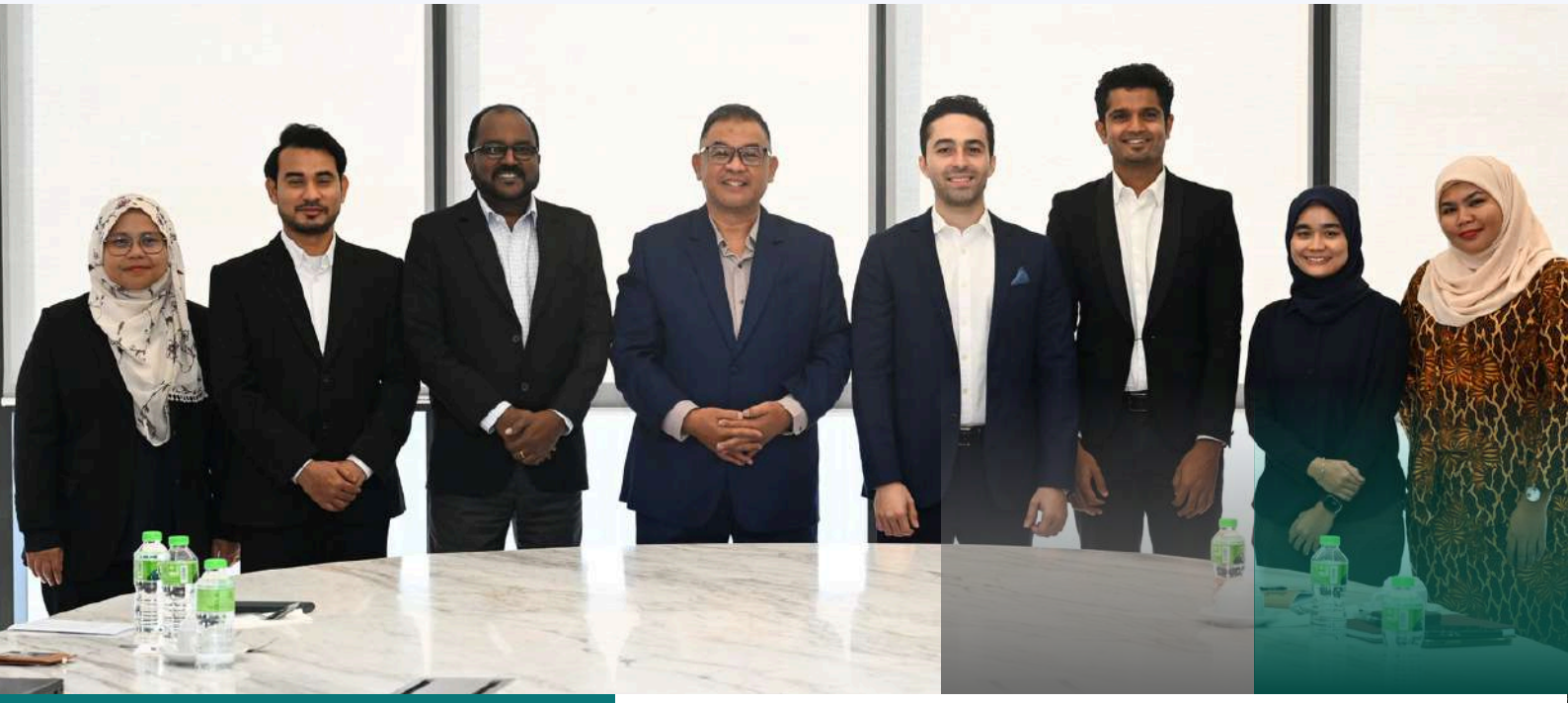
ISSUE 14: APRIL - JUNE 2024

CREAM
CONSTRUCTION RESEARCH INSTITUTE OF MALAYSIA

CREAM

e-magazine



COVERAGE

about us

Construction Research Institute of Malaysia (CREAM) was established on 26 March 2004 as a Company Limited by Guarantee (SBMJ) under the Act Company 1965. CREAM became fully operational on January 1, 2006. Establishment of CREAM is to be the research arm of the Construction Industry Development Board (CIDB) Malaysia to encourage, promote and implement activities research and development (R&D) related to the national construction industry with Section 4(c), CIDB Act 1994 (Act 520). With the ability of knowledge and existing expertise, CREAM actively cooperates with parties interested in producing research that will benefit the sector construction. At the same time, CREAM also supports the development of the industry construction in a better direction through the quality and integrity of building materials when also offers testing, evaluation and certification services to industry players. CREAM will continue to be proactive in being active and reinventing the way we in doing something, to keep giving the best to all parties and always responsive to our customers.

vision

To make CREAM globally recognized as the leading institute for Research and Development (R&D) that drives quality, innovation, technology and skills towards achieving sustainability in the construction industry.

mission

To meet the strategic needs of Research and Development in the Malaysian construction industry. CREAM is also committed to build partnerships with the industry's stakeholders and researchers while exploring and encouraging the development of a knowledge-based industries as well as ready to meet current demands and challenging changes.

editorial team

what we offer

- Research and Development
- Industry Consultancy and Engagement
- Lab Testing
- Product Certification
- Assessments - QLASSIC, SHASSIC, MyCREST and Sustainable Infrastar
- Certificate of Approval
- Inspection and Sampling
- Contractor's Quality Management System (CQMS)
- Forensic Investigation
- Technical Opinion
- Journal Publication

CREAM
CONSTRUCTION RESEARCH INSTITUTE OF MALAYSIA

CIDB
MALAYSIA

CONTRACTOR'S QUALITY MANAGEMENT SYSTEM (CQMS)

CERTIFIED TO ISO 9001: 2015 CERT.NO. : QMS 02376
CERTIFIED TO ISO 9001: 2015 CERT.NO. : QMS 02376
CERTIFIED TO ISO 9001: 2015 CERT.NO. : QMS 02376
CERTIFIED TO ISO 37001 : 2016 CERT.NO. : ABMS 00287
CERTIFIED TO ISO 37001 : 2016 CERT.NO. : ABMS 00287

INTRODUCTION

Contractor's Quality Management System (CQMS) CIS 29:2021 is an independent system that evaluates a contractor's quality management implementation based on the Construction Industry Standard (CIS 29). Serving as an affordable alternative to ISO 9001, CQMS is ideal for budget-conscious contractors who prioritize the quality of their work. By choosing CQMS, contractors can maintain quality control, meet client standards, and gain additional benefits for PPK registration in Malaysia. Implementing CQMS also earns contractor's extra points in MCORE / SCORE CIDB assessments for PPK registration. **A certification fee of RM4,000 cover a one-day training, documentation for the quality manual, third-party audit and certification of CIS 29:2021. Applicants will also receive free template for quality manual, free CIS 29:2021, free attendance to CREAM Webinar Series and CCD Points worth RM13,000.** The audit process is streamlined, taking only one day, and the certification remains valid for three years. Furthermore, CQMS carries equivalent weightage to ISO 9001 for CIDB SCORE / MCORE, making it an attractive and cost-effective choice for contractors in Malaysia, specially designed for their needs.

BENEFITS

1. Specialized Evaluation: Tailored assessments based on Construction Industry Standard (CIS 29).
2. Cost-Effective: An affordable alternative for contractors, only RM4000, with high-quality standards.
3. Enhanced Reputation: Maintains rigorous quality control, enhancing credibility.
4. Smooth PPK Registration: Streamlines registration process for Malaysian contractors.
5. Extra Points in Assessments: Earns additional points in MCORE / SCORE CIDB assessments.
6. Streamlined Audit Process: One-day audit minimizes disruptions and saves time.
7. Long-Term Certification: Valid for three years, ensuring continuous credibility.
8. Equivalent Recognition: Carries same weightage as ISO 9001 for CIDB SCORE / MCORE.
9. Free attendance to CREAM Webinar Series with up to 240 CCD points/year worth RM3,400 (1 pax/year)

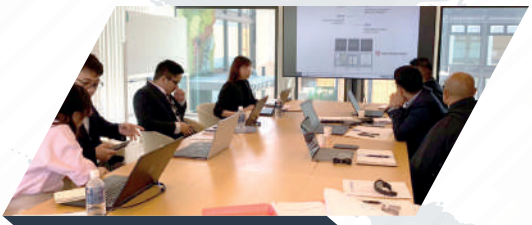
PROCESS

VALIDATION

Contractor's Quality Management System (CQMS) is given a validity term of three (3) years from the date of issuance. They can be reviewed as and when necessary subject to the CQMS Assessment Programme.

WHO SHOULD APPLY

CONTRACTOR (G1 – G7)



ONE — APPLICATION

TWO — QUOTATION

THREE — WORKPLACE AUDIT

FOUR — RECOMMENDATION

FIVE — REVIEW & APPROVAL

SIX — ISSUANCE OF CERTIFICATE

SEVEN — FIRST SURVEILLANCE

EIGHT — SECOND SURVEILLANCE

NINE — RECERTIFICATION

CONTACT US FOR MORE INFO:
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03-9212 0165 **syed@cream.my** **www.cream.my**

PRODUCT CERTIFICATION

"Ensuring Construction Material Quality Through Certification"

Vision

To be recognized as the specialized Malaysia Certification Body that focuses on ensuring construction material quality through inspection and certification in the Malaysian Construction Industry

About CREAM Certification Services (CCS)

- Established in 2014 and managed by Construction Research Institute of Malaysia (CREAM)
- Management and operation of the certification service are based on the International Standard ISO/IEC 17065:2012.
- The product certification is a Type 5 product certification based on International Standard ISO/IEC 17067.
- To provide certification services to the construction industry mainly on building materials, construction materials, and other products related to the construction industry especially products listed in Schedule 4 Act 520 CIDB (Amendment 2011) in fulfilling Certificate of Approval (COA) and Perakuan Pematuhan Standard (PPS) requirements by CIDB.

Benefits of Product Certification

- Validate that the product meets the Regulatory, National, and International quality standards.
- Boost productivity, reduce defects and improve overall quality of the products.
- Comply with construction industry standards and Fourth Schedule Act 520 CIDB (Amendment 2011).
- Provide confidence and assurance to consumers, CIDB, industry and other interested parties.
- Facilitate trade, market access, fair competition, and consumer acceptance of product on a national, regional and international level.

SAMM 563

ACB PC 0012



Why Choose CREAM Certification Services (CCS)?

- CCS is the **first Certification Body in Malaysia** that is accredited to ISO/IEC 17065:2012 by Department of Standards Malaysia (DSM) for the scope of **Ready-Mixed Concrete.**
- Highly trained and skilled technical auditors with a wealth of industry knowledge.
- Competitive and affordable certification fee.
- Fast and swift customer support services to handle customers' queries.
- Certification process delivered within realistic yet fast timeline.
- Fulfil industries' needs and requirements.

Our Expertise

- Ready-Mixed Concrete
- Cement
- Iron and Steel
- Metal Scaffolding
- Aluminium Frame (Door and Window)
- Precast Concrete System
- Precast Concrete Piles
- Blockwork System
- Ceramic Tiles
- Sanitary Wares

CREAM Certification Services (CCS) Product Certification Process

1. Enquiry
2. Application
3. Document Review
4. Factory/Plant Audit
5. Product Sampling and Testing
6. Recommendation
7. Review and Approval
8. Issuance of Certificates
9. Surveillance Audit
10. Recertification Audit, Additional Scope, Suspension, Withdrawal and Termination

We inspect. We test. We certify.

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CONSTRUCTION PRODUCT APPROVAL (CPA)

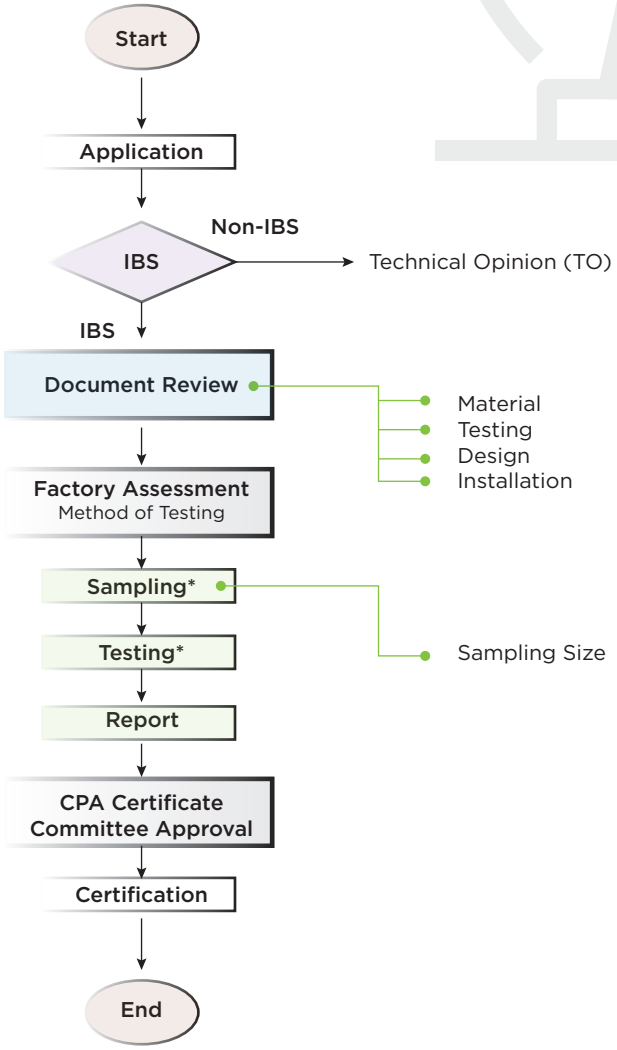
Introduction

Construction Product Approval (CPA) aims to certify construction products in the construction industry mainly for four IBS Categories which are metal framing system, timber framing system, reusable formwork system, and innovative system.

It is based on internationally recommended practice, as an alternative certification scheme to assess and certify these products for complying with CIS 24:2018 - IBS Manufacturer and Product Assessment and Certification (IMPACT).

The assessment and certification of construction products, materials, and technologies is done by CREAM's competent assessor and based on a specific checklist which was developed together with the CPA Guideline (downloadable at www.cream.my or upon request).

Procedure



* Subject to the terms and conditions of the Construction ProductApproval Guideline

* Product assessment checklist can be requested to the CPASecretariat

Assessment Cycle

Benefits

01 Confidence booster for industry players and end users

02 Ensure on-going product quality

03 Increase productivity

04 Fulfill regulatory requirements (CIDB ACT 520 Fourth Schedule)

Who Should Apply?

Manufacturers

Suppliers

Distributor

Validity Period

Construction Product Approval Certification are given validity term of **two (2) years** from the date of issuance. They can be reviewed as and when necessary subject to the CPA guideline and assessment cycle.

We inspect. We test. We certify.

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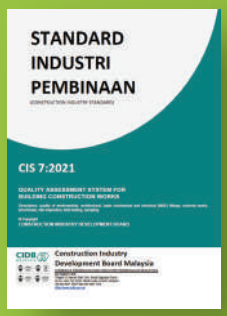
QLASSIC

Quality Assessment System in Construction

15 CCD POINTS

the only quality assessment system available in Malaysia



Quality Assessment System in Construction (QLASSIC) is an independent assessment tool to measure and evaluate the workmanship quality of a building construction works based on Construction Industry Standard (CIS 7:2021 Quality Assessment System for Building Construction Works).

QLASSIC enables the quality of workmanship in that particular project to be objectively measured through a scoring system.

National Housing Policy (2018 – 2025) under Focus No. 2 which is to emphasise QLASSIC Certification for all new public and private housing projects.

Benefits to QLASSIC Applicants:

01 Automatic 15 CCD Points for contractor's registration renewal

02 Towards Continuous Improvement in construction quality

03 Eligible to be awarded during QLASSIC Day

04 To have a standard quality assessment system for quality of workmanship of building projects

WHY QLASSIC

01 Enables you to benchmark the quality of workmanship of your construction project

02 Enhances quality control in construction works

03 Provides you a standard quality assessment system on quality of workmanship of construction works

04 Specified as a quality criterion for contractors performance scorecard

SCOPE OF WORK OF QLASSIC

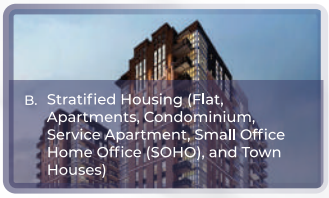
ARCHITECTURAL WORKS

BASIC M&E FITTINGS

EXTERNAL WORKS

BUILDING CATEGORY FOR QLASSIC ASSESSMENT

A. Landed Housing (Detached, Semi-detached, Terrace and Cluster Houses)



B. Stratified Housing (Flat, Apartments, Condominium, Service Apartment, Small Office Home Office (SOHO), and Town Houses)

C. Public Commercial/Industrial Building Without Centralise Cooling System

D. Public Commercial/industrial Building With Centralize Cooling System

(Office Buildings, Schools, Factories, Warehouses, Workshops, Hangers, Small Office Virtual Office (SOVO), Religious Buildings, Stadiums, Community Halls, Hospitals, Airports, Universities, Colleges, Police Stations, etc.)

WHO CAN APPLY QLASSIC

01. Project Owner
02. Main Contractor
03. Property Developer
04. Consultants

PROCESS FLOW

1. APPLICATION → 2. SAMPLING → 3. NOTIFICATION OF ASSESSMENT → 4. SITE PROJECT ASSESSMENT → 5. QLASSIC SCORE (%)

ASSESSMENT FEES(effective 1st January 2023)

Gross floor area (m²)	Fees
Category A & B	
< 9,100	RM 3,400.00
9,101 – 17,500	RM 4,500.00
17,501 – 35,000	RM 7,500.00
> 35,001	RM 9,500.00
Category C & D	
< 50,000	RM 3,400.00
50,001 >	RM 4,500.00

Go to
https://qlassic.cidb.gov.my/
for QLASSIC application or scan the QR code

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Elevate quality, safety & health, and environment via our assessment tools

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SHASSIC

Safety and Health Assesment System in Construction

15 CCD POINTS

the only safety and health assessment system available in Malaysia

Safety and Health Assessment System in Construction (SHASSIC) is an independent assessment tool to assess the safety and health at the work site in the construction projects based on Construction Industry Standard (CIS 10:2022 Safety and Health Assessment System in Construction (SHASSIC)).

The assessment shall cover 25% to 75% of a project's physical progress and shall inclusive of construction planning stage and construction stage.

CONSTRUCTION CATEGORY FOR SHASSIC ASSESSMENT

- **STRUCTURE**
- **INFRASTRUCTURE**

BENEFITS/INCENTIVES

1. Automatic **15 CCD** Points for contractor's registration renewal
2. Towards OHSAS 18001 / MS1722 / ISO 45001 Certification
3. Towards Continuous Improvement
4. Can participate in MCIEA for Safety Category
5. Readiness for Occupational Safety and Health in Construction Industry – (Management) (OSHCIM)

OBJECTIVES OF SHASSIC

1. Standardised Assessment
2. Benchmark OSH Performance
3. Corrective and Preventive Measures
4. Assess OSH Performance
5. Continual Improvement

SHASSIC ASSESSMENT APPROACH

- Document check
- Site/Workplace Inspection
- Employees/ Personnel Interview

PROCESS FLOW

1. APPLICATION
2. CONFIRMATION ON PROJECT STATUS
3. NOTIFICATION OF ASSESSMENT DATE & IMPLEMENTATION
4. PREPARATION OF REPORT & SCORE
5. SHASSIC SCORE (IN STAR RATING)

ASSESSMENT FEE (EFFECTIVE 1ST JANUARY 2023)

RM2,350

Go to **http://shassic.cidb.gov.my/**
for SHASSIC application or scan the QR code below

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CIDB

Sustainable INFRASTAR

Infrastructure asset development has huge impact on social, environment and economy. Therefor, it is critical for any infrastructure project to balance economic, social an environment sustainability factors in development. The need for a more standardized method or tool to appraise the sustainability of such development is becoming more essential.

The Malaysian Construction Industry Development Board (CIDB) has developed a sustainable infrastructure rating tool for Malaysia with an ultimate purpose to assess the extent of sustainability measures adopted by infrastructure project in Malaysia primarily at both design and construction stages. Sustainable INFRASTAR acts as a design and measurement tool to ensure consideration on sustainable elements are incorporate early in the development of projects.

WHAT ARE THE OBJECTS OF SUSTAINABLE INFRASTAR

01	• To create a continuous awareness on the importance of sustainability throughout the pre-commissioning stages of infrastructure projects
02	• To priorities significant environmental and social attributes for sustainable infrastructure as early as the conceptual stage
03	• To convey an improved performance related to environmental and social through project design and construction
04	• To recognise and reward efforts made by projects towards achieving an exceptional level of sustainable infrastructure
05	• To ensure the implementation of environment and social best practise are in accordance with the standards adopted locally and globally
06	• To measure the level of sustainability of infrastructure projects

ASSESSMENT CLASSIFICATION

Assessment takes place at two project stages, namely design and construction

Certification Award	Assessment Point	Assessment Details
Design Certification (Provisional)	At Pre-Construction Stage	Credit points will be awarded based on the policy and target set in planning as well as a documented evidence to validate their definite execution in the project design. This is only an interim assessment and award.
Design & Construction Certification	Between Pre-Commissioning to Certificate of Practical	Credit points will be awarded based on policy and target addressed in the detailed design as well as a documented evidence to verify their definite execution in actual construction.

SUSTAINABLE INFRASTAR CERTIFICATION

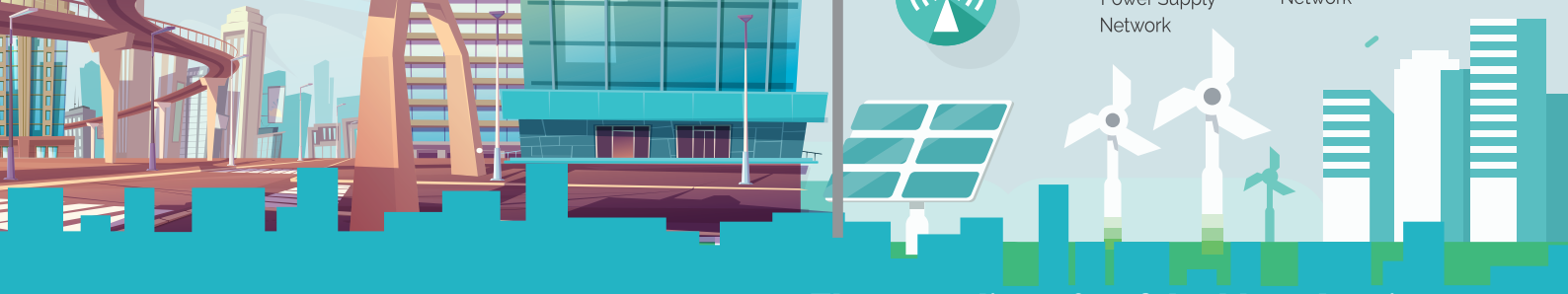
A certified assessment that achieves 40% and above credit percentage will be awarded with a-star rating. The classifications of assessment points with their respective ratings are as follow:

Finalised Assessment Point	Certified Assessment Rating
30-39%	Pass
40-49%	★
50-59%	★★
60-69%	★★★
70-79%	★★★★
80-100%	★★★★★

WHICH PROJECT CAN APPLY

Sustainable INFRASTAR can be applied to most type of infrastructure projects (except the building portion) including the following:

Type of Infrastructure	Classification of Infrastructure
	• Toll Expressway • Federal Road • State Road • Municipal Road • Tunnel Highway • Bridge
	• Heavy Rail (Commuter Rail) • Express Rail Link (ERL) • Light Rapid Transit (LRT) • Mass Rapid Transit (MRT) • High Speed Rail • Monorail • Funicular Railway Line (Cable Railway)
	• Dam/Reservoir • Water Supply Network • Water Treatment Plant
	• Runway • Public Infrastructure • Airport Rail Link
	• Waterway • Canal • Port • Jetty • Marina
	• Solid Waste Treatment Plant • Incinerator • Recycling Plant • Sewerage Pipe Network • Wastewater Treatment Plant
	• Power Plant • Power Supply Network • Telecommunication Network



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SCAN FOR APPLICATION FORM

Elevate quality, safety & health, and environment via our assessment tools

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MyCREST

MALAYSIAN CARBON REDUCTION & ENVIRONMENTAL SUSTAINABILITY TOOL

MyCREST stands for Malaysian Carbon Reduction and Environmental Sustainability Tool. MyCREST delineates the strategies and green elements thus acts as a guide to all stakeholders of the construction industry in adopting sustainable development practices. MyCREST calculates and quantifies the actual carbon emission at every stage of a building life cycle. This tool aims to guide, assist, quantify and thereby reduce the built environment's impact in term of reduced carbon emissions and other environmental sound practices. MyCREST integrates socioeconomic considerations related to the build environment and urban development.

MyCREST TOOLS

MyCREST essentially combines three basic tools to construct a "scoring plan", which is then used to assess a building for certification. The tools are:

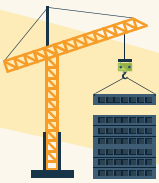
1. MyCREST Scorecard
2. MyCREST Carbon Calculator
3. MyCREST Reference Guidelines

Each tool is the basis of rating for each phase of the project. MyCREST awards different star rating to the different phases of a project and awards an overall star rating. In this way, all three phases of the project namely the Design, Construction and Operation & Maintenance are being assessed.

MyCREST CERTIFICATION

Design

Construction



Operation & Maintenance

Provisional Design Certification

Design and Construction Certification

Design, Construction and Operation & Maintenance Certification

Operation & Maintenance Certification

MyCREST RATING CERTIFICATION

MyCREST RATING	MyCREST RATING
★★★★★	80-100
★★★★	70-79
★★★	60-69
★★	50-59
★	40-49

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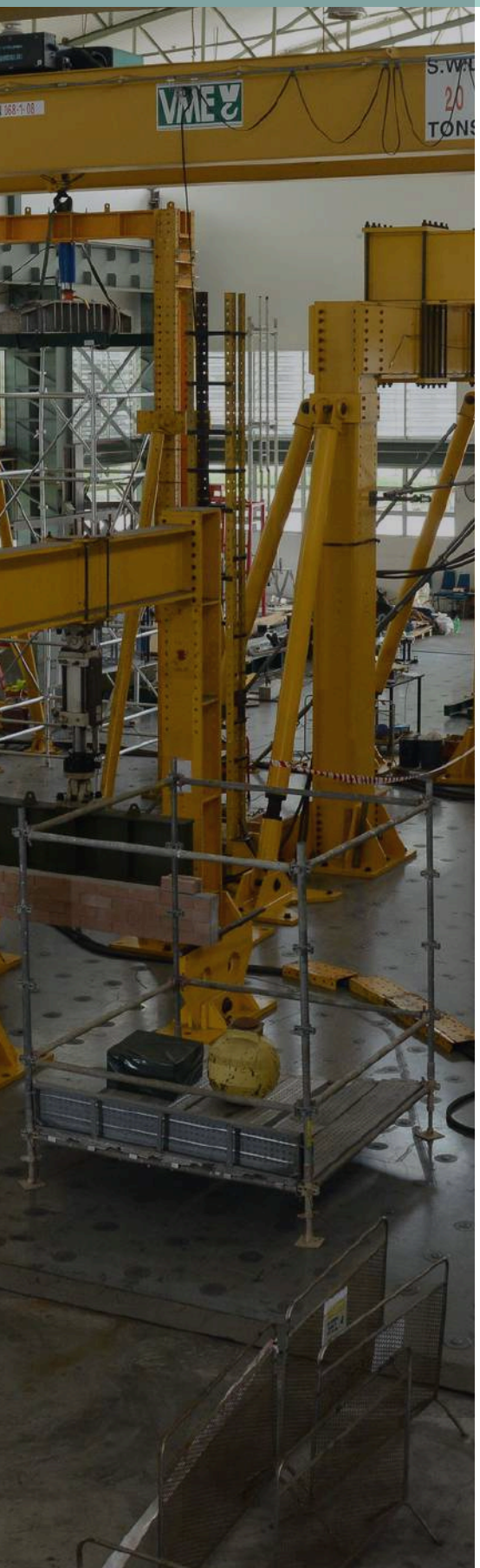


CREAM and ACE Sign Cooperation to Advance Sustainable Construction Materials

The Construction Research Institute of Malaysia (CREAM) has signed a Memorandum of Agreement (MOA) with ACE Greencemt Venture (M) Sdn. Bhd. to offer support for research in the nation's concrete sector. The focus of this collaborative study between ACE Greencemt and CREAM is on fly ash, a byproduct of coal combustion for electricity generation. The main objective of this research is to conduct a comprehensive study on the long-term durability and microstructural properties of fly ash concrete.

Countries worldwide have used fly ash as a partial substitution for cement. In 2019, the United State, India, China, and Europe have used fly ash at rates of 9.11%, 44.8%, 31% and 11.5%, respectively, to partially substitute cement. Fly ash boosts sustainability in the construction industry by reducing carbon emissions and dependency on cement production, which is a major contributor to greenhouse gas emissions.

The research and collaboration between CREAM and ACE Greencemt hold significant potential for Malaysia’s concrete industry. The findings and results of this study could provide the industry with valuable insights into the direct usage of fly ash, potentially creating more sustainable concrete during production.

This agreement between CREAM and ACE Greencemt is a testament to our shared vision of fostering knowledge transfer from research institutions to the construction industry. ACE Greencemt, as a key partner in this endeavor, will play a crucial role in increasing the adoption of fly ash, thereby facilitating the industry's transition towards greener and more environmentally friendly solutions.

Makin Teguh Sdn. Bhd. - Sabah's First Cement Plant to Receive Product Certification of Conformity from CREAM

Congratulations to Makin Teguh Sdn. Bhd. (MTSB) for being certified under Product Certification for the cement product, which is listed under the Fourth Schedule of Act 520.

The Product Certificate of Conformity certification from CREAM was handed over to YBhg. Dato' Awang Ahmad, the director of MTSB, by the manager of Centre for Quality Assurance and Certification (CQAC), Ts. Syed Hazni Abd Gani, on behalf of the Chief Executive Officer CREAM. Meanwhile, Standard Compliance Certificate (Building Materials) from CIDB was handed over by Sabah director Nazri Zakaria.

Thank you to MTSB for choosing CREAM as your certification body.

The cement standard shall comply with MS EN 197 Cement Part 1: Composition, Specification, and Conformity Criteria for Common Cements. With competitive rates and competent auditors, get your product certified with CREAM Certification Services. For any inquiries, please email syed@cream.my

Technical Cooperation for Research & Development and Implementation of Railway Inspection and Monitoring Technology


by Ts. Syaza Nabilla Mohd Suhaimi and Wan Norhasiah Wan Bidin

The Technical Cooperation for Research & Development and Implementation of Railway Inspection and Monitoring Technology event was hosted by the Railway Transportation System Testing Center (RTTC-TISTR). This two-day event, held from June 10 to June 11, 2024, took place at the Thailand Institute of Scientific and Technological Research (TISTR) in Pathum Thani, Thailand. It was attended by 30 participants from various ASEAN countries, including Malaysia, Indonesia, the Philippines, and Laos. Key speakers included representatives from China Railway Rolling Stock Corporation (CRRC) and Rail Technology International (RTI) Australia. Additionally, the State Railway of Thailand (SRT) and Armtech Engineering Co. Ltd. participated in the event.

The seminar aimed to enhance railway safety through advanced inspection and monitoring technologies, paving the way for regional success in railway safety and development. Malaysian delegates included Ts Syaza Nabilla Mohd Suhami and Ms Wan Norhasiah Wan Bidin from the Construction Research Institute of Malaysia (CREAM), along with Ts Mohd Yusoff Mohamed and Mr Ahmad Syazwan Mohd Zamri from Keretapi Tanah Melayu Berhad (KTMB). The event featured lectures, presentations, workshops, demonstrations, and laboratory visits to facilitate technology and knowledge sharing.

The event sought to foster cooperation for railway technology transfer within the ASEAN region, starting with ventures involving Thailand, Malaysia, and Indonesia. By pooling resources and expertise, member countries aim to elevate safety standards, share best practices, and address region-specific challenges. The event emphasized the development and adoption of indigenous railway technologies to reduce dependency on external sources and stimulate local economies by creating jobs and fostering technological advancements. Sustainability was a key focus, promoting environmentally friendly railway solutions to mitigate the environmental impact of increased connectivity.

The event was officiated by the Governor of TISTR, Dr. Chutima Eamchotchawalit, and began with a project overview and introduction to railway inspection technology by Dr. Anat Hasap, Director of RTTC. Subsequent topics included the Safety Policy of Railway Transit in Thailand by Dr. Tayakom Changdrangsu, Head of the Department of Rail Transport (DRT), and a technical overview of Modern Technology for Track Inspection by Mr. Yuhao Chai from RTI Australia. Dr. Hafnee Lateh from RTTC provided a detailed explanation of the Monitoring Inspection System, while Dr. Sivinee Sawatdiaree from the National Institute of Metrology Thailand (NIMT) discussed the Implementation of Metrology for Safety and Quality of Rail Transit. Mr. Wang Guangkun from CRRC Qingdao Sifang presented on Structural Health Monitoring (SHM) Technology for Railway Transit & High-Speed Trains. Phanasindh Paitekul from RTTC shared an overview of the Train Weight Device (TWD) project in Thailand, and Assoc. Prof. Dr. Wichai Siwakosit concluded the lecture sessions with a presentation on the Development of Railway Inspection.

Participants also visited the laboratories of NIMT and RTTC, engaging in Q&A sessions that enhanced the learning experience. These visits provided rare insights into material and structure testing procedures.

The most anticipated sessions were the equipment demonstrations and trial runs. CRRC Qingdao Sifang demonstrated their SHM Technology, showing the step-by-step procedure to detect defects on railway tracks and analyze the readings through built-in software. RTTC showcased their Train Weight Device (TWD), designed to detect gross weight, weight balance, and speed of passing rolling stock, including on-site calibration and validation. The final demonstration involved a Hi-Rail Vehicle for modern track inspection, conducted by Mr. Yuhao Chai from RTI Australia.

On behalf of CREAM, we extend our sincere gratitude to TISTR-RTTC for organizing this outstanding and highly productive event. This platform has been invaluable for sharing perspectives and insights among experts in the railway transportation industry. We look forward to the continuation of this event in the coming years, especially involving knowledge and technology sharing.

Understanding Couplers Requirements and Testing in Tubular Metal Scaffolding: A Guide Based on Standard MS 1462-2-3:2011.




by Ahmad Hazim Abdul Rahim, Rohani Mokhtar, Ts. Syaza Nabilla Mohd Suhaimi and Mohmad Fazli Halim

In the construction industry, the safety and reliability of tubular metal scaffolding systems are paramount, largely dependent on the quality and performance of couplers. These essential components securely join scaffold tubes, forming stable structures that support workers and materials at various heights. To ensure these couplers meet stringent safety standards, Malaysia has established MS 1462-2-3:2011, which is identical to EN 74-1:2005, detailing specific requirements and testing procedures. This article explores the essential testing requirements mandated by MS 1462-2-3:2011 for couplers used in tubular metal scaffolding.

Types and Classes of Coupler

Couplers used in tubular metal scaffolding are primarily designed to join scaffold tubes at various angles and configurations. According to MS 1462-2-3:2011, which provides guidelines specific to Malaysia, couplers are categorized as follows (Figure 1):

- Swivel Couplers: These versatile couplers allow scaffold tubes to be connected at any angle within a range, typically 360 degrees. They provide flexibility in scaffold assembly, accommodating changes in angles and directions as required by the scaffold design.
- Right-Angle Couplers: Also known as Double Couplers, these are used to connect two scaffold tubes at right angles. They are essential for creating joints where tubes intersect at corners, ensuring stability and load-bearing capacity.
- Sleeve Couplers: These couplers are used to join two scaffold tubes end-to-end. They provide a strong and continuous connection between tubes, maintaining the integrity of the scaffold structure over longer spans.
- Parallel Couplers: Designed to connect two parallel scaffold tubes (typically tubes of the same diameter) in a straight line, allowing scaffolding structures to be extended horizontally or to support scaffolding boards and other components.

MS 1462-2-3:2011 classifies couplers based on design and intended usage into classes such as A, B, AA, and BB. Classes A and B differ in transmissible internal forces, moments, load-bearing capacity, and stiffness characteristics. Testing parameters encompass slipping force, pull-apart force, failure force, cruciform bending moment, rotational moment, rotational stiffness, cruciform bending ultimate moment, and indentation.

Swivel Coupler

Functions of Couplers

Couplers serve several critical functions in tubular metal scaffolding systems:

- Structural Integrity: Couplers ensure that scaffold tubes are securely joined together, forming a stable and robust structure capable of supporting workers, tools, and materials at elevated heights.
- Safety: Properly installed couplers prevent accidental disassembly or collapse of scaffolding, thereby minimizing the risk of falls and injuries on the construction site.
- Versatility: Different types of couplers allow scaffolds to be customized according to the specific requirements of the project, whether it involves complex configurations or straightforward vertical access.

Right-Angle Coupler

Sleeve Coupler

Material Quality, Testing and Compliance

All elements of the couplers must be made from steel or cast iron and meet the specified requirements outlined in the relevant standards where design data is provided. The materials used must be robust and durable enough to withstand normal working conditions. High-quality steel is typically preferred for its strength and durability, and it should meet specific mechanical properties (EN 12811-2) to ensure it can endure the loads and stresses encountered in scaffolding applications. Couplers should be resistant to corrosion, especially in outdoor environments where exposure to moisture and chemicals can accelerate metal degradation (EN 12811-2).

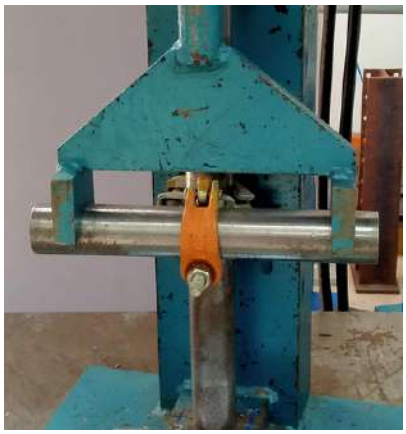
MS 1462-2-3:2011 emphasizes the importance of quality control throughout the manufacturing process of couplers. Manufacturers are required to enforce rigorous quality assurance protocols to guarantee that each coupler adheres to exacting standards for material properties, dimensional accuracy, and load-bearing capacity. Verification of compliance with the standard typically involves:

- Batch Testing: Random samples from each production batch are subjected to testing to confirm compliance with MS 1462-2-3:2011 requirements.
- Certification and Marking: Couplers that successfully meet all testing and quality criteria are typically marked with certification labels (Product Certification (PC) or Certification of Approval (COA)) indicating compliance with the standard.

Testing couplers for tubular metal scaffolding in accordance with standard MS 1462-2-3:2011 involves rigorous procedures designed to ensure their structural integrity, safety, and compliance with specified requirements. Manufacturers and suppliers are responsible for conducting these tests to ensure their products meet regulatory requirements and provide reliable support for construction activities. Load testing plays a crucial role in assessing the structural integrity and safety of couplers. MS 1462-2-3:2011 mandates that couplers undergo rigorous load testing to verify their capacity to withstand the loads typically encountered in scaffolding applications. Here's an overview of the requirements for load testing:

- The minimum number of tests required for different types and classes of each coupler, either 5 or 10, is specified in Table 9, MS 1462-2-3:2011.
- Specimens for testing must be randomly selected from a batch of at least 500 couplers.
- Unused couplers should be used for all tests except ultimate load tests; couplers used for slip tests may be reused.
- Reference tubes and bars must comply with specifications in Table 7, MS 1462-2-3:2011.
- Evaluation of slipping force test results involves plotting load-displacement curves and analyzing them statistically according to EN 12811-3 to determine the 5% quantile.
- Evaluation of failure force, pull-apart resistance, and bending moment resistance test results is based on analyzing maximum test load statistically according to EN 12811-3 to determine the 5% quantile.
- Evaluation of cruciform bending stiffness test results is based on principle 10.10 of EN 12811-3, analyzing bending/stiffness curve statistically to determine the 5% quantile.
- Evaluation of rotational stiffness test results involves plotting moment/stiffness curves and analysing them statistically according to EN 12811-3 to determine the 5% quantile.
- Evaluation of indentation is based on the maximum value of indentation for each test. The values shall not exceed those given in Table 8 of MS 1462-2-3:2011.
- Each coupler model of a defined type and class must meet all criteria detailed in Table 8 of MS 1462-2-3:2011. This entails that all evaluated test results for structural parameters should either meet or exceed the specified values in the standard, with the exception of indentation.

The characteristic values and safety coefficients applicable for use are specified in EN 12811-1 and EN 12812. These standards provide essential guidelines to ensure the couplers perform reliably under operational conditions.



Failure Force Test

Setting Up Sleeve Coupler

Conclusion

Adhering to the requirements and testing procedures outlined in MS 1462-2-3:2011 is essential for ensuring the safety, reliability, and performance of couplers used in tubular metal scaffolding. By conducting thorough material quality control, dimensional checks, and rigorous load tests, manufacturers and construction professionals can confidently select and use couplers that meet the highest standards of quality and safety. This commitment to compliance not only enhances workplace safety but also contributes to the overall efficiency and success of scaffolding projects in Malaysia and beyond.

Our Commitment

We are delighted to inform you that our MKRM Kuala Lumpur is fully equipped and able to perform all load testing specified in Table 8 of MS 1462-2-3:2011. Looking ahead, MKRM Kuala Lumpur plans to expand its scopes of testing services to encompass couplers for tubular metal scaffolding products. This initiative underscores our commitment to becoming a trusted provider of testing services, ensuring compliance with MS 1462-2-3:2011 and reinforcing our dedication to excellence in quality, accuracy, and reliability.

Building Information Modelling (BIM): Pivotal Role in Construction 4.0

by Ir. Ts. Dr. Hj. Mohd Khairolden Ghani

In this digital age, technology plays a significant role in how the construction industry operates. In a challenging business environment, embracing disruptive technology is necessary for survival, especially post-COVID-19. The adoption of technology in any field is no longer optional but a necessity in a quest to transform the productivity of the construction industry to be on par with other developed economies. The construction industry is living in an age of unprecedented challenges and opportunities, facing either economic prosperity or economic difficulties. To overcome such challenges, industries need to adopt new ways of thinking and working. Technologies and innovations already exist to address these issues.

The onset of the global COVID-19 pandemic threw a curveball at every industry, and the construction sector was not spared. The construction industry is one of the least digitized industries in the country, as most organizations opted to use conventional methods instead. It is still catching up on digitalizing existing methods that include extensive data collection, communication, and collaboration.

The digitalization of these fundamental processes will not only pave the way for future implementation of more advanced technologies but also enable construction companies to be more efficient and remain competitive in global market segments. The adoption of Building Information Modelling (BIM) is one of the most effective ways for companies to make a digital leap. BIM, popular since 2015, is a key technology that, if widely adopted, will multiply productivity many times over. The five-year Strategic Construction (CR4.0) plan promotes BIM as an emerging technology to boost efficiency and ease of doing business.

Using BIM in construction is like building a digital twin of the physical structure, which enables tracking and management of all facets of the project from the onset of construction until operations, maintenance, and demolition. Through BIM adoption, many construction issues can be resolved at minimized costs. The first BIM report was published in 2016, the second in 2019, and the third issue will see the progression of BIM in Malaysia post-COVID-19. Since 2019, public projects worth RM 100 million and above are required to use BIM, which helped give it a kickstart. The recommendation for the mandatory use of BIM in private sector projects would certainly pave the way for greater adoption in the forthcoming years.

Although BIM is not a new buzzword in construction, it has now steadily gained momentum. Malaysia has taken notable steps at the national level to elevate industry performance by advocating for the adoption of BIM. BIM facilitates the process of producing digital twins of a facility. The existing body of knowledge lacks an understanding of the criteria influencing project team members in starting the construction of BIM-based projects. BIM not only allows for digital design representation, but it also offers all necessary information for every project before it is built. BIM is utilized to create and manage this data during the design, construction, and operation stages. BIM combines multi-disciplinary data to produce detailed digital representations that can be maintained in real-time on an open cloud platform (Autodesk, 2013).

According to the Malaysia BIM report published in 2016, the level of adoption stood at 17% (CIDB, 2017). The level of adoption in 2019 increased drastically to 49%. In 2021, BIM adoption further increased to 55%. Respondent interest in establishing BIM has consistently increased from 2016 until 2021. The adopters of BIM vary among the sizes of organizations. It shows that 30% of large organizations dominated the survey results, followed by small organizations at 25% and medium-to-large organizations at 23%. In terms of standards used in BIM adoption, most organizations have adopted CIDB BIM guidelines as their main reference, followed by JKR BIM guidelines. The respondents most cited sources from CIDB Malaysia.

In the 2021 report, the study identified the top four strategies for BIM:

Create BIM institutes for training young/fresh graduates

Provide financial aid to reduce the cost of implementing BIM

Develop BIM implementation guidelines

Develop programs to integrate BIM into educational curricula and academia

As COVID-19 impacted the construction industry, the findings show an increasing adoption of technology since the unprecedented outbreak. However, there are still some planning and mitigation measures needed to weather the impact, including:

Increased construction costs

Shortage of labor

Increase government support for financing

Increase digital transformation

The results show that the top four challenges have remained consistent yearly from 2016 until 2021, namely the high cost of software, high cost of training, high cost of technology, and lack of BIM knowledge. The CIDB has embarked on the Construction 4.0 Tour across the country to create excitement and a platform for industry players to gain insight into digital technology and BIM. A new challenge faced by the industry in adopting BIM is the lack of top management support.

A key strategy to make BIM a norm in the construction sector is to ensure the new construction workforce is highly skilled in BIM. Towards this end, the empowerment of satellite centers must be strengthened. The time is now for the industry to pay greater attention to advanced technologies such as BIM. This is because the adoption of BIM is a key game-changer to ensure that the construction industry maintains its competitiveness at the local and international levels. Furthermore, BIM will be an important component as the industry enters Construction 4.0 (CR4.0) and the 4th Industrial Revolution (4IR). The industry, in support of the government, must put greater promotion and awareness efforts into the future uptake and implementation of BIM. The industry's adoption of BIM would result in an overall increase in productivity.

As projects become increasingly competitive, BIM is one of the best options for revolutionizing the entire lifecycle of a project. This will only continue to improve with advanced sensors, machine-to-machine communication, 3D printing, robotics, artificial intelligence, big data analytics, and cloud computing technology making inroads into the construction industry. The government is setting the pace for BIM implementation. The involvement of local authorities in implementing BIM during the initial project submission stage is commendable. By 2023, all local authorities with city status will be using this system for all project submissions.

The time is now for the industry to pay greater attention to advanced technologies such as BIM. This is because the adoption of BIM is a key game-changer to ensure that the construction industry maintains its competitiveness at the local and international levels. Furthermore, BIM will be an important component as the 4th Industrial Revolution takes place. As projects become increasingly competitive, the use of BIM offers a more cost- and time-sensitive solution compared to traditional construction processes. In fact, the potential of BIM to reduce construction costs and avoid design problems in the planning phase was the main impetus behind the government's push to increase the adoption of BIM in the industry. Industry players should embrace emerging technologies as a key to success, ensuring that the construction industry stays in step with advancements in productivity and efficiencies of other sectors.

Product Certification of Ready-Mixed Concrete in Malaysia: Enhancing Quality and Trust in the Industry

by Mohd Shearhan Mahtar

On May 21, 2024, CREAM Certification Services (CCS) received an invitation to the Program Libat Urus Bersama Industri Bagi Pemerakuan Pematuhan Standard (PPS) Bahan Binaan – Ready-mixed Concrete, organized by the Construction Industry Development Board (CIDB) Kedah and Perlis at the Kedah Digital Library, Alor Setar. The main objective of the program was to enhance compliance among industry players in the Northern Region, particularly in Kedah and Perlis, as stipulated in Schedule Four of the CIDB Act 520. The program also provided an opportunity for suppliers and manufacturers of ready-mixed concrete in the region to interact directly with CCS and CIDB.

Introduction

Ready-mixed concrete is a crucial component in the construction industry, serving as the foundation for various structures, from residential buildings to large infrastructure projects. In Malaysia, the demand for high-quality ready-mixed concrete has surged with rapid urbanization and infrastructure development. To ensure consistent quality and safety, product certification of ready-mixed concrete has become increasingly important. This article explores the certification process, its benefits to the industry, and its overall impact on construction standards in Malaysia.

The Certification Process

During the program, CCS highlighted the product certification of ready-mixed concrete in Malaysia. It is primarily governed by the Construction Industry Development Board (CIDB) and Jabatan Standard Malaysia (JSM), which provide the Construction Industry Standard (CIS) and Malaysian Standard (MS) for ready-mixed concrete, respectively. The certification process involves several steps:

1. Compliance with Standards

RMC producers must comply with MS 206: 2016 and CIS 21: 2018, which outline the specifications for ready-mixed concrete, including its production, transportation, and delivery. Compliance ensures that the concrete meets the required quality standards.

2. Quality Management System

Producers must implement a robust Quality Management System (QMS) in accordance with ISO 9001 standards. This system ensures consistent production processes and product quality.

3. Regular Testing and Inspection

Certified ready-mixed concrete undergoes regular testing and inspection by accredited laboratories to verify its quality and performance. These tests include assessing the concrete's compressive strength, workability, and durability.

4. Certification Audit

An independent audit is conducted to review the producer's compliance with the relevant standards and QMS. Successful completion of the audit leads to certification.

5. Ongoing Surveillance

Certified producers are subject to ongoing surveillance and periodic audits to ensure continued compliance with certification requirements.

Benefits to the Industry

CCS elaborated on the various benefits that the certification of ready-mixed concrete brings to the Malaysian construction industry during the program, such as:

Enhanced Quality Assurance

Certification ensures that ready-mixed concrete meets stringent quality standards, resulting in more durable and reliable concrete structures. This reduces the risk of structural failures and increases the lifespan of buildings and infrastructure.

Increased Trust and Confidence

Certified ready-mixed concrete provides assurance to contractors, developers, and clients that the concrete used in their projects is of high quality. This trust can lead to increased business opportunities and partnerships for certified producers.

Improved Safety

High-quality ready-mixed concrete contributes to the safety of construction projects. Structures built with certified concrete are less likely to suffer from defects or failures, ensuring the safety of workers and occupants.

Competitive Advantage

Ready-mixed concrete producers who achieve certification gain a competitive edge in the market. Certification distinguishes them from non-certified producers and can be a key factor in winning contracts and tenders.

Regulatory Compliance

Certification helps producers comply with national and international regulations and standards. This compliance is essential for projects that require adherence to specific construction codes and regulations.

Environmental Sustainability

Certified ready-mixed concrete producers often implement environmentally friendly practices as part of their QMS. This includes optimizing the use of raw materials, reducing waste, and minimizing the environmental impact of concrete production.

Impact on the Construction Industry

CCS also emphasized the significant positive impact of the widespread adoption of ready-mixed concrete certification in Malaysia, which includes:

Standardization

Certification promotes standardization in the production and use of ready-mixed concrete, leading to consistent quality across projects. This standardization simplifies the procurement process for contractors and developers.

Innovation and Improvement

The certification process encourages ready-mixed concrete producers to continuously improve their production processes and adopt innovative technologies. This drive for improvement leads to advancements in concrete quality and performance.

Economic Growth

High-quality construction materials contribute to the successful completion of infrastructure projects, which in turn drives economic growth. Reliable ready-mixed concrete supports the development of key infrastructure, such as roads, bridges, and commercial buildings, fostering economic progress.

Global Competitiveness

Certification aligns Malaysian ready-mixed concrete producers with international standards, enhancing their competitiveness in the global market. Certified producers can export their products and participate in international projects with confidence.

Conclusion

CCS extends its utmost gratitude to CIDB Kedah and Perlis for the opportunity to be involved in the program. The program achieved its objectives and provided the industry with the chance to work together with CIDB and CCS to further improve the quality of ready-mixed concrete certification in Malaysia. It also stressed the commitment that CREAM and CCS have to further enhancing the construction industry in Malaysia.

Product certification of ready-mixed concrete in Malaysia is a critical factor in ensuring the quality, safety, and reliability of construction materials. The certification process, governed by stringent standards and regulations, benefits the entire construction industry by enhancing quality assurance, increasing trust, and promoting innovation. As Malaysia continues to grow and develop, certified ready-mixed concrete will play a vital role in building a sustainable and resilient future.

Testing Facilities Available at CREAM -MKRM

We offer over 10 years of experience, providing a broad range of services to clients around the globe.

Our global network of laboratories and testing facilities, staffed by knowledgeable, experienced and competent personnel, help you to reduce risks, shorten time to market and demonstrate the quality and safety of materials, components, or products.

Full scale structure component test is our main forte. We can test actual size structure components such as beam, wall, slab, piles, segmental box girder, scaffolding, railway component, etc. We also offer testing services for wide range of construction material for your product quality determination, regulatory requirement, or any other compliance purposes.

CREAM-MKRM and its branches are accredited to MS ISO/IEC 17025 by Standards Malaysia, thus ensuring the high standard and quality of the report produced.

Some of our facilities are:

1. Reaction floor (15m x 26m)
2. Reaction wall (6m x 6m)
3. Universal testing machine 100 kN- 2000 kN
4. 200 kN-300 kN dynamic testing machne 100 kN- 2000 kN
5. 300 kN dynamic actuator
6. 500 kN - 2000 kN static actuator
7. 500 kN resonance testing machine
8. Hardness tester
9. Spectrometer
10. 3D bar measurement

Scope and Testing Services

include but not limited to

IRON & STEEL

Typical Product : Rebar, Plate, Mesh, Wire, Rod, Tube, Strand, Hook, Anchor, Lifting Clutch etc.

- Dimension
- Mass
- Tensile
- Yield
- Fatigue
- Chemical Element Analysis (XRF, Spectrometer, ONH Analyzer)
- Coating thickness (Magnetic & Gravimetric method)
- Coating mass
- Surface coating
- Shear weld
- Flattening
- Surface geometry (Microscope & 3D high speed camera scan
- Pull out force
- Bend/Rebend
- Elogation
- Relaxation
- Hardness (Brinell, Rockwell & Vickers)
- Rebar bond test
- Mechanical splice test
- Weathering
- Corrosion
- Sample cutting

SCAFFOLDING & FALSEWORK

Typical Product : A-Frame, Modular, Tubular, Vertical & Horizontal Frame, Standard, Ledger, Transom, Cross Brace, U-Head & Jack Base, Sleeve, Coupler, Pin, Steel Prop, Platform, Clamp & Hook, Catwalk, Toe board, Guardrail, Stairway etc

- Dimension
- Mass
- Tensile
- Fatigue
- Chemical Element Analysis (XRF, Spectrometer, ONH Analyzer)
- Coating thickness (Magnetic & Gravimetric method)
- Coating mass
- Surface coating
- Bending /Flexural
- Shear
- Proof load
- Cross cut test
- Corrosion
- Weathering
- Deflection
- Surface geometry (Microscope & 3D high speed camera scan
- Load test on U-Head/Jack base
- Side protection test
- Bending test on platform
- Dynamic test on staircase
- Drop test
- Global test on shoring system
- Full scale test in scaffold, falsework & shoring system
- 1x3, 3x3, high tower, low tower
- Test on sleeve & coupler
- Straightness
- Load test on prop
- Pin test on prop
- Unintentional disengagement on prop Cross brace pi

CONCRETE

Typical Product : Ready Mixed Concrete (RMC), Fresh Concrete, Concrete Coring, Mortar, Aggregates, Cement, Bricks, Blocks

- Sample Preparation
- Dimension & Mass
- Compression test (Cube, Cylinder, Core)
- Flexural Test
- Density
- Water absorption
- Specific Gravity
- NDT Test on Concrete
- Slump test
- Cement chemical properties (XRF)
- Sieve analysis
- Compacting factor
- Cube test with RFID technology
- Concrete coring
- Tensile splitting
- Immersion

NON-DESTRUCTIVE TEST (NDT)

Typical Product : Concrete, Iron & Steel , Cement

- Rebound / Schmidt Hammer
- Ground Penetrating Radar (up to 6 m)
- Ultrasonic Pulse Echo Wireless Imaging System
- Eddy Current Instrument
- Digital Ultra Sonic Flaw Detector
- Handheld XRF
- Digital Microscope
- 3D Bar Scanner for Surface Geometry

FULL SCALE STRUCTURAL TEST

Typical Product : Industrialized Building System (IBS) Component, Precast Concrete, Steel Frame, Timber Frame, Formwork, Blockworks, Innovative Product, Wall Panel, Beam, Slab, Hollow Core Slab, Staircase, Precast Piles, Pipes, Culvert, Non Load Bearing Wall, Bridges, Pier, Segmental Box Girder etc.

- Static load test (Vertical, Horizontal)
- Flexural & Bending test
- Compression test
- Load Combination (Vertical + Horizontal)
- Dynamic Load Test
- Dimension
- Proof Load Test
- Design Conformity Test
- Strength & robustness test of Wall Panel
- Customized structure test

RAILWAY INFRASTRUCTURE

Typical Product : Precast Concrete Railway Sleepers, Composite Sleepers, Bearers, Rail Track

- Bending moment test on sleepers (Negative / Positive)
- Bending moment test on rail seat (Negative / Positive)
- Dynamic load test on rail seat
- Fatigue test on rail seat
- Insert Pull out test
- Bend test on rail track
- Chemical composition test
- Hardness Test
- Dynamic/Fatigue test

MKRM SABAH & MKRM SARAWAK

Typical Product : Concrete, Cement, Aggregate & Iron & Steel

CONCRETE

- Compression
- Flexural
- Water depth of penetration
- Slump
- Density
- Dimension
- Air content
- Degree of Compatibility
- Water absorption

CEMENT

- Compression on mortar
- Soundness
- Setting time
- Fineness (Blaine method)

AGGREGATE

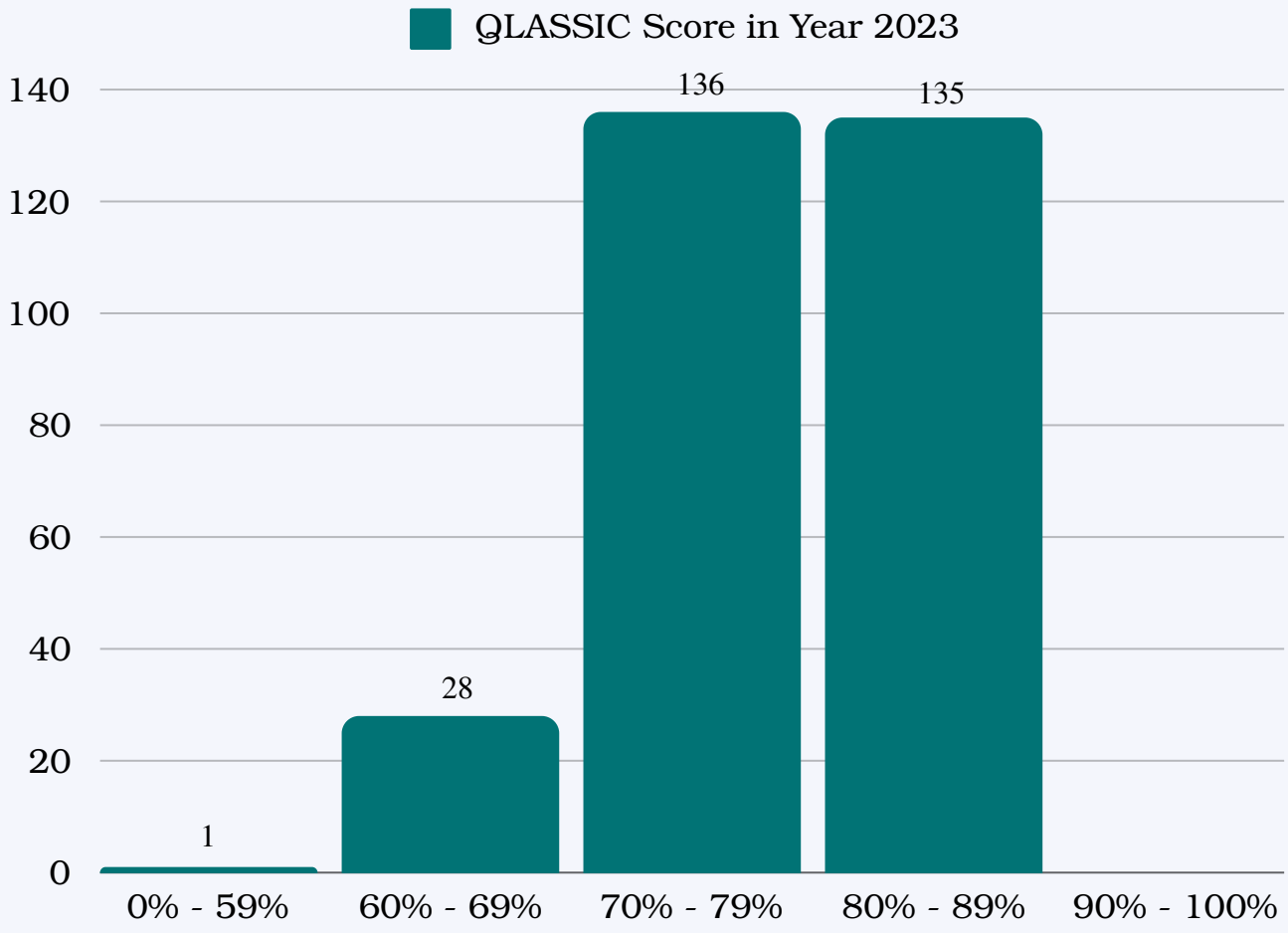
- Particle size distribution
- Impact value
- Crushing value
- Flakiness index
- Elongation

IRON & STEEL

- Tensile
- Yield strength
- Elongation
- Dimension

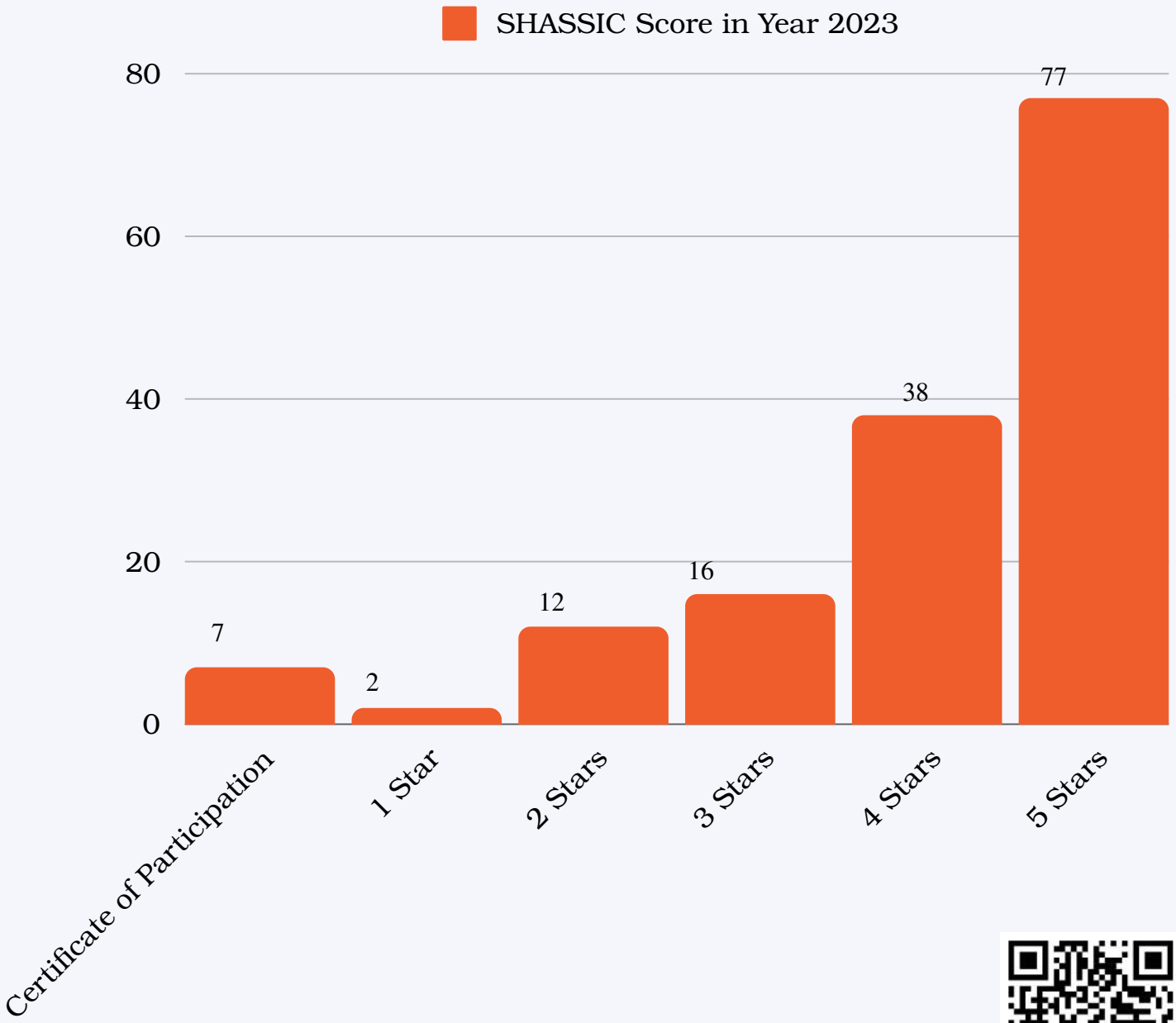
Get our complete list of testing facilities

QLASSIC
Quality Assessment System in Construction

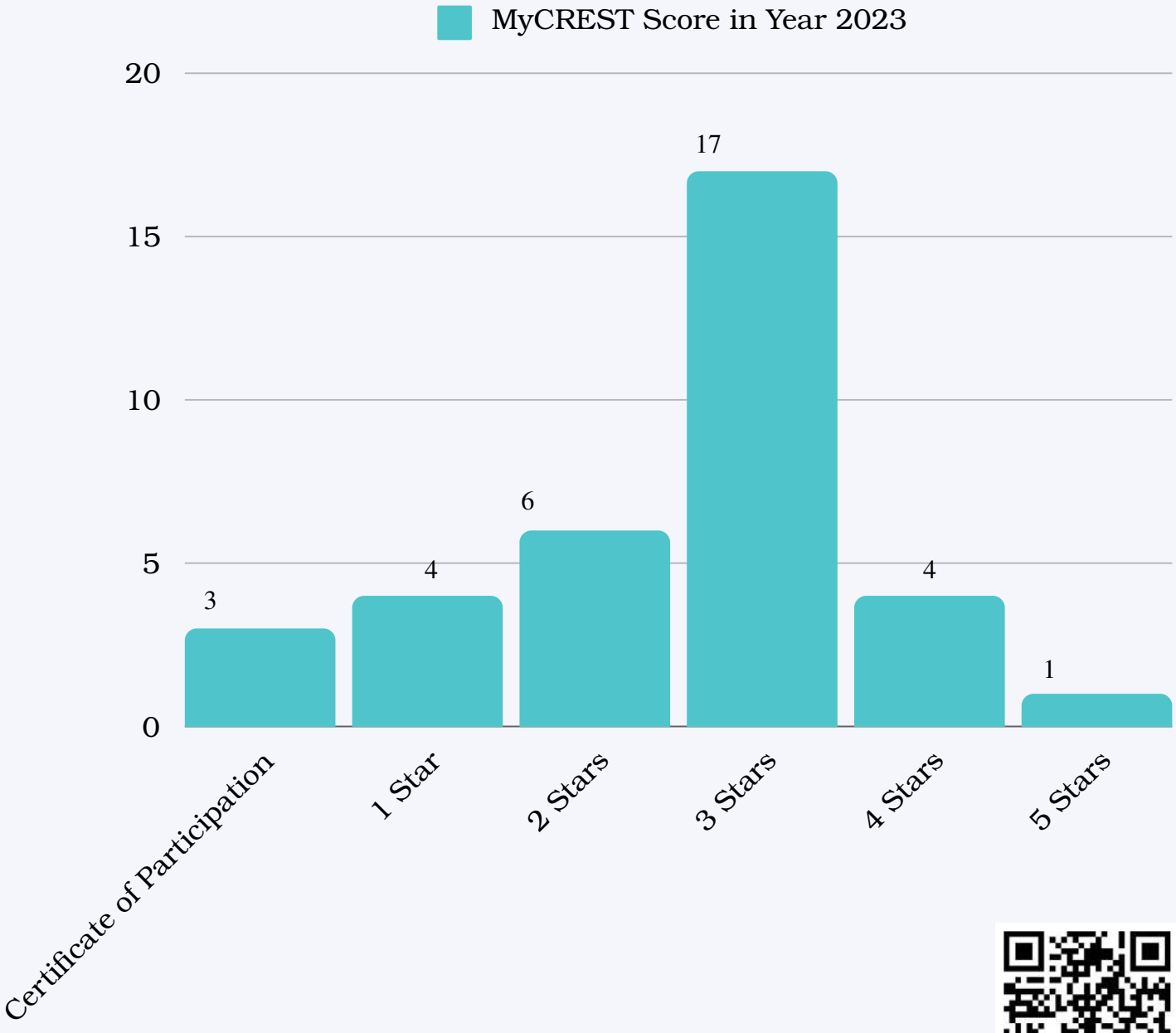


More info on SHASSIC:

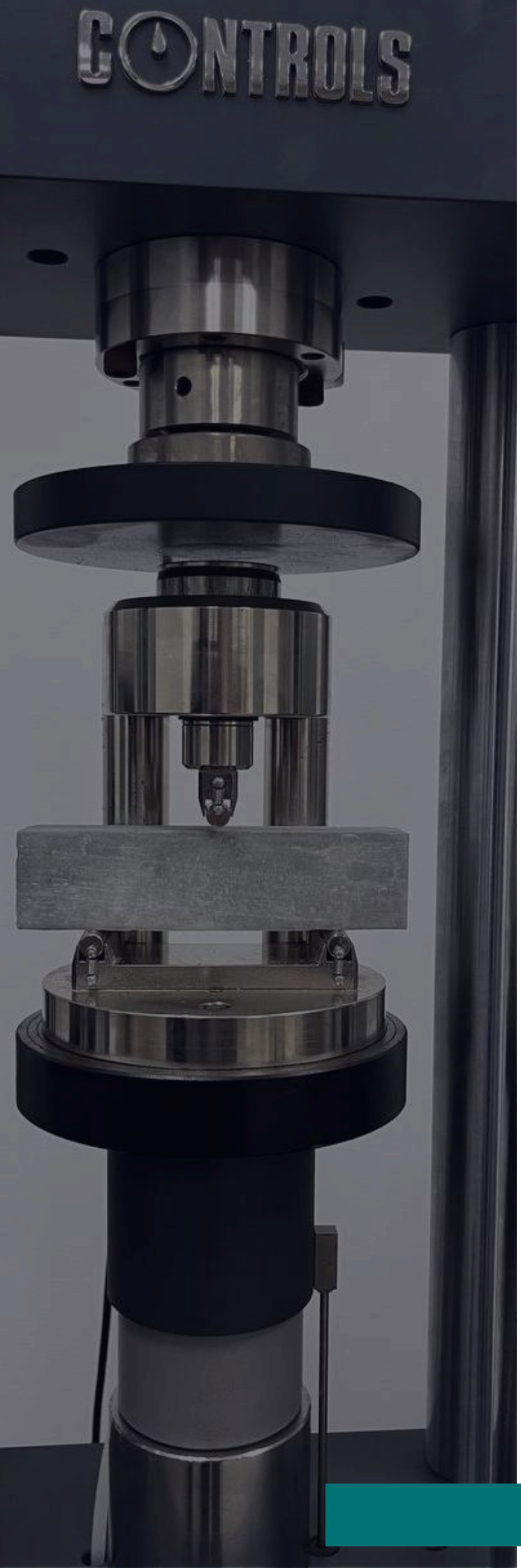
SHASSIC
Safety and Health Assessment System in Construction



More info on SHASSIC:



More info on MyCREST:



Activities Highlights

Linsun Engineering Sdn. Bhd. Pursues CQMS Certification with CREAM

Date : 25 April 2024

Venue : CREAM, The MET Corporate Towers

Apply for CQMS

Linsun Engineering Sdn. Bhd. recently visited the CREAM office to sign up for CQMS certification. The meeting was attended by Dato' M Satishkumar, the Operations Director of Linsun Engineering, and CREAM's CEO, Ir. M. Ramuseren. During the visit, Dato' Satishkumar expressed a keen interest in obtaining the CQMS Certification, underscoring the company's commitment to quality and excellence in their operations.

Thank you, Linsun Engineering, for choosing to get certified with CREAM.

Technical Working Group (TWG 6) meeting under the National Construction Policy (NCP2030)

Date : 29 April 2024

Venue : Dorsett Putrajaya

CREAM attended the Technical Working Group (TWG 6) meeting under the National Construction Policy (NCP 2030). The meeting, held at Dorsett Putrajaya, was officiated by Haji Razuki Ibrahim, Deputy Chief Executive 1 of CIDB Malaysia. This group focuses on internationalization, good governance, and best practices within the construction industry.

The strategic thrust areas for discussion included improving the procurement system for public projects, enhancing public service delivery through digital platforms, and reforming training academies and research institutes. The committee also needed to discuss key performance indicators (KPIs), expected outcomes, issues, planned programs, and the proposed budget for these initiatives.

Sesi Libat Urus Bersama Pengedar/Pengeluar Jendela Aloi Aluminium (MS832:2022) dan Pintu Kaca Sliding Berbingkai Aluminium (MS1017:2022)

Date : 29 April 2024

Venue : Dewan Tun Sri Lanang 1, Hotel GBW, Johor Bahru

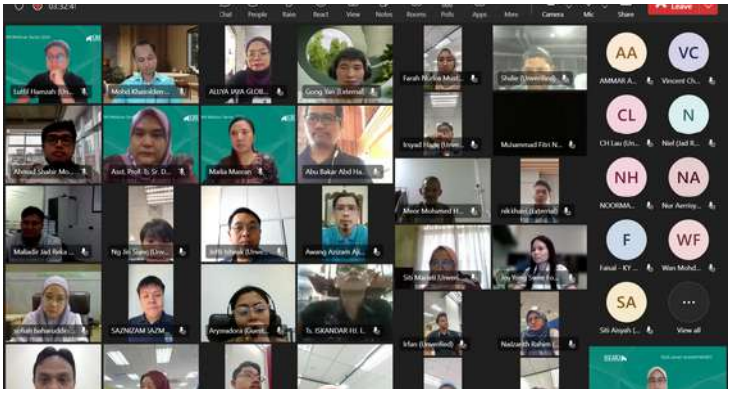
Ts. Syed Hazni Abd Gani was invited by CIDB Negeri Johor and the Compliance Division of CIDB Malaysia to share insights on aluminium alloy windows and aluminium-framed sliding glass doors with attending manufacturers and fabricators. The event, officiated by State Director Sr. Ahmad Farrin Mokhtar, focused on standard compliance and product certification requirements.

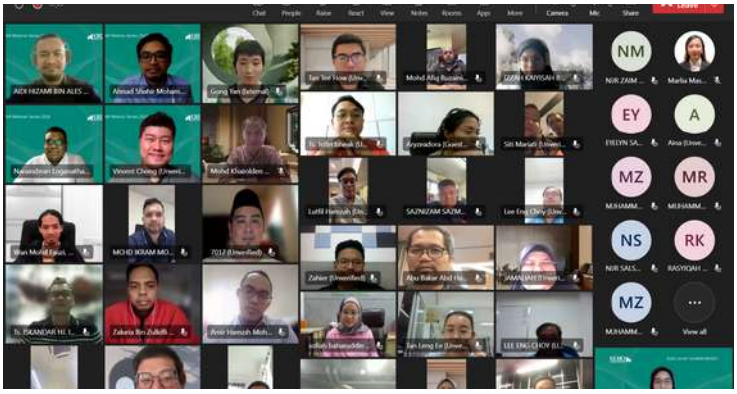
Ts. Syed also discussed CQAC certification schemes related to quality, safety, and environmental standards, including QLASSIC, SHASSIC, MyCREST, and Sustainable INFRASTAR.

CREAM Webinar Series 2024

CREAM Webinar Series 2024 is a monthly program organised by CREAM and it is a part of our efforts to initiate conversations on issues, challenges, opportunities and initiatives for the construction industry and beyond.

The theme for this month's webinar is **"Building Bridge: Navigating Construction Challenges with Digital Technologies"**





Session 1: Advancing Construction Industry 4.0: Integrating BIM and IoT for Sustainable Development In Malaysia.

29 April 2024

Speakers :

- Mr. Mohd Lutfil Hadi Mohd Hamzah
  Solution Specialist (AECO Segment), Autodesk Malaysia
- Assoc. Prof. Ts. Sr. Dr. Nadzirah Hj. Zainordin
  Head of Research and Postgraduates Studies, School of Architecture & Build Environment, UCSI University

Special Address:

- Ts. Mohamed Kheirulnaim bin Mohamed Danial
  Senior Assistant Director, National Cyber Security Agency (NACSA)

No of participants : 58 pax

Session 2: Harnessing Digital Twins for Enhanced Lifecycle Management in Malaysian Construction Project

30 April 2024

Speakers:

- Mr. Naraindrran Loganathan
  Channel Manager (Southeast Asia), Bentley System
- Mr. Vincent Chong
  Division Director, Hertford System Sdn Bhd
- Ir. Dr. Aidi Hizami Alias
  Senior Lecture, Department of Civil Engineering, Universiti Putra Malaysia

No of participants : 71 pax

Engagement Program with IBS Producers for Construction Material Certification (PPS) by CIDB Negeri Perak

Date : 7 May 2024

Venue : Symphony Suites Hotel Ipoh

On 7th May 2024, CREAM was invited to deliver a paper on its services during an event organized by CIDB Negeri Perak. The "Sesi Libat Urus CIDB Negeri Perak Bersama Pengeluar IBS bagi Pemerakuan Bahan Binaan (PPS)" was attended by IBS industry players in the State of Perak. The event was graced by CIDB Perak State Director En. Zaini bin Yahya, who delivered the opening remarks. CREAM was represented by En. Ahmad Hazim Abdul Rahim, the manager for Makmal Kerja Raya Malaysia (MKRM).

He presented a general overview of CREAM, its roles and functions, and most importantly, CREAM's core technical services such as Certification, Assessment, Testing, and Inspection. He then zoomed in on the topic of Construction Product Approval (CPA), which was the main highlight of his presentation, as the audience consisted of IBS industry members. He explained the main objectives of CPA, the processes and procedures, and the importance of CPA as a prerequisite for IMPACT Certification and CIDB PPS.

The event was a valuable platform for CREAM to engage with the industry, not only as a medium to promote its services but also to gather valuable feedback on the current atmosphere in the sector. CREAM would like to thank CIDB Negeri Perak for the invitation and for successfully conducting the event.

Program Jelajah BINA Townhall se-Malaysia, Kota Kinabalu
Date : 7 May 2024
Venue : Hilton Kota Kinabalu, Sabah

The “Jelajah BINA Townhall Se-Malaysia” program for the Sabah region was held at the Hilton Hotel, Kota Kinabalu, Sabah, on May 7, 2024. The event was organized by CIDB IBS in collaboration with CIDB to enhance awareness among construction industry players regarding the acts and regulations involving Industrialized Building System (IBS) based on the CIDB Act 520 and the policy for IBS application for construction personnel and components involved in local projects.

CREAM was invited to participate as both a speaker and exhibitor to promote CREAM and MKRM Sabah services to local industry players. Sr. Yusrin Faiz Abd Wahab, representing CREAM, delivered an introductory presentation about CREAM’s profile and services, as well as insights related to Construction Product Approval (CPA) and IBS Manufacturer & Product Assessment and Certification (IMPACT) services to the audience.

CREAM would like to express gratitude to CIDB IBS for the invitation and opportunity to participate in the event, and looks forward to more potential engagement with industry players in Sabah.

Strengthening Facility Management (FM) through CFMP 2024

Date : 13 May 2024

Venue : Kementerian Kerja Raya, Kuala Lumpur

CIDB Malaysia has developed a strategic plan for Facility Management (FM) known as CFMP2024. This plan was presented to the Ministry of Works, chaired by Masdara Siregar, Deputy Under Secretary of Bahagian Dasar dan Antarabangsa (BDA), on May 13, 2024. The primary objectives were to brief the Ministry on the contents of the CFMP and outline a forward-looking action plan for both CIDB and the Ministry. The strategic plan aims to enhance the role of Facility Management in the construction industry and align with the broader goals of the National Construction Policy (NCP 2030).

Objectives and Focus Areas of CFMP2024

1. Strengthening FM: Establishing standards and best practices for effective facility management throughout the lifecycle of construction projects.
2. Action Plan: Outlining specific initiatives and timelines for CIDB and the Ministry to achieve the CFMP2024 objectives.
3. Empowering Stakeholders: Providing a framework to help government bodies, private companies, and associations implement effective FM practices.

Activation of the Technical Committee on Facility Management and Asset

In response to the presentation of CFMP2024, the Ministry of Works has activated the Technical Committee on Facility Management (FM) and Asset. This committee is tasked with the following responsibilities:

1. Policy Alignment: Ensuring strategies align with NCP 2030 and integrating FM into national initiatives.
2. Coordination: Overseeing activities and fostering collaboration among stakeholders.
3. Capacity Building: Developing training programs and certification schemes to enhance skills in the FM sector.
4. Promoting Best Practices: Encouraging innovation and the adoption of advanced technologies in FM.

Seminar Pemantapan Kontraktor Bumiputera Tulen
Date : 19 May 2024
Venue : H Elite Design Hotel, Kota Bahru, Kelantan

CIDB Negeri Kelantan and Persatuan Kontraktor Melayu Malaysia (PKMM) Kelantan Branch collaborated and organized Seminar Pemantapan Kontraktor Bumiputera Tulen on the 19th of May 2024 at H Elite Design Hotel, Kota Bahru, Kelantan. Ts. Syed Hazni Abd Gani was invited to share about the Contractor's Quality Management System (CQMS) Certification during the Seminar Pemantapan Kontraktor Bumiputera. The seminar was officiated by the Chief Executive of CIDB Malaysia, YBhg. Dato' Sr. Mohd Zaid Zakaria.

This inaugural program aims to further empower bumiputera contractors, especially in giving exposure to contractors regarding CIDB programs and has brought together more than 300 Bumiputera contractors from all over Kelantan.

Courtesy Visit from Jabatan Kerja Raya (JKR) Cawangan Kejuruteraan Awam & Struktur at Makmal Kerja Raya Malaysia (MKRM)

Date : 20 May 2024

Venue : Makmal Kerja Raya Malaysia, Kuala Lumpur

On 20 May 2024, CREAM received a courtesy visit from the Jabatan Kerja Raya (JKR) Cawangan Kejuruteraan Awam & Struktur at Makmal Kerja Raya Malaysia (MKRM) to discuss the Construction Product Approval (CPA) procedure, focusing on the Metal Framing System and the specifications of the JKR J-Truss System.

Overview of Construction Product Approval (CPA)

Construction Product Approval (CPA) is a certification program designed for non-standard Industrialized Building Systems (IBS). This program allows manufacturers to obtain essential certifications, specifically CIS 24 and PPS, ensuring product compliance with established standards in accordance with Schedule 4, Act 520 CIDB. The CPA process involves rigorous evaluation and testing to ensure that products meet the necessary quality and safety benchmarks.

Focus on Metal Framing System

During the visit, CREAM officer for CPA, Yusrin Faiz Abd Wahab, elaborated on the specific requirements and procedures for obtaining CPA for Metal Framing Systems. This system, integral to modern construction practices, demands thorough scrutiny to ensure it meets the structural and safety standards required for public projects. The approval process includes detailed assessments of materials, design specifications, and installation procedures to ensure reliability and performance.

Courtesy Visit from Jabatan Kerja Raya (JKR) Cawangan Kejuruteraan Awam & Struktur at Makmal Kerja Raya Malaysia (MKRM)

Date : 20 May 2024

Venue : Makmal Kerja Raya Malaysia, Kuala Lumpur

Introduction of J-Truss System

One of the highlights of the visit was the presentation of the J-Truss System. The J-Truss System is an online application and approval system specifically designed for roof truss system suppliers involved in JKR projects. This system streamlines the approval process, making it more efficient and transparent. Suppliers can submit their applications, track the approval status, and receive feedback through the online platform.

Benefits of J-Truss System

The J-Truss System offers several benefits to roof truss system suppliers and the broader construction industry:

- Efficiency: The online platform reduces the time required for the approval process, allowing suppliers to bring their products to market more quickly.
- Transparency: Suppliers can track the progress of their applications in real time, ensuring they are informed of any issues or additional requirements.
- Standardization: By centralizing the approval process, JKR ensures that all products meet consistent standards, improving overall project quality and safety.
- Support for Innovation: The system encourages the development and use of innovative roofing solutions by providing a clear pathway for approval and certification.

Conclusion

The courtesy visit from JKR Cawangan Kejuruteraan Awam & Struktur to Makmal Kerja Raya Malaysia was highly informative and underscored CREAM and JKR's commitment to maintaining high standards in construction through the CPA program and J-Truss System. CREAM and JKR CKAS also look to recognize each other based on these two programs and support innovation in the construction industry. This initiative not only benefits suppliers but also contributes to the overall quality and safety of public infrastructure projects.

Industry Session with Minister of Works

Date : 30 May 2024

Venue : Kementerian Kerja Raya, Kuala Lumpur

CREAM participated as an industry panel to evaluate and provide feedback on proposals related to environmental and technology digitalization from two companies. The evaluation session was chaired by the Minister of Works and attended by representatives from CREAM, the Malaysian Highway Authority, Jabatan Kerja Raya (JKR), and the Construction Industry Development Board (CIDB).

Feedback and Evaluation

- **AI-Based CCTV Camera Analytics:** The panel, including CREAM and other attending authorities, highlighted the potential of AI technology to revolutionize construction site safety. They emphasized the importance of:
  - **Integration with Current Systems:** Ensuring that the AI solution can seamlessly integrate with existing site management and safety systems.
  - **Scalability:** Assessing the system's ability to scale across different sizes and types of construction projects.
  - **Cost-Benefit Analysis:** Evaluating the cost implications versus the expected improvements in safety and efficiency.
  - **Training and Adoption:** Providing adequate training for site personnel to effectively utilize the new technology

- **Crumb Rubber for Roads:** The feedback on this proposal focused on its innovative approach to sustainability and road construction. Key points included:
  - **Environmental Benefits:** Recognition of the significant environmental benefits through waste reduction and recycling.
  - **Performance Data:** The need for extensive performance data and field trials to validate the effectiveness and longevity of crumb rubber-modified asphalt.
  - **Regulatory Compliance:** Ensuring the material meets all regulatory standards and requirements for road construction.

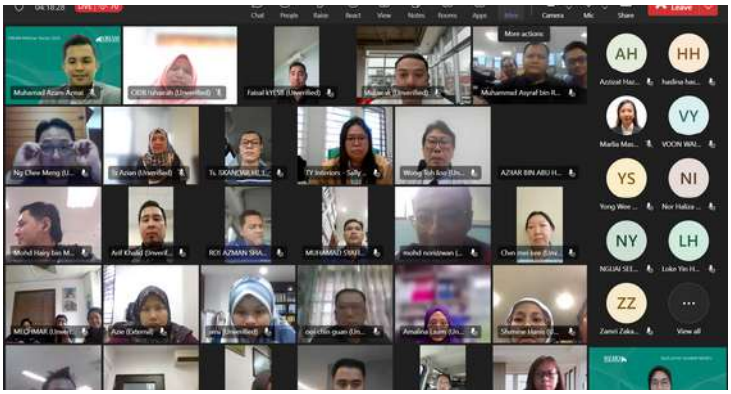
Conclusion

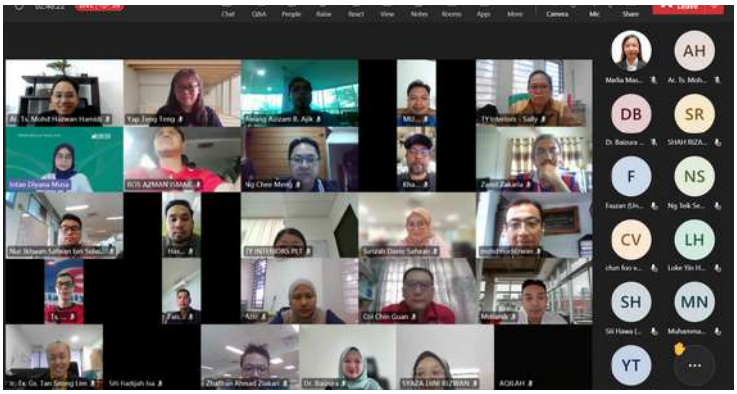
The evaluation session underscored the commitment of the Ministry of Works and associated bodies to advancing technology and sustainability in the construction industry. Both proposals present significant opportunities to enhance construction practices, improve safety, and promote environmental stewardship. The feedback from the panel will guide the refinement and potential implementation of these innovative solutions, aligning with the broader goals of the National Construction Policy (NCP 2030) and the Construction Industry Transformation Programme (CITP).

CREAM Webinar Series 2024

CREAM Webinar Series 2024 is a monthly program organised by CREAM and it is a part of our efforts to initiate conversations on issues, challenges, opportunities and initiatives for the construction industry and beyond.

The theme for this month's webinar is **"Building Tomorrow: Leveraging Sustainabale Ranting Tools For Future Projects".**





Session 1: CIDB Role's in Promoting Sustainability Through Tools and Initiatives

29 May 2024

Speakers :

- Ts. Fuhairah Ahmad Fuad
  Manager, Construction Industry Development Board (CIDB) Malaysia
- Mr. Muhamad Azam Azmai
  Assessment Officer, Construction Research Institute of Malaysia (CREAM)

No of participants : 75 pax

Session 2: Sharing Success Stories with MyCREST and Sustainable INFRASTAR Projects

30 May 2024

Speakers:

- Ar. Ts. Mohd Hazwan Hamidi
  Managing Director, ADHA Archictects
- Ts. Dr. Siti Norbaizura Md Rejab
  Lead Consultant, DBR Sdn Bhd

No of participants : 58 pax

Focus Group Discussion (FGD) for CREAM Eco Product (CEP) Certification Program

Date : 11 June 2024

Venue : AC Hotel by Marriott, Kuala Lumpur

CREAM is launching the CREAM Eco Product (CEP) Certification Program to recognize construction products that meet strict environmental and sustainability standards based on ESG criteria and ISO 14021:2016. This initiative aims to promote eco-friendly practices, encourage sustainable materials, and reduce the environmental impact of construction projects, supporting Malaysia's green building agenda and global sustainability goals.

On June 11, 2024, CREAM hosted a Focus Group Discussion (FGD) to improve the CEP Certification framework. The event gathered stakeholders from construction firms, government bodies, environmental organizations, and industry experts to address challenges, define sustainability criteria, and promote engagement. Key discussions focused on establishing benchmarks for certification and identifying obstacles, such as economic feasibility and consumer awareness.

Insights from the FGD led to recommendations, including incentives for green certifications, establishing baselines for product evaluation, tax benefits for eco-friendly products, and integrating ESG aspects across organizations.

The FGD was essential for gathering input to develop a rigorous certification framework, ensuring that the CEP Certification drives meaningful environmental benefits and fosters a sustainable built environment for the Malaysian construction industry. The event took place at AC Hotel by Marriott in Kuala Lumpur.

Research on Novel, Eco-Friendly, Stabilized, Hollow, Lightweight, Compressed Earth, Interlocking Bricks/Blocks

Date : 11 June 2024

Venue : Batu Tiga Quarry

The research on novel, eco-friendly, stabilized, hollow, lightweight, compressed earth, interlocking bricks/blocks has finally progressed to the prototype stage. On June 11, 2024, CREAM visited Batu Tiga Quarry (BTQ) to observe the construction of these innovative bricks/blocks firsthand. The visit included Mr. Bernard George, the Director of Operations for BTQ; Ir. Soo Thong Phor, the Director of CDL; BTQ's General Managers; CREAM's Managers, Pn. Maria and En. Hazim; and CREAM's researchers. Following the visit, samples of the blocks were produced and are set to be tested accordingly. One of the objectives of this study is to document the progress of adopting these interlocking compressed earth bricks as a sustainable alternative to current building materials.

The interlocking compressed earth bricks/blocks are produced using a highly compressed method, which is more efficient and environmentally friendly than the conventional firing process. This technology allows for the production of strong, durable, and cost-effective building materials that are also sustainable.

The key aspects investigated in this research include the proper mix design, such as the optimal amount of cement stabilizer, and the resulting physical and mechanical properties of the bricks/blocks, such as water absorption and compressive strength. The findings from this study will further the development and adoption of these innovative, eco-friendly building materials, contributing to more sustainable construction practices and reduced environmental impact.

Bolstering Infrastructure Maintenance and Facility Management (FM) through TWG 4 National Construction Policy (NCP2030)

Date : 21 June 2024

Venue : Kementerian Kerja Raya, Kuala Lumpur

On June 21, 2024, the 2nd Technical Working Group (TWG4) for infrastructure maintenance convened at the Ministry of Works. This gathering is part of the initiatives under the National Construction Policy (NCP 2030), which aims to enhance the coordination and facilitation of issues and challenges in the facilities and maintenance sector within the Malaysian construction industry.

The meeting was chaired by Helena Remeo, the Under Secretary of Bahagian Pengurusan Fasiliti at the Ministry of Works. Her role underscores the significance the government places on improving infrastructure maintenance and facility management practices.

The TWG4 meeting saw participation from various key stakeholders, indicating a collaborative approach to addressing maintenance challenges. Representatives from Jabatan Kerja Raya (JKR) were present, bringing their extensive experience in public works and infrastructure management. Additionally, the President of the Malaysian Association of Facility Management (MAFM) attended, highlighting the involvement of professional bodies dedicated to facility management in the country.

The Malaysian Highway Authority (LLM) also had representatives at the meeting, emphasizing the critical role of highway and road infrastructure in the overall maintenance strategy. Furthermore, the presence of facility management (FM) practitioners added practical insights and on-ground realities to the discussions, ensuring that policy and coordination efforts are well-informed by those directly involved in the field.

The focus of TWG4 under NCP 2030 is crucial as it targets a coordinated effort to address various issues and challenges related to facilities and maintenance in the construction industry. By bringing together these diverse yet interconnected entities, the Ministry of Works aims to develop more efficient, sustainable, and effective maintenance practices, ultimately contributing to the betterment of the nation's infrastructure.

MyCREST and Sustainable INFRASTAR Engagement Session Program with Local Authorities (PBT) by CIDB Negeri Melaka

Date : 27 June 2024

Venue : AMES Hotel, Melaka

CIDB Negeri Melaka recently held an engagement session aimed at enhancing the understanding of local authorities in Melaka regarding sustainability programs such as MyCREST and Sustainable INFRASTAR. This initiative is part of CIDB's ongoing efforts to promote sustainable development practices among project developers, owners, and consultants in the region.

During the session, En Muhamad Azam Azmai, a representative from the Construction Research Institute of Malaysia (CREAM), delivered a comprehensive presentation on MyCREST and Sustianable INFRASTAR. He highlighted the importance of these programs in fostering sustainable construction and infrastructure projects.

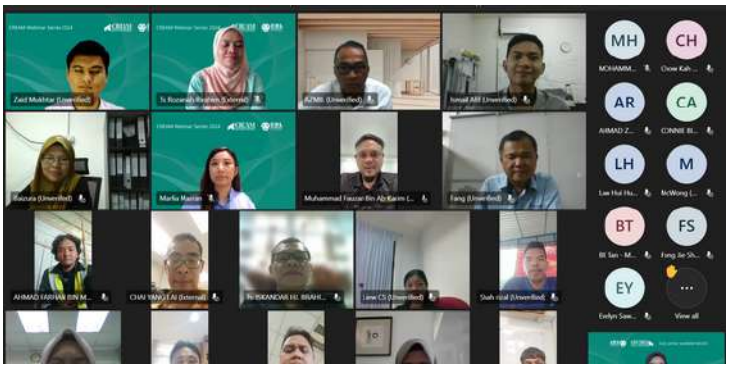
MyCREST (Malaysian Carbon Reduction and Environmental Sustainability Tool) and Sustainable INFRASTAR (Infrastructure Sustainability Assessment Tool) are key components of CIDB's strategy to encourage green building practices and sustainable infrastructure development. These tools provide guidelines and assessment criteria to ensure that construction projects minimize their environmental impact and contribute positively to the community.

The engagement session was well-received, with participants gaining valuable insights into the application and benefits of MyCREST and INFRASTAR. CIDB Negeri Melaka played a crucial role in organizing the event, and their efforts in facilitating this important discussion on sustainability were greatly appreciated.

CREAM Webinar Series 2024

CREAM Webinar Series 2024 is a monthly program organised by CREAM and it is a part of our efforts to initiate conversations on issues, challenges, opportunities and initiatives for the construction industry and beyond.

The theme for this month's webinar is **"Empowering Industrialised Building System (IBS) Technology in the Construction Industry**



Session 1: Compliance to CIS 18: 2023 and CIS 24:2024 for the Implementation of IBS in Malaysia

24 June 2024

Speakers :

- Mr. Mohammad Faizal Abdul Hamid
  General Manager, Construction Industry Development Board (CIDB) Malaysia
- Mr. Muhammad Zaid Mohd Mukhtar
  Training & Assessment Executive, CIDB IBS Sdn Bhd
- Ts. Rozainah Ibrahim
  Head of Business Development Department, CIDB IBS Sdn Bhd

No of participants : 43 pax

Session 2: The Application of Technology Products & Methods in Elevating the Construction Industry

25 June 2024

Speakers:

- Ms. Nor Eliza Selamat
  Civil Substation Senior Engineer, Tenaga Nasional Berhad (TNB)
- Mr. Amierul Haqim Azahar
  Innovative Precast Builder Sdn Bhd

Guest Panelist:

- Mr. Lim Tzr Liang
  General Manager (Technical) Construction Development Lab (CDL) YTL Cement Bhd

No of participants : 40 pax

CREAM Collaborates with Persatuan Kontraktor Melayu Malaysia (PKMM) to Promote Contractor's Quality Management System (CQMS)

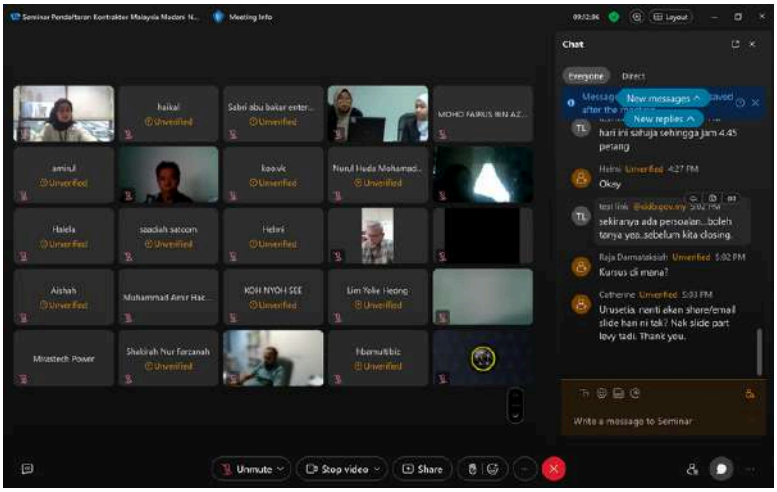
CREAM recently collaborated with Persatuan Kontraktor Melayu Malaysia (PKMM) to promote the Contractor's Quality Management System (CQMS) to PKMM members. CREAM was honored to be invited by PKMM to present on CQMS during their Annual General Meetings, organized by their state offices.

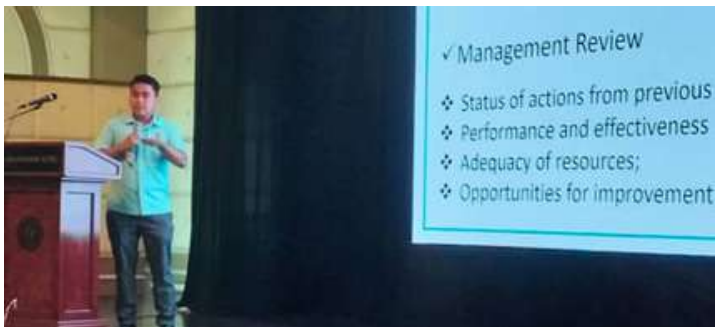
The collaboration aims to enhance the understanding and implementation of CQMS among contractors, ensuring higher standards of construction quality and performance. This initiative reflects CREAM's commitment to supporting industry stakeholders in adopting effective quality management practices.

CREAM's Participation in CQMS Promotion Seminars in Conjunction with Seminar Pendaftaran Kontraktor Malaysia Madani 2024 Conducted by CIDD State Offices.

CREAM has actively participated in several seminars in conjunction with Seminar Pendaftaran Kontraktor Malaysia Madani 2024, which were conducted by various CIDB state offices, to promote the Contractor's Quality Management System (CQMS). These events have provided us with a valuable platform to encourage more contractors to apply for and obtain CQMS certification, fostering a culture of quality and excellence in the construction industry.

We extend our heartfelt thanks to the various CIDB state offices for inviting and including us in your events. Your support has been instrumental in our efforts to promote CQMS and enhance the standards within the industry.





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