BEHAVIOUR OF REINFORCED CONCRETE BEAM UNDER DYNAMIC LOADING

by

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ABSTRACT

The study of reinforced concrete beam behaviour under dynamic loading as well as static loading with respect to the serviceability and ultimate limits is undertaken. A total of four (4) beams with minimum strength of 60 N/mm^2 casted, Each beams underwent static load test to failure (the purpose of this test is to determine the yield load of the beams, hence 50% of the yield load will be the mean load for dynamic), dynamic load test with three (3) million, five (5) million cycles, and to failure (Until the beam deflect at 18 mm, according to the design).

At the end of the experiment, deflection and crack width were recorded. For static test the value of deflection at yield load (100 kN) is 12 mm and the cracking is 0.5 mm. For dynamic test the maximum deflection and crack width recorded are 11.917 mm and 0.26 mm for 3 million cycles respectively, 11.924 mm and 0.3 mm for 5 million cycles respectively, 11.974 mm and 0.2 mm for 9 million cycles respectively.

TABLE OF CONTENT

CONTENT PAGE