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Effect of Water Hyacinth on Behaviour of Reinforced Concrete Beams

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Abstract : Water hyacinth (W-H) has an adverse effect on Nile river in Egypt, it absorbs high quantities of water, it needs to serve these quantities especially at this time, so by burning W-H, it can be used in concrete mix to reduce the permeability of concrete and increase both the compressive and splitting strength. The effect of W-H on non-structural concrete properties was studied, but there is a lack of studies about the behavior of structural concrete containing W-H. Therefore, in the present study, the behavior of 15 RC beams with 100 x 150 mm cross section, 1250 mm span, different reinforcement ratios and different W-H ratios were studied by testing the beams under two-point bending test. The test results showed that Water Hyacinth is compatible with RC which yields promising results.

Keywords : beams, reinforcement ratio, reinforced concrete, water hyacinth
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