MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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ADVANCED MATERIALS FOR CONSTRUCTION AND REPAIR OF CONCRETE

"Enhancing concrete performance through modern materials and repair techniques"

Schedule

Date	Venue	Fees (Face-to-Face)
02 – 04 Nov 2026	Doha, Qatar	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

The quality and durability of concrete structures rely heavily on the selection and application of construction and repair materials. Advanced materials and techniques allow engineers and construction professionals to enhance the strength, longevity, and sustainability of concrete structures.

This intensive three-day program equips participants with practical knowledge and skills in the use of modern construction materials, repair methods, and quality control techniques. Participants will learn to select the right materials, implement effective repair strategies, and ensure compliance with industry standards.

Objectives

By the end of this course, participants will be able to:

- Understand the properties and performance of advanced construction materials
- Apply modern concrete repair techniques
- Select materials for durability, strength, and sustainability
- Implement quality control and testing methods
- Address common deterioration issues and repair challenges
- Ensure compliance with international standards and best practices
- Optimize the lifecycle performance of concrete structures

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Why Attend

- Gain practical knowledge of modern concrete materials and repair methods
- Learn techniques to enhance durability and performance of concrete structures
- Reduce maintenance costs and increase structure lifespan
- Improve quality control and testing procedures
- Network with professionals in civil construction and concrete technology

Target Audience

This program is designed for:

- Civil engineers and construction managers
- Structural engineers and site supervisors
- Quality control and assurance professionals
- Maintenance and repair specialists
- Professionals involved in concrete construction and infrastructure projects

Individual Benefits

Key competencies that will be developed include:

- Ability to select and apply advanced concrete materials
- Knowledge of repair and strengthening techniques
- Skills in quality control and durability assessment
- Understanding of international standards for concrete construction and repair
- Enhanced problem-solving skills for structural maintenance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved concrete structure performance and lifespan
- Reduced repair and maintenance costs
- Enhanced project quality and compliance with standards
- Better decision-making in material selection and repair methods
- Strengthened overall construction efficiency and sustainability

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Principles of advanced construction materials and repair techniques
- Case Studies – Real-world examples of concrete repair and material applications
- Workshops – Hands-on exercises in material selection, testing, and repair planning
- Peer Exchange – Group discussions on construction challenges and solutions
- Tools – Templates and guidelines for concrete repair, testing, and quality assurance

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Course Outline

Detailed 3-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Advanced Concrete Materials

Module 1: Introduction to Concrete Materials (07:30 – 09:30)

- Types of concrete and construction materials
- Key properties and performance factors

Module 2: Modern Construction Materials (09:45 – 11:15)

- High-performance concrete, additives, and admixtures
- Sustainable and eco-friendly materials

Module 3: Material Selection & Compatibility (11:30 – 01:00)

- Choosing the right materials for durability and performance
- Assessing compatibility and environmental considerations

Module 4: Workshop – Material Selection Exercises (02:00 – 03:30)

- Practical exercises in selecting materials for different applications

Day 2: Concrete Repair Techniques

Module 1: Common Deterioration Mechanisms (07:30 – 09:30)

- Cracking, corrosion, spalling, and other issues
- Causes and prevention strategies

Module 2: Repair Materials and Methods (09:45 – 11:15)

- Patch repair, overlay, and strengthening techniques
- Specialty repair materials

Module 3: Quality Control in Repair (11:30 – 01:00)

- Testing and monitoring repair effectiveness
- Compliance with standards and best practices

Module 4: Workshop – Repair Planning Exercises (02:00 – 03:30)

- Hands-on exercises in designing repair solutions

Day 3: Performance Optimization and Project Implementation

Module 1: Durability and Lifecycle Management (07:30 – 09:30)

- Strategies for enhancing concrete longevity
- Maintenance planning for long-term performance

Module 2: Case Studies in Construction and Repair (09:45 – 11:15)

- Successful applications of advanced materials and repair techniques
- Lessons learned from real projects

Module 3: Integrating Materials and Repair into Project Management (11:30 – 01:00)

- Aligning material selection and repair planning with project goals
- Cost-benefit and resource considerations

Module 4: Workshop & Course Wrap-Up (02:00 – 03:30)

- Capstone exercise: repair strategy for a sample structure
- Peer review, discussion, and final Q&A

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Certification

Participants will receive a Certificate of Completion in Advanced Materials for Construction and Repair of Concrete, validating their expertise in selecting materials, implementing repair techniques, and optimizing concrete performance and durability.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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