

Effect of CFRP sheet Length on The behavior of HSC continuous beam

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Abstract

This paper is focused on the behavior of the HSC continuous beam strengthened with CFRP sheet has different CFRP sheet length. Three full scale continuous beam are analyzed under two points load, the data of analysis are compared with the experimental data provided by Akbarzadeh and Maghsoudi [1]. ANSYS V.11 program is used in FE analysis, the results obtained from analysis give good agreement with experimental data with respect to load-deflection curve, ultimate strength, and the crack patterns. The length of CFRP sheet is changed in the negative and positive region. The results showed that the ultimate strength of the beam reached when the value of (L_{sheat}/L_{span}) reaches (1.0) and when the value decrease the ultimate strength of beam decrease by little amount reached (1.4%), but when decrease less than (0.6) the ultimate strength decrease a lot of 15% .

Keywords: sheet length, high strength, continuous beam, CFRP.