MAWA EVENTS

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

Phone: +601116373203 | **Email:** info@mawaevents.net

ADVANCED MATERIALS FOR CONSTRUCTION AND REPAIR OF CONCRETE STRUCTURES

"Innovative Materials. Stronger Structures. Sustainable Repairs."

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

This comprehensive course explores the latest developments in advanced construction and repair materials for concrete structures. With an emphasis on durability, sustainability, and performance, the course covers a wide range of cutting-edge materials such as fiber-reinforced concretes, self-healing concretes, polymer-based repair systems, corrosion inhibitors, and high-performance mortars. Attendees will gain both theoretical understanding and practical application insights into the selection, specification, and use of these materials in real-world projects.

Objectives

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

- Understand the properties and performance of advanced concrete materials.
- Identify material compatibility issues in repair and retrofitting.
- Select appropriate materials based on exposure conditions and performance requirements.
- Apply best practices for the use of specialized construction and repair materials.
- Evaluate new technologies and innovations in the field.

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Why Attend

- Learn from real-life case studies of modern construction and rehabilitation projects.
- Enhance your knowledge of materials that improve concrete longevity and resilience.
- Understand cost-effectiveness and life-cycle performance of modern solutions.
- Stay competitive by adopting materials that meet evolving construction standards.

Target Audience

- Civil and Structural Engineers
- Materials and QA/QC Engineers
- Consultants and Project Managers
- Contractors and Repair Specialists
- Technical Sales and Product Development Teams

Individual Benefits

- Gain in-demand expertise in high-performance concrete materials.
- Improve design, specification, and application accuracy.
- Advance career prospects with technical and practical competencies.

Organizational Benefits

- Ensure long-lasting and sustainable concrete infrastructure.
- Minimize maintenance costs through appropriate material use.
- Adopt cutting-edge technologies to stay competitive in the market.
- Support innovation in asset durability and performance.

Instructional Methodology

- Technical Lectures with Visual Aids
- Hands-on Case Studies and Material Demos
- Real-Project Examples & Failure Analyses
- Group Discussions and Q&A Sessions
- Evaluation and Comparison Matrices

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Course Outline

DETAILED 5-DAY COURSE OUTLINE (Customizable) Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Advanced Concrete Materials

- Module 1 (07:30 – 09:30): Overview of Emerging Materials in Construction
- Module 2 (09:45 – 11:15): High-Performance Concrete (HPC) and Ultra-High-Performance Concrete (UHPC)
- Module 3 (11:30 – 01:00): Fiber Reinforced Concretes – Types, Design, and Applications

Day 2: Repair Materials and Technologies

- Module 4: Cementitious Repair Mortars – Standards and Applications
- Module 5: Polymer-Modified Systems – Epoxies, Acrylics, Polyurethanes
- Module 6: Compatibility and Bonding Considerations in Repair

Day 3: Durability and Corrosion Protection

- Module 7: Corrosion Inhibitors and Protective Coatings
- Module 8: Surface Treatments and Crack Healing Technologies
- Module 9: Moisture and Chloride Resistance Performance Testing

Day 4: Advanced Material Selection and Application Techniques

- Module 10: Application Methods – Spraying, Injection, Hand/Trowel
- Module 11: Evaluation Tools – On-Site Testing, NDT, and QA Procedures
- Module 12: Material Selection Matrix for Site Conditions

Day 5: Case Studies and Future Innovations

- Module 13: Global Case Studies – Bridges, Industrial Plants, Marine
- Module 14: Life Cycle Analysis and Sustainable Materials
- Module 15: Trends in Nanomaterials, Smart Concretes, and Self-Healing Solutions

Certification

A Certificate of Completion will be awarded to all participants who successfully complete the course. The certificate is recognized internationally and demonstrates knowledge in the latest materials used for construction and repair of concrete structures.

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.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

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