

**COURSE NUMBER**

FHWA-NHI-134095

**COURSE TITLE****Early Age Cracking - WEB-BASED**

This training is provided by the Transportation Curriculum Coordination Council (TCCC) in partnership with NHI to review integrated materials and construction practices for concrete pavement. The training was developed by the National Concrete Pavement Technology Center at Iowa State University. It is the first training of its kind offered by NHI, and we would like to give special recognition to the TCCC for their efforts. This training is recommended for the Transportation Curriculum Coordination Council levels II - IV. This course is primarily intended for inspectors and technicians.

Cracks are not a problem as long as they are controlled through jointing; ideally the concrete will crack below the saw joint to relieve the stress. Uncontrolled random cracks are not aesthetically acceptable and can reduce ride quality, durability, and particularly load transfer. Early cracking in this module is defined as those cracks that occur before the concrete is open to public traffic. In this module, we will be talking about early age cracking. Primarily, why does it occur and how can it be eliminated or at least controlled?

This module is part of a curriculum from the "Integrated Materials and Construction Practices for Concrete Pavement" manual developed through the National Concrete Pavement Technology Center at Iowa State University. The other Web-based training modules include:

FHWA-NHI-134075 TCCC Hardened Concrete Properties - Durability

FHWA-NHI-134084 TCCC Fundamentals of Materials Used for Concrete Pavements

FHWA-NHI-134085 TCCC Incompatibility in Concrete Pavement Systems

FHWA-NHI-134087 TCCC Mix Design Principles

FHWA-NHI-134096 TCCC Basics of Cement Hydration

FHWA-NHI-134097 TCCC Fresh Concrete Properties

FHWA-NHI-134098 TCCC Construction of Concrete Pavements

FHWA-NHI-134100 TCCC QCQA for Concrete Pavements

FHWA-NHI-134101 TCCC Design of Pavement

FHWA-NHI-134102 TCCC Troubleshooting for Concrete Pavements

OUTCOMES

Upon completion of the course, participants will be able to:

- Describe the various mechanisms that can lead to early age cracking
- Define and understand why curling and warping occur
- Recognize how curling and warping affect early age cracking
- Recognize the proper use of the materials and maintaining good construction practices can control early age cracking
- Describe how certain material properties and construction methods can affect early age cracking and can help prevent the cracking from occurring

TARGET AUDIENCE

This training is designed for FHWA, State, and local agencies and their industry counterparts involved in the process to assure that concrete meets all the requirements to prevent early age cracking. It is applicable to anyone desiring a better understanding of the causes and prevention of early age cracking.

TRAINING LEVEL: Intermediate

FEE: 2016: \$25 Per Person; 2017: \$25 Per Person

LENGTH: 1 HOURS (CEU: 0 UNITS)

CLASS SIZE: MINIMUM: 1; MAXIMUM: 1

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