

CDOT-ACPA Concrete Pavement Inspector Certification Course Outline

Introduction

Section 1 – Concrete Materials

- a. Components in concrete
- b. Characteristics of each component
- c. Mixture Gradations

Section 2 – Concrete Batch Plant

- a. Types of plants & how they work
- b. Transporting and Handling Concrete
- c. Air and Water Additions

Section 3 – Concrete Batch Tickets

- a. Batch Ticket Requirements
- b. Aggregate Moisture Content
- c. W/CM and Yield Calculations
- d. Sample calculations

Section 4 – OA/PC Requirements

- a. Tests for Aggregates
- b. Testing for Freshly mixed concrete
- c. Strength
- d. New testing Technologies
- e. QC Plans
- f. QC Notebooks

Section 5 – Concrete Mix Designs

- a. Tests & their importance
- b. Certifications
- c. Forms 1188 & 1373

Section 6 – Concrete Pavement Overview

- a. Pavement Design
- b. Types of concrete pavements
- c. Types of Joints

Section 7 – Pavement Subgrade

- a. Why is subgrade important?
- b. Trimming, grading, compaction
- c. Soft spots and proof rolling
- d. Types of Subgrade
- e. Stringline and Offsets
- f. Trackline

Section 8 – Paving Equipment

- a. Placers/ Spreaders
- b. Slipform pavers
- c. Screeds



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Section 9 – Steel Placement

- a. Transverse Joints
- b. Longitudinal Joints
- c. DBI vs. Baskets
- d. Testing
- e. Corrective Action

Section 10 – Pavement Finish

- a. Surface
- b. Hand finishing
- c. Texturing
- d. Stationing
- e. Curing
- f. Smoothness

Section 11 – Post- Paving Operations

- a. Hot/Cold Weather Paving
- b. Sawing
- c. Sealing
- d. Opening to traffic

Section 12 – Measurement & Payment

- a. Review of specification
- b. Documentation required (Form 266)
- c. Worksheet with calculations
- d. Incentive/Disincentive

Section 13 – Construction Defects, Repairs & Replacement

- a. Types of Repairs
- b. Cracks
- c. Surface defects
- d. Missing steel
- e. Low strength
- f. Smoothness

Review and Test

- a. Q&A
- b. Administer Test – Must have 80% to pass