عنوان مقاله:
Load carrying capacity of composite castellated beams

محل انتشار:
پنجمین کنفرانس ملی و اولین کنفرانس بین المللی سازه و فولاد (سال: 1393)

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خلاصه مقاله:
Due to unique geometry of castellated steel beams and existence of the web holes, estimation of shearload carrying capacity of these beams is rather different from traditional beams with solid webs. Shearcapacity estimation of castellated beams becomes even more complicated when they are used incomposite floor systems, due to the contribution of the concrete slab. Herein, a numerical study isperformed to assess the shear capacity of composite castellated beams by using nonlinear finite element(FE) method. A benchmark parametric FE model is created and validated comparing the test results. Thiscomparison showed a good accuracy for the model. This model is used in the parametric study of shearresponse of composite castellated beams. Different FE models of these beams are analyzed and theobtained results show that the floor slab can have a considerable contribution in shear capacity .ofcomposite castellated beams

کلمات کلیدی:
Steel structures, Castellated steel beams, composite beams, shear capacity, nonlinear finite element