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Steel Interchange

Steel Interchange is an open forum in *Modern Steel Construction* readers to exchange useful and practical professional information on all phases of steel building and bridge construction.

Opinions and suggestions are welcome on any subject covered in this magazine. If you have a question or problem that your fellow readers might help to solve, please forward it to *Modern Steel Construction*. At the same time feel free to

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Answers to questions should be typewritten and double spaced. Submittals that have been prepared by word-processing are appreciated on computer diskette (either as a wordperfect file or in ASCII format).

The opinions expressed in *Steel Interchange* do not necessarily represent an official position of the American Institute of Steel Construction. It is intended that the readers of this section will

particular structure.

Information on ordering AISC publications mentioned in this section may be obtained by calling AISC at 312/670-2400 ext. 433.

received:

was a tab or a through plate?

Within the last few months a similar column test

potential concerns pertaining

percent. The difference was 20 percent for the 3/16"

used with tube columns are:

tube columns. All failures were local or general column buckling in the lower half of the column.

1. The strength of the tube wall in a yield line

and through plate connecting elements.

Although the detailed data from the most recent

of the end slope of a

simply supported beam, neither of these

use of through plates.

where the end rotation of the beam has not reached that of a simply supported beam.

Proceedings 1991 National Steel Construction Conference, AISC. These tests were expected that included a range of b/t from 5 to 45 with fully tensioned and snug-tight bolts in the beam web connections. The failure mode was in the tube wall in only two of the tests where the wall was thin enough to produce

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wing brief discussion of the subject

through plates, fully tensioned bolts and snug-tight bolts. Beams framed into the tube on both 6" walls at

with. The foll

outlines several, but not necessarily all, of the

In practice, it may be easier to apply the

members that have been subjected to poten-

with negligible or minor distortions to the web, flanges

considered satisfactory for further service.

should be conducted on members grouped

to their importance.

consider

should

hat are

include connections.

› 3. On the basis of the damage evaluation, an economic evaluation of repair or replacement of the structure should be considered.

› 4. If it is decided to repair

and also

individual fasteners for test purposes and,

replacement be necessary, to replace those

suspected of damage

is weldable?

hot-dip galvanizing appropriate for bolts?

At this point, the designer needs only some guidance on evaluating the

damage. Fortunately, in steel, the rule is very