



Behaviour of Concrete Under Fatigue Loading in Concrete Pavements

By Paulo Cachim

LAP Lambert Academic Publishing. Paperback. Book Condition: New. Paperback. 336 pages. Dimensions: 8.7in. x 5.9in. x 0.8in. This work represents a contribution for the understanding of the concrete behaviour under repetitive and fatigue loading of plain and fibre reinforced concrete. An experimental program to get insight and to compare the behaviour of these two distinct materials under fatigue loading and, to collect controlled data for the calibration of a numerical model is presented. Compressive fatigue tests on cylinders and flexural fatigue tests on prisms, both on plain and fibre reinforced concrete, were performed. A numerical code was developed to analyse concrete under monotonic, cyclic and fatigue loading conditions, based on the theory of plasticity. The model assumes independent compression and tension behaviours. The monotonic model serves as the envelope for the cyclic and fatigue load models. For the cyclic model, two additional surfaces rule the behaviour of the model during the unloading and reloading process. The monotonic envelope bounds the movement of these surfaces. The fatigue model is based on visco-plasticity by assuming a fatigue limit outside which fatigue deformations occur. A model for the study of concrete pavements is presented. This item ships from multiple locations. Your book may arrive...



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