Structural Condition Assessment Of Existing Structures Training

Description

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This course is an intensive overview of material evaluation practices and procedures used for assessing the structural condition of existing structures and cover as many aspects of evaluating structures as possible.

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State-of-the-art information on visual inspections, destructive and nondestructive testing (NDT), and the hands-on experience provided in this seminar, are essential for those involved in evaluating concrete, masonry, wood, and metal structures.

After a brief review of structural condition assessment procedures and guidelines, the seminar will cover condition surveys, planning a materials evaluation, destructive and nondestructive testing, limitations of NDT testing, statistical evaluation of test data, and interpretation and use of test results. Nondestructive testing techniques for establishing in-place material properties for concrete, masonry, wood and metals are a primary focus.

The hands-on workshop and case studies will enhance understanding of condition survey and inspection procedures, and destructive and nondestructive testing techniques. In addition to receiving the ASCE Standard, Guidelines for Structural Condition Assessment of Existing Buildings, participants will receive course notes and a comprehensive list of references

Course Objective

- Plan and conduct a condition survey for concrete, masonry, wood and metal structures.
- Develop a condition survey inspection checklist.
- Design a materials evaluation program for your structural condition assessment projects.
- Select the best destructive and nondestructive testing techniques for your projects.
- Identify the limitations of various nondestructive testing techniques.
- Understand more about NDT equipment through handson experience.
- Diagnose problems and assess strengths and weaknesses of structural materials.
- Evaluate test data statistically.

- Learn how to effectively interpret and use destructive and nondestructive test results.

Course Outline

- Structural Condition Assessment Procedure
- Conducting a Condition Survey
- Planning the Evaluation
- Statistical Procedures
- Destructive and Nondestructive Testing for Concrete and Masonry
- Pros and Cons of Nondestructive Testing
- Establishing Strength and Quality of In-Place
- Concrete and Masonry
- Hands-on NDT Workshop
- Evaluating Cracks in Concrete and Masonry
- Analyzing Wet Masonry Walls
- Evaluating Corrosion
- Interpreting and Using Destructive and Nondestructive Test Results
- Conducting Condition Surveys of Wood and Metal Structures
- In-Place Evaluation of Wood-Based Materials and Metals
- Planning the Evaluation
- Inspection Procedures
- Destructive and Nondestructive Testing of Wood-Based Materials and Metals
- Establishing In-Place Strengths for Wood and Metals
- Understanding the Limitations of Nondestructive Testing
- Investigating Defects and Damage
- Evaluating Wood and Steel Connections
- Interpretation and Use of NDT Results

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