



Durability Assessment of Prefabricated Bridge Elements and Systems

Description

Meta Fields

Project Completion Year : 2014

Project Starting Year : 2013

Other Documents 0 Other Documents File : 2418

Primary Sponsor Contact Info : Research and Innovative Technology Administration (RITA)
University Transportation Centers Program Washington, DC 20590 USA

Project Length : 12

Budget : 121000.00

Key Words :

Bridge construction; Bridge members; Durability; Industrial plants; Prefabricated bridges; Quality control

Abstract :

There is a critical need to develop quality control measures to ensure quality processes and inspection, quality monitoring requirements, and disqualification criteria of prefabricated bridge elements and systems (PBES) for durability assessment. Durability assessment of PBES is critical since cracks can grow as a result of differential shrinkage and creep, which in turn, can lead to the ingress of moisture and corrode the top steel thereby reducing the strength and durability of the PBES. Previous research has noted that a critical role during construction is the use of continuous fiberboard material to be used as a bearing material to help minimize damage of deck panels. Such practices and others will be identified as strategies to help limit damage of PBES in addition to checklists needed for inspection and qualification criteria. The research methods for evaluation consist of visiting precast plants, conducting statistical analyses of data collected, and developing qualification and disqualification flowchart standards. By identifying process improvement and ways to handle quality control at the precast plants and in the field will help the Maryland State Highway Administration (SHA) meet performance measures per SHA's business plan. This in turn can lead to the development of quality control practices based on the durability assessment herein for Maryland as well as other states in the national highway system.

Subject : Durability

Group : Standards

Category : Completed Projects