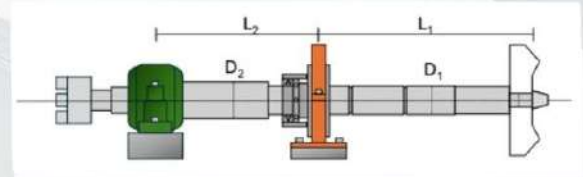


Figure 4: Schematic arrangement for magnetic bearing assembly.

Experimental Set Up and Result

Multiple points have been considered during the test, including rotational speeds of 30 %, 50 % and 83 % at 300 rpm with a rigid base plate of 141.7 kg and a constant ambient room temperature of 26.5°C . At two different loads, 15.7 and 17.7 kilograms (kg), at three with bearing spans at 300, 400 and 500 mm, multiple deflection values have been formed for the PMB sleeve at 0.444, 1.294, 0.444, 1.294, 0.310, 0.334, 0.973, 0.197 and PMB 0.132, 0.179, 0.114, 0.172, 0.246 and 0.145 mm. The reaction profiles have also been formed in the system at 71.8, 74.8, 87.9, 91.8, 115.1, and 120.4 Newtons. The PMB has a maximum force capability of 570 Newtons. The test has been successfully conducted with a small power of motor at 1.9 times lower than the conventional power requirement for a conventional bearing as shown in Figure 5. The figure shows a complete structure on an overhung system which consist of an impeller; a set of loads in the system,

Permanent Magnetic Bearing (PMB) assembly with a set of PMB cartridge with housing, a conventional thrust ball bearing; two sets of ball bearing with split housing, electric motor and a controller. It is revealed that the PMB is able to absorb misalignment at the sleeve and PMB, even when the condition was 2 times higher than a conventional number of deflection values for normal sleeve bearing clearance. The test also revealed that the loss of magnetic volume efficiency was more than 12 % due to shaft sagging is the biggest contributor to limiting the operation of the system.

It is essential to make the right material choices and understand their behaviour in order to develop a magnetic bearing that is appropriate, with a particular emphasis on axial forces.



Figure 5: The arrangement for an overhung PMB assembly.

Conclusion

This research provides a thorough review and advancement of magnetic bearing technology which proves that PMB can reduce vibration and subsequently reduce noise to the environment. Multiple references have been made, including with mathematical models with the enhancement of Maximum Force (F_{Max}) for standardization with other design patterns and size, defined stretch limit for magnetic volume efficiency loss more than 12 %, alongside with constructions of magnetic bearing concept design featuring with a compact housing, as well as insights gained in misalignment, reduction of power and bearing support.

Acknowledgement

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(1) Jamaludin, Azman & Zain, M & Nor, Nur & Kamari, M. (2025). Modelling and Construction of Radial Magnetic Bearing for an Overhung System. 71-77. 10.1109/ICCRT63554.2025.11072800.

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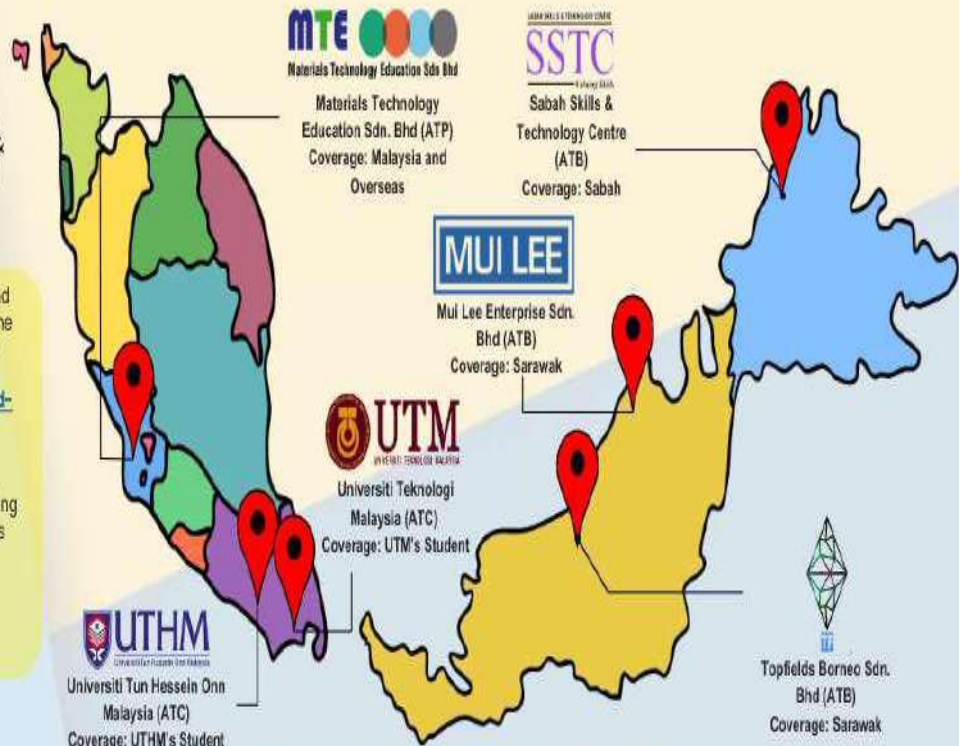
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- 1 year as Authorized Pressure Vessel Inspector at Petronas Carigali Sdn Bhd
- 5 years 5 months as Material Corrosion Inspection (Freelance)
- 7 months as Senior Static Engineer (Material, Corrosion, Inspection) at Idemitsu Styrene Monomer (M) Sdn Bhd

Qualification(s):

- Bachelor in Mechanical Production System Engineering [Toyohashi University of Technology, Japan]
- Master in Mechanical-Material Corrosion Engineering [Universiti Teknologi Malaysia]

Professional Membership:

- Graduate Engineer of Board of Engineers, Malaysia (BEM)
- Student Membership of Japan Society of Mechanical Engineer (JSME)

Involvement in IMM committees: NA

MOHD SYAFIQ MAZLAN



Age: 43 years

Organization: Universiti Teknologi MARA, Pulau Pinang

Position: Senior Lecturer

Working experience(s):

- 2 years as Part Time & Contract Lecturer at Faculty of Chemical Engineering, UiTM Pulau Pinang
- 6 years as Lecturer at Faculty of Chemical Engineering, UiTM Shah Alam
- 8 years as Senior Lecturer, Chemical Engineering Studies, UiTM Pulau Pinang

Qualification(s):

- Bachelor of Engineering (Hons.) Chemical [Universiti Teknologi Malaysia]
- Master (by Research) Chemical-Engineering [Universiti Teknologi MARA]

Professional Membership:

- Graduate Engineer of Board of Engineers, Malaysia (BEM)

Involvement in IMM committees: NA

SITI KHATIJAH JAMALUD



JIN SHING CHAN



Age: 32 years

Organization: CSI System Sdn Bhd

Position: Project and Sales Manager

Qualification(s):

- Diploma in Technology (Mechanical and Manufacturing Engineering) [Tunku Abdul Rahman College]
- Bachelor of Engineering Mechanical [Tunku Abdul Rahman University College]

Working experience(s):

- 5 months as Aluminium Scaffolding Design Engineer at PMB Quick Access Sdn Bhd
- 5 months as Junior Formwork Designer at Alform System Sdn Bhd
- 2 years 11 months as Mechanical Design Engineer at PMB Technology Berhad
- 1 year as Project Engineer at BioREM Sdn Bhd
- 2 years as Project Engineer at Treehouz Asia Sdn Bhd
- 1 year 7 months as Sales & Support Engineer at Oiltek Sdn Bhd
- 3 months as Project and Sales Manager at CSI System Sdn Bhd

Professional Membership(s): NA

Involvement in IMM committees: NA

**PROF. TS. IR. WAN SHARUZI
WAN HARUN**



Age: 38 years

Organization: Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA)

Position: Professor

Working experience(s):

- 1 year as Industrial Engineer at PCA Technology (M) Sdn Bhd
- 4 years 11 months as Teaching Engineer at MARA Higher Skilled College
- 1 year 6 months as Tutor at Faculty of Mechanical and Automotive Engineering Technology, UMPSA
- 1 year 11 months as Maintenance Engineer at Aerospace Technology Systems Corporation Sdn Bhd (ATSC)
- 4 years 9 months as Lecturer at Faculty of Mechanical and Automotive Engineering Technology, UMPSA
- 5 years as Senior Lecturer at Faculty of Mechanical and Automotive Engineering Technology, UMPSA
- 1 year as Mechanical Engineering Specialist at UMPSA Holdings Group
- 7 years as Associate Professor at Faculty of Mechanical and Automotive Engineering Technology, UMPSA
- 1 year 6 months as Principle Research Fellow at Centre for Automotive Engineering, UMPSA
- 1 year as Adjunct Professor at Chennai Institute of Technology
- 1 month as Visiting Professor at Galgotias University Greater Noida India and Adjunct Professor at Universitas Negeri Jakarta
- 8 months as Full Professor at Faculty of Mechanical and Automotive Engineering Technology, UMPSA

Age: 46 years

Organization: Universiti Malaya

Position: Professor

Working experience(s):

- 2 years as Tutor at Universiti Malaya
- 4 years as Fello at Universiti Malaya
- 5 years as Senior Lecturer at Universiti Malaya
- 4 years as Associate Professor at Universiti Malaya
- 3 years 9 months as Professor at Universiti Malaya

Qualification(s):

- Bachelor of Engineering (Materials Engineering) [Universiti Malaya]
- Master of Engineering (Advanced Materials) [Universiti Malaya]
- PhD Applied Materials [Universiti Malaya]

Professional Membership:

- Exco Member, Material Technical Division, The Institute of Engineer Malaysia.
- Member, The Institute of Engineer Malaysia
- Chartered Engineer (CEng). Institution of Mechanical Engineers (IMechE), UK
- Member, Institution of Mechanical Engineers (IMechE), UK

Involvement in IMM committees: Member of Education Committee

**PROF. IR. DR. ANG
BEE CHIN**



Age: 44 years

Organization: Universiti Malaysia Pahang Al-Sultan Abdullah

Position: Professor

Qualification(s):

- Bachelor of Mechanical Engineering [Universiti Tenaga Nasional]
- Master of Mechanical Engineering [Universiti Tenaga Nasional]
- PhD Mechanical Engineering [Universiti Tenaga Nasional]

Working experience(s):

- Current: Professor at Universiti Malaysia Pahang (UMP)
- Current: Adjunct Professor at Vaal University, South Africa
- Current: Adjunct Professor at Chennai Institute of Technology (CIT), India
- Current: Visiting Professor at Almaaqaal University, Iraq
- 2022: Associate Professor at University Malaysia Pahang (UMP)
- 2024: Timbalan Pengerusi Kooperasi Universiti Malaysia Pahang (UMP)
- 2022: Ketua Focus Group Automotive Engineering Research Group
- 2023: Appoint as Adjunct Professor in Prist University, India
- 2022: Appoint as Visiting Professor in Rajarshi Shahu University, India
- 2015: Senior Lecturer at University Malaysia Pahang (UMP)
- 2017: Appoint As Associate Researcher in Nelson Mandela Metropolitan University (NMMU), South Africa
- 2014: Head of Biomechanical Programme, Universiti Malaysia Pahang (UMP)
- 2017: Lecturer at University Malaysia Pahang (UMP)
- 2007: Research .Asst, Universiti Tenaga Nasional
- 2005: Head of Department /Mechanical Engineer (Mould Maintenance) at Maruwa Sdn.Bhd
- 2003: Mechanical Engineer at Pahang Cement Sdn.Bhd (YTL)

Professional Membership(s):

- Fellow- International Association of Advanced Materials (IAAM)
- IMECHE – Member (80203255), CEng (UK)
- ASME – Graduate member (100023402)
- ACPE - ASEAN Chartered Engineer (ACPE-04427/MY)
- BEM - Professional Engineer (P118717)
- MBOT - P.Tech (PT18030151)
- BEM – Graduate member (50427R) IEM – Graduate

Involvement in IMM committees: NA

**PROF. TS. IR. DR. KUMARAN
A/L KADIRGAMA**



**MEMBERSHIP
BENEFITS**



Interaction and networking with fellow professionals from the industry, academia, NGOs and the Government



"Materials Mind" – IMM's quarterly magazine, presenting updates and reports on events/activities and a platform for technical research and industry-academia papers



IMM offers certification courses in skilled trades which offer great employment and career advancement opportunities in the oil & gas, heavy industry, marine and energy sectors



Seminars, workshops and conferences for members to enhance knowledge for continuous professional development

**IR. TS. ABDUL HAMID
ABDULLAH**



Age: 41 years

Organization: Curtin (Malaysia) Sdn Bhd

Position: Senior Lecturer

Working experience(s):

- 3 years as Research Officer at Universiti Sains Malaysia
- 11 months as Engineer at Tokuyama Corporation, Japan
- 3 months as Engineer at Tokuyama Malaysia Sdn Bhd
- 2 years as 6 months as Lecturer Petroleum Engineering at Curtin Malaysia
- 3 years 6 months as as Lecturer Process Plant Technology at Curtin Malaysia
- 7 years as Lecturer Mechanical Engineering at Curtin Malaysia
- 5 months as Senior Lecturer Mechanical Engineering at Curtin Malaysia
- 2 years 5 months as Programme Coordinator Mechanical Engineering at Curtin Malaysia

Qualification(s):

- Bachelor of Engineering (Polymer Engineering) [Universiti Sains Malaysia]
- Master of Science (Polymer Engineering) [Universiti Sains Malaysia]

Professional Membership:

- Graduate Engineer of Board of Engineers, Malaysia (BEM)
- Involvement in IMM committees: NA



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**WISHING YOU A MERRY CHRISTMAS FILLED WITH JOY,
LOVE, AND LAUGHTER. MAY YOUR HOLIDAY SEASON BE
BRIGHT AND YOUR NEW YEAR EVEN BRIGHTER!**





TRAINING & CERTIFICATION PROGRAM

**Discover
opportunities
in our
Career Path Elevation
Program**



COURSES OFFERED

Coating Certification Scheme
Coating Fingerprint Certification Scheme
Corrosion Certification Scheme
Flange Integrity Certification Scheme
Materials Courses
Thermal Analyst Certification Scheme
Thermal Insulation Certification Scheme
Vibration Certification Scheme
Welding Certification Scheme
and many more...



Recognized by  PETRONAS

Competency certificate will be issued for the graduate who passes the examination criteria for **certified course**.

For the most up-to-date information, visit
Institute of Materials, Malaysia

 www.iomm.org.my

 secretariat@iomm.org.my

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 Institute of Materials Malaysia



TRAINING & CERTIFICATION COURSES



IMM Certification Courses

Asset Integrity Courses

- Mechanical Joint Integrity for Flange Bolted Connections
- Mechanical Joint Integrity for Small-Bore Piping, Tubing and Valves

Coating Courses

- Protective Coating Technician (Blaster & Painter) Level 1 & 2
- Blasting & Painting Supervisor
- Coating Inspector Level 1 & 2
- Coating Quality Control Technician
- Thermal Spray Coating Applicator

Corrosion Courses

- Corrosion Monitoring Practitioner Level 1, 2 & 3
- Cathodic Protection Practitioner Level 1, 2 & 3
- Materials Failure Investigation Practitioner Level 1, 2, 3 & 4

Insulation Courses

- Insulation Installer Level 1 & 2
- Insulation Inspector

Vibration Courses

- Vibration Practitioner Category 1 & 2
- Vibration Specialist Category 3 & 4

Welding Courses

- Welding Inspector
- JWES Association Welding Engineer
- JWES Welding Engineer
- JWES Senior Welding Engineer



Explore our Website
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Materials Lecture Competition 2025, Semi-Final

Prepared by: Dr. Abdul Hakim Md Yusop, Chairperson, IMM-MLC Committee

Edited by: Dr. Nor Akmal Fadil, Co-Chairperson, IMM-MLC Committee



Date: 2nd September 2025

Mode: Microsoft Teams Platform by Curtin University

Curtin University was selected as the host for Materials Lecture Competition 2025 (MLC 2025 Semifinal). The MLC 2025 semi-final was held online on 2nd September 2025, organized by Curtin University in collaboration with the Institute of Materials, Malaysia (IMM) via the Microsoft Teams platform (Figure 1). Since 2020, both national and international competitions have been held online due to the continued Covid-19 pandemic.

The aim of the event was to provide a platform for young talents to showcase their effective and impressive presentation skills in delivering topics related to materials science and engineering. The MLC 2025 semi-final event was officiated by Dr. Abdul Hakim Md Yusop, Chairperson of the IMM-MLC Committee. The judging panel comprised experts from both academia and industry, reflecting international standards to ensure the quality of the competition (Table 1).

The MLC 2025 semi-final competition aimed to select five finalists from participants representing 13 Malaysian universities, as shown in Table 2. The first five participants in Table 2 are the MLC 2025 top five finalists, who successfully advanced from the semi-final round. These finalists will compete in the MLC 2025 final, which will be hosted online by Curtin University on 30th September 2025.

Table 1: The panel of judges for the MLC 2025 semi-final stage.

MLC 2025 Semi-final
1. Prof. Ir. Ts. Dr. Wan Sharuzi Wan Harun (Moderator), Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA)
2. Assoc. Prof. Dr. Sarizam Mamat, Universiti Malaysia Kelantan.
3. Dr. Ir. Ts. Suraya Mohd Nadzir, TNB Research Sdn Bhd,
4. Ir. Hanafi Ali, Sarawak Energy Berhad.



Figure 1: Microsoft Team screenshot of the 13 MLC 2025 semi-final participants with IMM representative, MLC Chairperson, MLC committee members, and the judges.

Table 2: MLC 2025 semi-final participants and the top five finalists

Name	Title
1. Natasya Salsabiila (UTHM)	1. Aluminum Nitride Thin Film Deposition Using Industrial-Grade Sputtering System: A Uniformity Study
2. Muhammad Arshad Mohamed Amin (UNIMAP)	2. Powering the Future: High-Tolerance Biological Materials for Next-Gen Biofuels
3. Nurlisa Hamzan (UiTM)	3. SiO ₂ -TiO ₂ Hybrid Biodegradable Nanolubricants for Sustainable High-Speed Machining
4. Aeriyn Dwierni Ahmad (UM)	4. Conductive Polymer for Supercontinuum Generation
5. Mohamad Hafizhuddin Ali Omarali (UTP)	5. Quarry Dust Kenaf Core Bricks: A Sustainable Alternative to Sand-Cement Bricks
6. Clarence Jimru (UMS)	6. Characterization Of TiO ₂ /Sawdust Hydrochar Composite Material Derived Using Microwave-Assisted Hydrothermal Treatment For Solar Vapor Generation
7. Chew Ping Yao (Taylor's University)	7. Enhanced Magnesium Oxsulfate Via Dry Ice Carbonation as An Alternative Construction Material.
8. Fathiyyah Nadhirah Abdul Fauzi (IIUM)	8. The Hidden Treasure in E-waste: Sustainable Recovery of Rare Earths Using Functionalized PVDF Membranes
9. Nadine Liew Zhi Ching Danial (University of Nottingham Malaysia)	9. Graphene: The Future Written in a Single Layer
10. Angel Wong En Rou (UTM)	10. Shrilk: A Biodegradable Alternative To Plastic
11. Aathmashankara (UNITEN)	11. From Weakness to Strength: How High-Entropy Alloys Tackle Hydrogen Embrittlement in Clean Energy Systems
12. Tan Ser Lee (TAR UMT)	12. Advancing Biowaste-Based Hydroxyapatite Ceramics Through Additive Manufacturing
13. Asiah Shamsudin (UKM)	13. 316L Stainless Steel Implant via Cryogenic Machining and Silver-Tantalum Coating

IMM Miri Regional Chapter – One-Day Corrosion and Corrosion Control Awareness Course for Oil & Gas Industry

Reported by Assoc. Prof. Ir. Ts. Dr. Yeo Wan Sieng, IMM-Miri Chapter Committee,

Ts. Yung Chik Kiing, IMM-Miri Chapter Committee

Reviewed by Assoc. Prof. Ir. Dr. Edwin Jong Nyon Tchan, IMM-Miri Regional Chapter Chairman



Date: 21st June 2025
Platform: Microsoft Teams

This one-day Corrosion and Corrosion Control Awareness Course for Oil & Gas Industry was initiated by the IMM-Miri Regional Chapter on 21st June 2025, and organized under the leadership of the organizing committee, namely, Ir. Dr. Christine Yeo and Mr. Yung Chil Kiing.

The Institute of Materials, Malaysia (IMM) – Miri Regional Chapter successfully organized this one-day course, which was delivered entirely via Microsoft Teams hybrid mode platform by our accredited HRDC trainer, Ir. Dr. Edwin Jong.



Figure 1: Group Photo session with the participants

The course as depicted in Figure 1, brought together 11 engineering participants from a variety of industries, including Oil & Gas, Palm Oil, Utilities (Electric & Water), Academia, and third-party inspection services. Attendees represented a wide range of professions, such as corrosion engineers, operations & maintenance managers, mechanical engineers, industrial inspectors, academic lecturers, and undergraduate engineering students, demonstrating the broad relevance of corrosion and corrosion control knowledge across all academic and industrial sectors.



Figure 2: Assoc. Prof. Ir. Dr. Edwin is conducting the course.

The program was delivered by Assoc. Prof. Ir. Dr. Edwin Jong Nyon Tchan, a seasoned materials, corrosion, and welding specialist with more than 30 years of experience in the Oil & Gas industry. Ir. Dr. Edwin, who previously served with Sarawak Shell Berhad/Sabah Shell Petroleum Company, and Shell Malaysia's Regional Deepwater Engineering Project, shared in-depth insights on corrosion mechanisms and practical corrosion control methods and techniques to mitigate corrosion in the tropical hostile marine environment.

Key topics covered during the awareness training included

- Fundamentals of corrosion, including chemical and electrochemical processes
- Essential corrosion terminologies and predictive tools
- Polarization concepts and Pourbaix electrochemical diagrams as shown in Figure 2
- Types of corrosion damage and their industrial impacts
- Factors influencing corrosion such as pH, velocity, and environmental conditions



ONE-DAY REFRESHER COURSE FOR PCT & CI RECERTIFICATION

All holders of IMM Protective Coating Technician and Coating Inspector certificates are **required** to attend the relevant Refresher Course to renew their competency certificates

- Underground corrosion in buried pipelines and preventive measures
- Principles of cathodic protection for both SACP & ICCP systems
- Corrosion control and preventive strategies, including coatings, inhibitors, and design considerations
- Case studies on global corrosion-related industrial incidents

In addition to technical presentations, participants gained practical knowledge of corrosion management methods through panel discussions, where they shared workplace corrosion challenges and exchanged solutions with the lecturer/trainer and fellow attendees. This interactive approach was well-received, as it encouraged collaboration and knowledge-sharing across different industries as illustrated in Figure 3.



Figure 3: Q&A session and panel discussion.

In summary, all participants agreed that the session was highly useful and informative in broadening and enhancing their in-situ working knowledge. They also expressed that the IMM-Miri Chapter would conduct more industry-related technical courses in the near future.



ANNOUNCEMENT

CHANGING OF IMM MEMBERSHIP & COMPETENCY CERTIFICATE

With effective date 01 October 2023, we will be using the new design template and **ONLY digital certificate** will be issued for:

- IMM Membership Certificate *AND*
- IMM Competency Certificate

GO TO WWW.IOMM.ORG.MY FOR MORE INFORMATION



IMM TRAINING AND CERTIFICATION PROGRAM OVERVIEW

The Institute of Materials, Malaysia (IMM) offers engineering & technical professionals and practitioners a range of Certification Schemes and technical training courses to meet the requirements of the oil & gas, refining, petrochemical, transport, construction and other industries. Our programs have been developed together with the industry, academia and relevant stakeholders to ensure that the technical training and certification provided meet the relevant industry standards and requirements.

PROGRAM: COATING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2 • Certified IMM-B1/B2 Assistant Blaster & Painter • Certified Coating Inspector Level 1 • Certified Coating Inspector Level 2 • Certified Blasting and Painting Supervisor • Certified Thermal Spray Coating Applicator • Certified Coating Quality Control Technician	• Refresher Course of Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2 • Refresher Course of Certified Coating Inspector • Basic Knowledge on Corrosion Protection for Technicians and Engineers • Corrosion Control by Protective Coating • Basic Corrosion & Coating Course

PROGRAM: COATING FINGERPRINTING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Coating Fingerprint Quality Controller Level 1 • Certified Coating Fingerprint Quality Controller Level 2 • Certified Coating Fingerprint Trainer	• Coating Fingerprint Foundation Course • Refresher Course of Certified Coating Fingerprint Quality Controller Level 1/Level 2

PROGRAM: CORROSION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Corrosion Monitoring Practitioner Level 1 • Certified Corrosion Monitoring Practitioner Level 2 • Certified Corrosion Monitoring Practitioner Level 3 • Certified Cathodic Protection Practitioner Level 1 • Certified Cathodic Protection Practitioner Level 2 • Certified Cathodic Protection Practitioner Level 3 (CPP3) – formerly known as Cathodic Protection Engineer (CPE) • Certified Cathodic Protection Engineer • Certified Materials Failure Investigation Practitioner Level 1 (MFIPL1) • Certified Materials Failure Investigation Practitioner Level 2 (MFIPL2) • Certified Materials Failure Investigation Practitioner Level 3 (MFIPL3) • Certified Materials Failure Investigation Practitioner Level 4 (MFIPL4)	• Corrosion Control by Cathodic Protection

PROGRAM: VIBRATION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Vibration Practitioner Category 1 • Certified Vibration Practitioner Category 2 • Certified Vibration Specialist Category 3 • Certified Vibration Specialist Category 4	-



PROGRAM: MECHANICAL JOINT INTEGRITY (MJII)

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Technician in Mechanical Joint Integrity (MJII) for Flange Bolted Connection • Certified Technician in Mechanical Joint Integrity (MJII) for Small Bore – Piping, Tubing, Valves	-

PROGRAM: THERMAL INSULATION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Thermal Insulation Installer	• Introduction to Thermal Insulation

PROGRAM: WELDING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Welding Inspector • IMM-JWES Certified Associate Welding Engineer • IMM-JWES Certified Welding Engineer • IMM-JWES Certified Senior Welding Engineer	• Repair Welding of Pressure Equipment in Refineries & Chemical Plants • Welding & Joining Technology for Non-Welding Personnel • Steel Technology for Non-Technical Personnel

MISCELLANEOUS MATERIALS SCIENCE AND TECHNOLOGY (NON-CERTIFICATION) COURSES

Technical Training Courses	Technical Training Courses
• Materials Selection & Corrosion • Metallurgical Failure Investigation • Basic Course on Operation of Mobile Air Compressor • Competent Mobile Industrial Compressor Operator • Competent Mobile Industrial Equipment Inspector • Practical Approach to Inspection and Maintenance of Steam Turbine	• Practical Approach to Precision Alignment Methods • Practical Approach to Precision Balancing Methods • Reciprocating Compressors: Operations, Maintenance, Inspection and Troubleshooting • Troubleshooting Techniques for Rotating Equipment • Valve Operations, Maintenance and Inspection Including Flange Breaking

Note: A certificate of attendance will be issued to all participants of non-certification professional development training courses while candidates who pass the assessment/examination of IMM-certification schemes will be certified with the issue of IMM competency certificate and IMM certification ID card in addition to the certificate of attendance.

More information on training and certification is available on IMM's website at www.iomm.org.my.

For further enquiries:

Call: +603 7661 1591

Email: secretariat@iomm.org.my

WhatsApp: +6018 911 3480

INSTITUTE OF MATERIALS, MALAYSIA

Suite 1006, Level 10, Block A, Kelana Centre Point, No. 3 Jalan SS 7/19,

Oil & Gas Asia 2025

Reported by: Zeti Aisyha M.A.Razali, Admin Executive of IMM Secretariat

Reviewed by: Aberamy Dayalam, Manager of IMM Secretariat



Date: 2nd – 4th September 2025

Venue: Kuala Lumpur Convention Centre (KLCC)

Oil & Gas Asia (OGA) 2025, Malaysia's leading exhibition for the oil, gas, energy, and petrochemical industries, celebrated its 21st edition with the theme "Powering Progress, Shaping Tomorrow." The three-day event was held from 2nd – 4th September 2025 at the Kuala Lumpur Convention Centre (KLCC).

OGA 2025 offers an essential platform for business collaboration and knowledge sharing throughout the energy value chain, supported by its partnerships with various key organizations.

The key partners of OGA 2025 include:

- PETRONAS – Sole Corporate Partner
- Malaysian Oil, Gas & Energy Services Council (MOGSC) – Supporting Organisation
- Malaysian Petrochemicals Association (MPA) – Collaborative Partner (PSC)
- Malaysia Petroleum Resources Corporation (MPRC) – Institutional Partner
- TalentCorp Malaysia – Workforce Development Partner
- Universiti Teknologi PETRONAS (UTP) – Academic Partner
- Women in Energy – Inclusivity Partner



Figure 1: IMM booth at Oil & Gas Asia (OGA) 2025 with IMM Secretariat. From left: Ms. Nurhizatul, Ms. Effah Azeana, Ms. Nurhasanah

OGA 2025 successfully gathered industry leaders, professionals, and stakeholders to explore innovative technologies and strengthen collaborations across the energy value chain. The exhibition featured diverse pavilions and technical showcases, providing a vital platform for networking and business growth.

Spanning seven expansive halls, OGA 2025 brought together more than 2,000 exhibitors from over 40 countries. The event attracted approximately 36,000 visitors, underscoring its position as one of Southeast Asia's largest gatherings for the energy industry.



Figure 2: A group photo with MC Member at IMM Booth. From Left: Ms. Aliah Izzati (Materials Technology Education Sdn. Bhd.), Mr. Ir. Ong Hock Guan (IMM Honorary Treasurer.), Ms. Zeti Aisyha (IMM Secretariat), Ms. Nurhizatul (IMM Secretariat) and Ms. Effah Azeana (IMM Secretariat).



Figure 3: A group photo with MC Member at IMM Booth. From Left: Mr. Im Qhairul Izar (Materials Technology Education Sdn. Bhd.), Mr. Abang Mohammad Khairie (Manager of Materials Technology Education Sdn. Bhd.), Ir. Noor Hisham Yahaya (IMM Deputy President.), Ms. Zeti Aisyha (IMM Secretariat), Ms. Effah Azeana (IMM Secretariat) and Ms. Jessica Seman (Mui Lee Enterprise Sdn. Bhd.)

The Institute of Materials, Malaysia (IMM) participated both as an exhibitor and as one of the Supporting Associations of OGA 2025. IMM's booth, located in Hall 6 (Booth No. 6801E), also hosted Materials Technology Education Sdn. Bhd. (MTE), Topfields Borneo Sdn. Bhd. (Topfields), and Mui Lee Enterprise Sdn. Bhd. (Mui Lee) as co-exhibitors. The booth received visits from IMM Council Members and IMM members throughout the exhibition.

Nearly 200 visitors, including students, lecturers, and parents, visited the IMM booth during OGA 2025. The booth served as a platform for IMM to showcase its certification programmes, membership opportunities, and upcoming conferences. Visitors, particularly students and lecturers, showed strong interest by asking questions related to IMM's certification pathways.

IMM highlighted five key certification programmes:

- Coating Certification Scheme
- Mechanical Joint Integrity (MJl) Certification Scheme
- Welding Certification Scheme
- Corrosion Certification Scheme
- Vibration Certification Scheme

In addition, IMM collaborated with MTE, Topfields, and Mui Lee to organise a series of engaging activities aimed at attracting and engaging visitors.

Beyond the booth activities, the key highlights of OGA 2025 included:

- SPEAK OGA
- MOGSC @ OGA
- MyWiE X Girls4Girls
- TalentCorp X Girls4Girls
- PETRONAS @ OGA

Overall, OGA 2025 provided IMM with an excellent opportunity to showcase its courses and certification programmes to students, lecturers, and parents. The focus extended beyond competency certification, fosters networking and facilitates the exchange of knowledge across a broad spectrum of specialised expertise.



Figure 4: A group photo at IMM Booth. Left: Ts. Devinakumar Ratanam (Technical Advisor Topfields Borneo Sdn. Bhd.), Ms. Effah Azeana (IMM Secretariat), Ms. Zeti Aisyha (IMM Secretariat) and Mr. Spencer Chendan (Topfields Borneo Sdn. Bhd.)



Figure 5: A group photo at IMM Booth. From Left: Mr. Chiew Pak Chung (Director of Mui Lee Enterprise Sdn. Bhd.), Ms. Shairah Al Kalyisah (Mui Lee Enterprise Sdn. Bhd.), Ms. Nurhasanah (IMM Secretariat) and Ms. Jessica Seman (Mui Lee Enterprise Sdn. Bhd.)



Figure 6: A group photo at IMM Booth. From left: Mr. Im Qhairul Izar (Materials Technology Education Sdn. Bhd.), Mr. Vincent Owi (IMM Examiner), Ms. Karen Cheng (Director of Materials Technology Education Sdn. Bhd.) and Ms. Nurhasanah (IMM Secretariat).



Figure 7: A group photo at IMM Booth. From left: Ms. Aliah Izzati (Materials Technology Education Sdn. Bhd.), Ms. Nurhasanah (IMM Secretariat) and Mr. Azman Jamaludin (Chairperson of Vibration Committee)



Figure 8: IMM Secretariat promoted IMM's training and certification programmes to visitors at OGA 2025



Institut Kimia Malaysia Professional Centre

127A, Jalan Aminuddin Baki, Taman Tun Dr Ismail,
60000, Kuala Lumpur

Training Calendar



Date	Courses	Trainers	Code
4 - 5 October 2025 (Saturday - Sunday)	Statistical Methods for Chemists	PROF ChM DR SHARON TEH GEOK BEE	BSM31
13 October 2025 (Monday)	Decision Rules and Conformity Assessment Meeting The MS ISO/IEC 17025:2017 Requirements	ChM CHANG HON FONG	DRSC10
29 - 30 October 2025 (Wednesday - Thursday)	Application of MS Excel for Data Analysis in Analytical Chemistry	ChM DR MUHAMAD SHIRWAN ABDULLAH SANI	XLS3
8 & 9 November 2025 (Saturday - Sunday)	Management of Chemicals & Chemical/Lab Wastes <i>*eligible for 10 CEP Points by DOSH & 12 CPD Hours by EiMAS</i>	ChM DR MALARVILI RAMALINGAM	MCCW37
10 November 2025 (Monday)	Organizing Small Interlaboratory Comparisons	ChM CHANG HON FONG	ILC5
13 November 2025 (Thursday)	Regulatory Compliance for Chemical Safety at Industrial Workplace <i>*eligible for 5 CEP Points by DOSH</i>	PROF ChM DR GOH CHOO TA	CCS1
18 - 19 November 2025 (Tuesday - Wednesday)	MS 1042:2023 Safety in Laboratory <i>*eligible for 10 CEP Points by DOSH & 12 CPD Hours by EiMAS</i>	ChM ZAWIYAH ZAINAL ABIDIN	SIL2
1 - 2 December 2025 (Monday - Tuesday)	MS ISO/IEC 17025:2017 Management Systems Internal Auditing	ChM PUA HIANG	IAT43
8 - 9 December 2025 (Monday - Tuesday)	Measurement Uncertainty in Chemical Analysis	ChM CHANG HON FONG	MU53
15 - 16 December 2025 (Monday - Tuesday)	General QA/QC Procedures for Testing Laboratories	ChM PUA HIANG	QAQC51
26 January 2026 (Monday)	Root Cause Analysis and Corrective Actions on Unsatisfactory PT Performance	ChM DR LI HUI LING	RCA9
27 January 2026 (Tuesday)	Organizing Small Interlaboratory Comparisons	ChM DR LI HUI LING	ILC6

In-house sessions are available upon request.

For further information, please email us at ayu@ikm.org.my





ADVANCE YOUR CAREER WITH IMM CERTIFIED COURSES

Available Courses :

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Master essential skills for blasters and painters to apply protective coatings – across any industry.

Coating Inspector Level 1 (New & Refresher)

Gain the foundation skills to inspect, assess and ensure coating quality

Coating Inspector Level 2 (New & Refresher)

Advance your inspection expertise with higher-level assessment and reporting capabilities

Other available courses:

**BPS - Certified Blasting
and Painting Supervisor**

**ABP - B1B2 Assistant
Blaster & Painter**



Contact for more info :

+6013-818 9954

chung@muilee.com.my
sharmilla@muilee.com.my

Lot 959, Block 4, Piasau Industrial Estate,
98000 Miri, Sarawak

IMM AUTHORISED TRAINING BODIES (ATBs)/ ASSOCIATE TRAINING PARTNER (ATP) FOR IMM

AUTHORISED TRAINING BODIES (ATBs)

(Offer IMM Certification Training Programs and Courses)

ATBs	Training Programs & Courses
 Topfields Borneo Sdn. Bhd. (Sarawak)	<u>Coating</u>
	 Certified B1B2 Assistant Blaster & Painter Level 1 & Level 2
	 Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
	 Certified Blasting and Painting Supervisor
	 Certified Coating Inspector Level 1 & Level 2
	 Certified Quality Control Technician
	 Certified Thermal Spray Coating Applicator
	 Basic Knowledge on Corrosion Protection for Technicians and Engineers
	 Corrosion Control by Protective Paints
	 Corrosion Control by Protective Coating
 Sabah Skills & Technology Center (Sabah)	<u>Coating</u>
	 Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
	 Certified Coating Inspector Level 1 & Level 2
 Mui Lee Enterprise Sdn. Bhd. (Sarawak)	<u>Coating</u>
	 Certified B1B2 Assistant Blaster & Painter Level 1 & Level 2
	 Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
	 Certified Blasting and Painting Supervisor
	 Certified Coating Inspector Level 1 & Level 2
	 Refresher Course of Certified Coating Inspector for Recertification
	 Refresher Course of Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2 for Recertification

ASSOCIATE TRAINING PARTNER (ATP)

(Offers IMM Certification Training Programs and Courses)

ATP: Materials Technology Education Sdn. Bhd.

(Malaysia and Overseas)

IMM Training Programs & Courses**Coating**

- ☼ Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
- ☼ Certified Protective Coating Technician (Blaster and/or Painter) Level 1 Refresher and Assessment
- ☼ Certified Protective Coating Technician (Blaster and Painter) Level 2 Refresher and Assessment
- ☼ Certified Blasting and Painting Supervisor
- ☼ Certified Coating Inspector Level 1 & Level 2
- ☼ Certified Coating Quality Control Technician
- ☼ Certified Thermal Spray Coating Applicator
- ☼ Refresher Course of Certified Coating Inspector for Recertification Painter) Level 1 and Level 2 for Recertification

Corrosion

- ☼ Certified Corrosion Monitoring Practitioner Level 1
- ☼ Certified Corrosion Monitoring Practitioner Level 2
- ☼ Certified Corrosion Monitoring Practitioner Level 3
- ☼ Certified Cathodic Protection Practitioner Level 1
- ☼ Certified Cathodic Protection Practitioner Level 2
- ☼ Certified Cathodic Protection Practitioner Level 3
- ☼ Certified Materials Failure Investigation Practitioner Level 1
- ☼ Certified Materials Failure Investigation Practitioner Level 2
- ☼ Certified Materials Failure Investigation Practitioner Level 3
- ☼ Certified Materials Failure Investigation Practitioner Level 4

Mechanical Joint Integrity

- ☼ Certified Mechanical Joint Integrity for Small-bore Piping, Tubing and Valves
- ☼ Certified Mechanical Joint Integrity for Flange Bolted Connections
- ☼ Certified Mechanical Joint Integrity for Small-bore Piping, Tubing and Valves Refresher and Assessment
- ☼ Certified Mechanical Joint Integrity for Flange Bolted Connections Refresher and Assessment

Thermal Insulation

- ☼ Certified Insulation Practitioner Level 1
- ☼ Certified Insulation Practitioner Level 2
- ☼ Certified Insulation Inspector

Vibration

- ☼ Certified Vibration Practitioner Category 1
- ☼ Certified Vibration Practitioner Category 2
- ☼ Certified Vibration Specialist Category 3
- ☼ Certified Vibration Specialist Category 4
- ☼ Certified Maintenance & Troubleshooting of Rotating Equipment Level 1
- ☼ Certified Maintenance & Troubleshooting of Rotating Equipment Level 2

Welding

- ☼ Certified Welding Inspector
- ☼ Certified Associate Welding Engineer (AWE)
- ☼ Certified Welding Engineer (WE)
- ☼ Certified Senior Welding Engineer (SWE)



INSTITUTE OF MATERIALS, MALAYSIA

Updated on 30th December 2024

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 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 more than 15 materials committees and more than 4 regional chapters, and supported by a secretariat with full time staff.

IMM Vision

To be internationally recognized competency certification institution in Materials Science, Technology and Engineering.

IMM Mission

- (1) To be the technical authority on Material Science, Technology and Engineering.
- (2) To positively contribute to society and quality of life.
- (3) To become an internationally recognized certification body.
- (4) To develop and enhance competency and skills for all categories and practitioners.
- (5) To be the platform for industry and academia collaboration.

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 750 Coatings Inspectors have been trained and certified as well as more than 3300 Blasters & Painters, Supervisors, Corrosion Technician and Vibration Practitioners. Its certification programmes are recognized by PETRONAS and all oil & gas operators. Since January 2011, more than 80 Associate Welding Engineers, more than 90 Welding Engineers, more than 30 Senior Welding Engineers and more than 45 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, 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 open 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; +603-76611591 or email to secretariat@iommm.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.iommm.org.my.

IMM SECRETARIAT

Suite 1006, Level 10, Block A, Kelana Centre Point,
No. 3 Jalan SS 7/19,
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	-	RM 300.00	RM 10.00	RM 150.00
Professional	-	RM 150.00	RM 10.00	RM 100.00
Associate	-	RM 150.00	RM 10.00	RM 80.00
Company	RM 50.00	-	-	RM 200.00
Ordinary	RM 20.00	-	-	RM 50.00
Student	RM 10.00	-	-	RM 10.00
Ordinary/ Company for affiliates	RM 40.00/ RM 50.00	-	-	NIL



Updated on 30th December 2024

REGULATIONS GOVERNING ADMISSION AND TRANSFER OF MEMBER GRADES

The Council shall establish a Membership Committee which will be responsible for these Regulations and for review of applications for new membership and transfer to other grades (upgrades). The Membership Committee shall recommend for Council approval for admission and transfer of membership. 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.

Every application for membership, individual or company, shall be proposed and seconded according to these regulations and shall be forwarded to the IMM Secretariat who on behalf of the Honorary Secretary will process for consideration and approval of the Membership Committee before tabling for Council's endorsement. The Council may at its discretion reject any application without assigning any reason thereof. The Council may use its discretion to exempt the need for proposer and seconder for Student, Ordinary and Company membership.

Each company on admission as a member shall be entitled to nominate one representative to exercise all rights of membership. Only representatives of Company membership, as well as 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 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 have membership to 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.



7th IMM Council Meeting (Term 2022-2024) & 36th IMM Anniversary Celebration



IMM Materials Failure Investigation Practitioner (MFIP) Certification Scheme

One-Day IMM Corrosion Conference 2024 and Plant Visit to Sumisaujana TCM Chemicals Sdn Bhd

FREE Ordinary Membership for Affiliates:

The Institute of Materials, Malaysia will recognize members of various professional institutions and societies for membership at "Ordinary Grade" without any annual subscriptions. Such members shall submit to IMM proof of their current membership of the respective institutions together with their application.

Members of the following institutions and societies are eligible to apply for affiliate membership:

- 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.Persatuan Arkitek Malaysia
- 18.Plastics & Rubber Institute of Malaysia
- 19.Singapore Welding Society
- 20.Society of Petroleum Engineers

FREE Company Membership for Affiliates:

The Institute of Materials, Malaysia will recognize various professional institutions and associations for membership at "Company Grade" without any annual subscriptions.

Companies registered with the following Trade Associations are recognized for Affiliate Company Memberships:

- 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)

The companies shall submit to IMM proof of their current membership at the respective trade associations together with their application.

NOTE: The above provisions for affiliate membership for individuals and companies was approved by the IMM Council in accordance with the powers vested in the Council as per Clause 6.1.3 of the IMM Constitution and was subsequently endorsed by members at its 21st Annual General Meeting held on 19th March 2011.





TOPFIELDS BORNEO SDN. BHD.
(1294574-M)

✉ info@topfieldsborneo.com

☎ +6 086 317 248

IMM AUTHORISED TRAINING BODY



ABOUT US



IMM COATING INSPECTOR LEVEL 1 & LEVEL 2 (CIL1 & CIL2)

IMM Coating Inspector is the most sought-after certification to become a coating inspector within Malaysia & is widely accepted by all industries including Oil & Gas.



OUR VISION

To promote Sarawak Region as a centre for paint technology education, research and development throughout Southeast Asia and endeavor to establish paint technology related production facilities throughout the region in order to create a new export industry for the nation.



IMM PROTECTIVE COATING TECHNICIAN LEVEL 1 & LEVEL 2 (PCT L1 AND/OR L2)

Become a certified Blaster Painter with IMM PCT L1L2 program today.

This certification scheme will enable the candidates to have an understanding and exposure on the subject of Blasting and Painting, mainly in the oil & gas and heavy engineering industries. The participants will be assessed both in the theory and practical aspects of Blasting and Painting which will determine their competency in accordance to the terms and conditions of IMM Coating Certification Scheme.

CONTACT US

🌐 Website
www.topfieldsborneo.com

✉ Email
info@topfieldsborneo.com

📍 Address
30 Lot 15231, BLK Jayhub Industrial Estate,
Jalan Tun Hussein Onn, Kemena Land
District, 97000 Bintulu, Sarawak.



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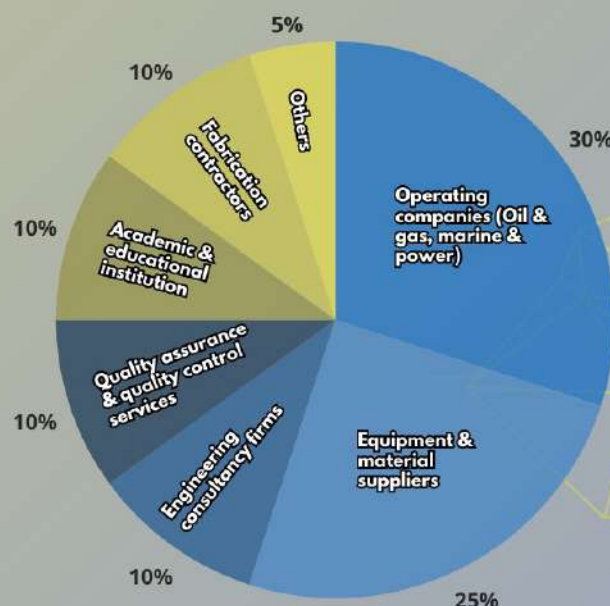
MATERIALS MIND

Biannual Magazine of Institute of Materials, Malaysia



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- Acceptable file format: **JPG/AI/PDF/PSD**
- For AI/Illustrator files: Please outline **all text** & embed **high-resolution** images
- Image resolution must be at least **300 pixel** per inch (ppi)
- Artwork must be provided by the customer

PUBLICATION OVERVIEW

Publication Frequency: 2 times a year (April & October)

Available Format: Print / Online Edition

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Code	Materials Mind	IMM Website	Single Issues	2 Consecutive Issues
A	Inside Half Page	Bottom Central Banner	RM 850	RM 1,700
B	Inside Full Page	Bottom Central Banner	RM 1,500	RM 3,000
C	Inside Full Page	Central Banner & Bottom Central Banner	RM 1,850	RM 3,700
D	Outside Back Cover	Central Banner & Bottom Central Banner	RM 2,050	RM 4,100

*In addition to the offered package, other arrangement can be negotiated upon request