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# EXPERIMENTAL AND NUMERICAL ANALYSIS OF THREE PHASES COMPOSITE CONCRETE CYLINDRICAL SAMPLES UNDER SLANT SHEAR

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**Abstract**. This study investigates the mechanical behavior of composite concrete cylindrical elements composed of normal concrete (NC) and Steel Fiber Reinforced Concrete (SFRC) with focus on the bond strength at the interface. Therefore, the composite samples to be analyzed are constituted by three phases: two different concretes and the interface between them. Firstly, the results of an experimental campaign aimed at analyzing the incidence of surface preparation on peak bond stress under Slant Shear are presented. Then, based on the experimental obtained results and other data extracted from the literature, the main incidence parameters are determined. Afterwards, a FE numerical simulation of the composite sample mechanical behavior is presented considering different types of substrate preparation. Finally, a comparison between experimental and numerical data will be presented.

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