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SC023:
Residential Building Envelope and Structure Assessment & Repair

Training Description:

The building envelope (or building enclosure) is the physical separator between the interior and the exteri or environments of a building. It serves as the outer shell to help maintain the indoor environment (together with the mechanical conditioning systems) and facilitate its climate control. Building envelope d esign is a specialized area of architectural and engineering practice that draws from all areas of building science and indoor climate control Structures.

The first part of this course is designed to enables all constructors to plan, design, construct, maintain and repair the building envelope specially the residential buildings. The second part of this course is the deal with the structural assessment. Like people never get younger. Structures, like people can maintain their good health with age, if properly cared for, examined, and treated when needed. One may view this course, in this context, as a structural Physician's reference.

It may be said that a structure that has withstood the combined effects of use, abuse, loads, and environ- mental conditions over time has, in fact, proven itself. However, buildings and other structured do deteriorate with time because of repeated loadings, exposure to the elements, aging of materials, wear a nd tear from normal use, abuse, inadequate maintenance, and other factors.

Engineers and Managers working in the field of design, construction and maintenance of structures often feel the lack of a comprehensive practical guide on the practice, needs and effective programs of good maintenance. Few practical references are available that bridge the gap between theoretical, technical, practical and managerial matters in this regard.

Training Objectives:

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

- ✓ Apply the building code to design requirements for building envelope repair
- ✓ Understand the underlying mechanisms of deterioration
- ✓ Create and use repair contracts
- ✓ Protect your interests
- ✓ Resolve disputes

Training Designed for:

This course is intended to meet the needs of Engineers, Managers, Repair Contractors, Municipal Building Inspectors, Designers and Professionals, and Owners/Managers of buildings who are working in the area of construction, and facing the challenges of maintaining and preserving good, sound buildings. It is specifically, useful for Structural Engineers, Quality Assurance Experts, Construction and Supervision Engineers, Owners and Managers of constructed facilities.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- PRE-TEST
- Building envelope
  - What is the building envelope?
  - What are the building envelope requirements?
  - Why is the building envelope?
- Saving
- Comfortable
- Healthy
  - Keep the outside out and the inside in
- Home Envelope
- Air Leaks
- Basement Air Leaks
- Fireplaces
- Exterior Sealing
- Duct Sealing
- Caulking

DAY TWO:

- Insulation
  - R-Values
  - Attic
  - StoryandaHalf
  - Basement
  - Wall
  - Vapor Retarder
  - Types of Insulation

DAY THREE:

- Insulation (cont.)
  - Windows & Doors.
  - Ufactor and SHGC Ratings
  - Weatherstripping
  - Replacement Options
  - New Windows
  - New Doors Examining of the building envelope
  - What are your devices to assess building envelope

DAY FOUR:

- Engineering Structure assessment (cont.)
  - Types and causes of nonperformance and failures
  - Causes of deterioration of concrete
  - Exposure to aggressive chemicals

- Carbonation
- Erosion
- Alkali-silica reactivity
- Thermal volume change
- Fire damage
- Nonstructural elements

DAY FIVE:

❖ Structure assessment (cont.)

- Assessing and examining a building
- What the needs from the engineer
- How to asses a building to judge between two companies or organizations?
- What are the steps that the engineer should take into account during his mission?
- Assessing to know the structural safety of the building
- Assessing for repair and rehabilitation
- Three cases study for repair
- Assessing for investment
- How to write the final report
- Three cases study for the structural safety

❖ Course Conclusion

❖ POST-TEST and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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