

Discussion

Yield Line Analysis of Column Webs with Welded Beam Connections

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Since the publication of the subject paper, two pilot tests on welded beam-to-column web connections have indicated that as dimension a is decreased (see Fig. 1), shear failure may occur prior to yield line development.

The tests were performed at Lehigh University wherein flange plates were welded in pairs to a column

web. The a -dimension of each specimen was small. Each pair of plates was subjected to a tension and compression force to simulate beam behavior. Failure occurred prematurely by shearing of the column web at the fillet adjacent to the beam flange plates.

In these tests there was no beam web plate attachment which would have been more realistic and may have improved the behavior of the connection. Nevertheless, until this program has been completed and thoroughly analyzed, the author wishes to point out to the reader that for the case where the a -distance is small and shear failure may be critical, the designer should expand the analysis to include a realistic evaluation of shear behavior at the column web fillet.