

and that the design of a competent professional engineer or architect is required for the application of principles to a particular design of structures is within the scope and expertise of a competent licensed structural engineer, architect or other licensed professional.

Send them to: Steel Interchange, Modern Steel Construction, 1201 17th St., N.W., Washington, DC 20036-4201

and have not been reviewed. It is recognized that the design of structures is within the scope and expertise of a competent licensed structural engineer, architect or other licensed professional for the application of principles to a particular design of structures.



COLUMN TO BEAM CONNECTION

The purpose of bracing the compression flange of a beam in bending is that this flange acts as a column and so is predisposed to buckle. The beam's web prevents buckling in the flange's weak direction; so it is the strong axis (the axis parallel to the beam's weak axis). (This is called "lateral torsional buckling" because the beam will twist as it buckles in this manner.) To prevent this, the compression flange is braced.

Column anchor bolts, which are subject to significant uplift, have been successfully welded to column plates via heavy washers to prevent shifting of the bolts, but this is a special case requiring engineering judgement. A column anchor bolt can be extended utilizing a properly designed bracket.

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Steel Interchange

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100%

$$W_u = 1.2D + 1.6L$$

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allow design modifications of the longitudinal reinforcement bars. As you can see, a 40% increase of the dead load within the design load will produce a 40% increase in the required reinforcement. This is a significant increase in the design load.

Answer the following question:

As the column is subjected by the load magnitude... that you

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