



# ATLANTIC TESTING LABORATORIES



WBE certified company

## Seminars

Each seminar is one-hour and is typically given at your office. All seminars are approved for one Professional Development Hour (PDH) for PEs in attendance. For architects, we issue a certificate of course completion to be processed with the American Institute of Architects (AIA) to receive a learning unit (LU).

### Construction Materials

#### Introduction to Concrete Nondestructive Test (NDT) Methods

This presentation is an introduction to concrete NDT methods. Different NDT methods outlined in ACI 228.2, Report on Nondestructive Test Methods for Evaluation of Concrete Structures, will be presented and discussed, focusing on the more popular stress wave methods, such as impact echo, sonic/ultrasonic echo, impulse response, and ultrasonic pulse velocity.

#### Concrete Investigations and Case Studies

This presentation will review multiple concrete investigations and different methods of evaluation, including corrosion mapping using half-cell potential (ASTM C876), ground penetrating radar for reinforcement location and concrete cover, and ultrasonic pulse velocity used to evaluate the depth of fire damage and poorly consolidated concrete.

#### Corrosion of Embedded Steel in Hardened Concrete

Corrosion of embedded steel within hardened concrete is a complex process that deleteriously affects the concrete and may ultimately cause it to fail. This seminar discusses general geochemical, physical, and geotechnical causes and effects of this process, how to identify the signs of corrosion in the field, tests that can identify active corrosion potential, and possible avenues for mitigation.

#### Petrographic Analysis of Concrete

This presentation describes the utility of petrographic analysis to help determine why concrete fails (ASR, ACR, freeze/thaw, etc.) and to describe basic aspects of the concrete including water/cement ratio and hydration of the paste, aggregates, air, presence of deleterious materials, etc.

#### Air Void Systematics of Hardened Concrete

This presentation describes the air voids and the air void system structure in hardened concrete, and explains how it affects the strength and durability of concrete.

#### NYS Building Code-Chapter 17: Special Inspections

This presentation summarizes the requirements of special inspections as outlined in Chapter 17 of the building code of New York State. The presentation specifically covers soil, masonry, concrete, structural steel, fireproofing, and geotechnical engineering.

#### Cold Weather Concrete

This presentation will give an introduction to concrete and the essentials of achieving quality concrete in cold weather conditions.

#### Hot Weather Concrete

This presentation is an overview of the 5 essentials of quality concrete. The potential problems of placing concrete in hot weather, mitigation procedures, and considerations to take before and after placing.

## **Monitoring Construction Vibrations**

This presentation will discuss some of the different types of construction vibrations, equipment used to monitor vibrations, how the equipment is set up, different vibration limitations used by the industry, as well as how and when to apply those limitations. The seminar will also discuss pre and post-construction condition surveys, taking a look at various specifications for these surveys, how they're performed, and what could be expected from a pre-construction condition survey.

## **Pyrite and Pyrrhotite in Shale, Fill Material, and Aggregate: A Potential Geotechnical Concern**

Pyrite and pyrrhotite are common sulfide minerals within most rock types. Deleterious effects potentially associated with using or building upon bedrock, fill material, or concrete aggregate containing these minerals include heaving of floors or foundations or causing concrete to crack. This presentation provides an overview of the mineralogy and geological occurrences of pyrite and pyrrhotite and the geochemical and environmental factors that contribute to the deleterious effects sometimes associated with these minerals.

## **Parking Garage Evaluations**

This presentation will discuss some of the more common field and laboratory tests that can be used to evaluate concrete parking garages and other concrete structures. Some field tests to be discussed are half-cell corrosion surveys, concrete resistivity, and ultrasonic pulse velocity; laboratory tests to be discussed are petrographic analysis, hardened air void analysis, and water and acid soluble chloride tests.

## **Construction Materials Testing and Engineering**

This presentation summarizes various tests and inspections performed on concrete, soil, masonry, and aggregates. It will also cover both field and laboratory requirements, with a general overview of quality assurance.