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عنوان مقاله:
Axial Compression Capacity of Cold Formed Steel C-Channel Single Stud Section

محل انتشار:
هفتمین کنگره ملی مهندسی عمران (سال: 1392)

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نویسنده:
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خلاصه مقاله:
Non-linear finite element analyses were carried out to evaluate the axial compression capacity of a C-channel cold formed steel section using software ANSYS. Different structural characteristics including: material nonlinearity, geometric imperfection, residual stresses and perforations are taken into account. Then, the numerical models were compared with some standard-recommended analytical methods including: Traditional effective width method, direct strength method. Also the results verified against the experimental outputs. The results show that there is a good agreement between the numerical simulations and the test results which indicate that the finite element analysis can be used effectively to predict the ultimate compression capacity of the CFS single studs; whereas the direct strength method has a considerable error of around 26%. In addition, compared to the experimental results, the simultaneous use of effective width method and CUFSM, concludes a rational result

کلمات کلیدی:
Cold formed steel CFS, Light steel frame LSF, Compression capacity, Single Stud

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