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Bond Performance of Precast Bulb Tee Girders with High Early Strength and Self Consolidating Concrete

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Abstract

Precast bridge girders are commonly fabricated from conventional and high performance concretes. These concretes typically require consolidation through a combination of external and internal vibration. Recently a new self consolidating concrete (SCC) has been developed by a number of construction chemical producers. SCC has the potential to improve the quality, durability, and cost of precast construction. As of March 2004, Pennsylvania, New Jersey, New York, Delaware, Maryland, and Virginia Department of Transportations have not accepted SCC for use due to concerns about bond capacity, shrinkage, and creep. The research program will attempt to address these concerns through an experimental research program at the ATLSS Center at Lehigh University.