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Analysis of FRP-to-concrete interfaces using a displacement driven partial interaction model

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Abstract

Fibre-reinforced polymer (FRP)-to-concrete bonded interfaces are susceptible to bond failure in the concrete at the interface. This paper presents the details of a partial interaction model that is capable of analysing such bond failure in FRP-to-concrete joints. The model is driven by displacing the slip between the FRP and concrete at the loaded end of the joint and is thus able to capture unloading of the bonded interface. Such unloading is due to a reduction in the available length of the bonded plate on account of progressive plate debonding. A bond stress versus slip

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