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Final summary report of d. J. Fielding, Dec. 1971

David. J. Fielding

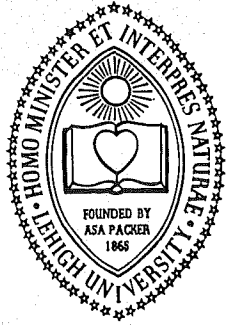
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Beam-to-Column Connections

FINAL SUMMARY REPORT

by

David J. Fielding

December 1971

Fritz Engineering Laboratory Report No. 333.18

**OFFICE
OF
RESEARCH**

Beam-to-Column Connections

FINAL SUMMARY REPORT

OF

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Fritz Engineering Laboratory
Department of Civil Engineering
Lehigh University
Bethlehem, Pa.

December 1971

Fritz Engineering Laboratory Report No. 333.18

ABSTRACT

The work completed by D. J. Fielding on Project 333, Beam-to-Column Connections, during the period July 1, 1968 to December 31, 1971 is summarized.

All correspondence, proposals, testing information, calculations, computer programs, and results are stored in five (5) boxes which are marked "X-FILES".

LOCATION OF INFORMATION

All project files have been stored in five (5) boxes, including those files from the beginning of the project in 1966. The boxes and files within are in chronologic order.

BOX 1 - Upper and Lower Bound Solutions by J. W. Peters and L. H. VanZuilen; Data and Results of Tests A1 to A7. (1966-68)

BOX 2 - Correspondence (1968-1970);
Complete Files on Test B1 except for computer printouts and data cards; Copies of most project reports and original drafts.

BOX 3 - Printouts from L. H. VanZuilen and J. W. Peters;
Data cards from tests A1 to A7 and B1;
Prog. DODATA (FIELDING).

BOX 4 - PROG. OVLAY (VANZUILEN)
PROG. SHEAR (FIELDING) (used in 333.16)
PROG. ONEBAY (FIELDING) (used in 333.16)
Other computer programs left by L. H. VanZuilen,
Computer printouts from the above programs.

333.18

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BOX 5 - Computer printouts from work done for

F.L.R. 333.16. Each book of results is labeled.

LIST OF REPORTS AND PUBLICATIONS

1. VanZuilen, L. H., Fielding, D. J. and Driscoll, G. C., Jr.
PROPOSAL FOR TESTS OF BEAM-TO-COLUMN CONNECTIONS SUBJECTED
TO MOMENT, SHEAR AND HIGH AXIAL LOAD,
August, 1968 (333.4)
2. Fielding, D. J.
SOUND SOLUTIONS FOR BEAM TO COLUMN CONNECTIONS,
October, 1968 (333.6)
3. Huang, J. S., Fielding, D. J. and Staff
FUTURE CONNECTION RESEARCH PROBLEMS, March, 1970
(333.7)
4. Fielding, D. J. and Huang, J. S.
SHEAR IN STEEL BEAM-TO-COLUMN CONNECTIONS,
Welding Journal 50(7), Research Supplement 313-S, July 1971
(333.9)
5. Fielding, D. J.
STRUCTURAL BEHAVIOR OF WELDED BEAM-TO-COLUMN CONNECTIONS,
December 1971 (Ph.D. Dissertation)
6. Fielding, D. J., Chen, W. F., Beedle, L. S.
ANALYSIS OF CONTINUOUS COMPOSITE BEAMS,
January 1972 (333.16)

SUGGESTION OF FUTURE WORK

The method of analysis that considers connection shear deformation on the strength and stiffness of beam-to-column connections should be extended to consider bending modes of deformation.

The computer program (SHEAR) developed can be used to decide the economics of the question of connection stiffening versus increased member sizes.

The program (SHEAR) considers only "panel hinges" described in 333.16 and can be extended to include plastic hinges. If this were done the program would be of practical value as a design aid for plastic design.

ADDRESS

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