



London TDM

# Civil and Construction Engineering Training Courses

**Course Venue:** Malaysia - Kuala Lumpur

**Course Date:** From 19 October 2025 To 23 October 2025

**Course Place:** Royale Chulan Hotel

**Course Fees:** 6,000 USD

## Introduction

The "Construction Materials and Testing" course is designed to provide participants with a comprehensive understanding of various construction materials used in the industry, their properties, and the testing methods to ensure quality and compliance with standards. Over the span of five days, the course will cover fundamental concepts, hands-on testing procedures, and analysis of material performance to enhance the knowledge and skills of construction professionals.

## Objectives

- Understand the fundamental properties of construction materials.
- Learn about different types of materials used in the construction industry.
- Gain knowledge of various testing methods and standards.
- Develop skills to perform tests on construction materials and interpret results.
- Ensure compliance with quality standards and improve construction practices.

## Course Outlines

### Day 1: Introduction to Construction Materials

- Overview of construction materials and their significance in the industry.
- Classification of construction materials.
- Types of materials: natural vs. synthetic.
- Basic properties of construction materials.
- Applications and limitations of various materials.

### Day 2: Concrete and Cementitious Materials

- Components of concrete and their functions.
- Mix design and its impact on concrete properties.
- Properties and testing of fresh and hardened concrete.
- Types and uses of cement.
- Non-destructive testing methods for concrete assessment.

### Day 3: Metals and Steel Reinforcement

- Properties and uses of metals in construction.
- Steel as a reinforcement material: types and properties.
- Corrosion of metals and prevention techniques.
- Mechanical testing of metals: tensile, compressive, and hardness tests.
- Quality control and standards for reinforcing steel.

### Day 4: Timber, Plastics, and Composites

- Properties and types of timber used in construction.
- Advantages and disadvantages of using plastics and polymers.
- Composites: materials, properties, and applications.
- Testing methods for timber, plastics, and composites.
- Environmental impact and sustainability considerations.

## **Day 5: Material Testing and Quality Assurance**

- Importance of material testing in construction projects.
- Standard testing methods and procedures.
- Laboratory vs. field testing: scopes and challenges.
- Interpreting test results and making informed decisions.
- Quality assurance and control measures in construction.