2016

The experimental behavior of slabs strengthened byfiber reinforced polymer (CFRP)

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Abstract : The experimental behaviour of slabsstrengthened by composite fiber reinforced polymer (CFRP)is presented in this paper three concrete slabs of 16 cm x 14cm x 4 cm were made in laboratory conditions. The dimensions of the patches are calculated so that the ratiopatch XP /YP is proportional to XD/ YD of the slab.Dimensions of the composite patches are: 70x90x1 mm,100x120x1mm, 160x140x1mm, the load is flexionalpunching load. The results given in the form of curves of loads - displacements measured to the centric of the slabaccording to the force applied; show that the breaking loadand ultimate correspondent displacement are influenced by the properties of the composite patch and the surface covered by the composite patch. It is observed that, the breaking loadand ultimate displacement increase with the surface of thepatch and properties of the composite. The third slab have the best behavior than the rest of slabs, the ratio of the displacement between the third and the first slab is 1,95.

Keywords : Concrete slabs, composites, reinforcement, experiments.