Laboratory Investigation of the Characterization of Cor-Tuf Flexural and Splitting Tensile Properties

Description

Meta Fields

Category : Completed Projects
Group : Ultra-High Performance Concrete (UHPC)
Subject : Alternatives
Abstract :

Through multiple efforts, the U.S. Army Engineer Research and Development Center is conducting developmental research focused on new ultra high-performance cementitious materials. As a part of this research, a particular material, named Cor-Tuf, has been developed. Cor-Tuf is an ultra high-strength concrete, and has been shown to exhibit unconfined compressive strengths as high as 240 MPa. Randomly distributed steel reinforcement fibers (30-mm length) have been incorporated into Cor-Tuf to improve its ductility under tensile stresses, although their effect on performance has not been fully quantified. This considered, the research effort described herein was conducted to characterize the tension (splitting tensile) and flexural properties of the Cor-Tuf material. Seven experimental series were performed, and included 33 flexural tests and 12 splitting tensile tests. Testing was conducted utilizing reinforced and unreinforced material in order to directly quantify the fibersâ?? influence on material response. This report provides descriptions of the experimental configurations, test specimens, and a summary of the experimental results.

Key Words :

Cor-Tuf, Ultra-high performance cementitious material, flexural and splitting tensile properties

Budget : 0.00
Project Starting Year : 2010
Project Completion Year : 2010

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