



DESIGN ERRORS, CONSTRUCTION MISTAKES & BUILDING FAILURES

5-Day Training Program

INTRODUCTION

Design errors, construction mistakes and building failures continue to plague us into the 21st Century even though they are avoidable. Understanding the mechanisms of failure in relation to the building process will enable us to design and construct more durable buildings and structures. Increased durability will result in reduced maintenance costs and longer service life of buildings and structures.

This program is designed to develop an increased awareness of the proper design and specification of materials and methods of construction to produce durable buildings and structures. This program will provide many new and insightful topics, including the role of Forensic Investigations, current trends in North American Construction Claims and the cost-effective remediation of errors and mistakes.

BENEFITS

This program will teach participants how to identify and avoid common design errors and construction mistakes through intense and interactive case studies and group discussions.

WHO SHOULD ATTEND

This program will be of special interest and a major benefit to all those involved in the design, specification, construction and reparation of buildings and structures, including Owners and Managers, Government Agencies, Architects, Engineers and Contractors, as well as Specification Writers, Designers, Inspectors, Technicians, Technologists and Project Managers. The program will also be of interest to Contractors, Managers, Supervisors and Foremen.

PROGRAMME OUTLINE

DAY 1

THE DESIGN AND CONSTRUCTION PROCESS

DESIGN AND CONSTRUCTION ISSUES

- Air Barrier Technology
- Vapour Retarders
- Environmental Separation
- Fire & Sound Assemblies
- Reinforced Concrete Structures
- Windows & Glazing
- Curtain Walls
- Low-slope Roofing

DESIGN TRENDS

RAIN SCREEN TECHNOLOGY

- Curtain Walls

BARRIER WALL SYSTEMS

- Reinforced Concrete
- Coating and Sealant Materials

DAY 2

FORENSIC INVESTIGATIONS (CASE STUDIES)

DESIGN ERROR CASE STUDIES

- Exterior Walls
- Windows
- Roofing

CONSTRUCTION MISTAKE CASE STUDIES

- Reinforced Concrete
- Window Anchorage
- Curtain Walls

BUILDING FAILURE CASE STUDIES

- Leakage
- Condensation
- Premature Deterioration

DAY 3

CURRENT TRENDS

NORTH AMERICAN CONSTRUCTION CLAIMS

- Air Quality
- Mould
- Moisture Damage

THE REAL COST OF POOR DESIGN

- Premature Deterioration
- Dangerous
- Litigation

AVOIDING COMMON DESIGN ERRORS

- 10 Essential Steps

DAY 4

TOP 10 CONSTRUCTION MISTAKES

- Alternates in Materials
- Changes in Construction
- Short Cuts
- Errors of Knowledge
- Errors in Performance

- Errors of Intent
- Design Errors
- Workmanship
- Inspection Errors
- Codes and Standards
- Causes of Failure

CAUSES OF FAILURE

- Design
- Performance
- Use

BUILDING REPAIRS (CASE STUDIES)

Reinforced Concrete

- Curtain Walls
- Roofs

DAY 5

REMEDIATION

- Remediation of errors and mistakes
- Mitigating Damages
- Repair Specifications

BUILDING CONSTRUCTION

- Getting It Right the First Time!
- Standards
- Inspection and Testing