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Beam-to-column connections:final summary report

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Beam-to-Column Connections

FINAL SUMMARY REPORT OF

JOSEPH S. HUANG

by

Joseph S. Huang

This work has been carried out as part of an investigation sponsored jointly by the American Iron and Steel Institute and the Welding Research Council.

Department of Civil Engineering

Fritz Engineering Laboratory
Lehigh University
Bethlehem, Pennsylvania

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ABSTRACT

This report summarizes the work done by Joseph S. Huang on research projects during the period September 1, 1966 to August 31, 1973. All materials have been organized in file folders and binders that were properly labeled. Guidelines for others as to where to look for the information are given herein.

1. LOCATION OF INFORMATION

1.1 Proj. 333: Beam-to-Column Connections

Test data for C-series connections are stored in three-ring folders and labeled by the number of specimen such as C1, C2, C3, C4, C5, C10, C11, and C12. Each folder contains data, instrumentation, computations and strain gage readings. The materials are listed in the Table of Contents included in each folder.

Design computations, work orders, photographs and slides are also stored in three-ring folders.

The materials filed with Glenn P. Rentschler are test data (C1, C2, C3, C4, C5, C10, C11 and C12), design computations and work orders.

Photographs, slides, and drawings are filed with Dr. W. F. Chen.

Remaining test specimens are C6, C7, C8 and C9. These are bolted moment plate connections and are stored on the main floor. Spare materials such as wide-flange sections are located in north bay, marked with the project number 333.

1.2 Proj. 327: Welded Plate Girders--Design Recommendations

This project was completed in 1969. All materials had been filed with Dr. B. T. Yen.

2. LIST OF PUBLICATIONS AND REPORTS

Publications:

1. Yen, B. T., Huang, J. S., Patterson, P. J. and Brozzetti, J.
STRUCTURAL STABILITY DESIGN PROVISIONS--A Comparison of the
Provisions of the CRC Guide and the Specifications of
AASHO, AISC and AREA, Bulletin No. 146, Welding Research
Council, New York, November 1969. (FL Reprint 69-15)
2. Patterson, P. J., Corrado, J. A., Huang, J. S. and Yen, B. T.
FATIGUE AND STATIC TESTS OF TWO WELDED PLATE GIRDERS,
Bulletin No. 155, Welding Research Council, New York, October
1970. (FL Reprint 70-17)
3. Fielding, D. J. and Huang, J. S.
SHEAR IN STEEL BEAM-TO-COLUMN CONNECTIONS, Welding Journal,
Vol. 50, No. 7, July 1971, p. 313-s. (FL Reprint 71-21)
4. Huang, J. S. and Chen, W. F.
STEEL BEAM-TO-COLUMN MOMENT CONNECTIONS, Meeting Preprint
1920, ASCE National Structural Engineering Meeting, San
Francisco, California, April 9-13, 1973.
5. Chen, W. F., Huang, J. S. and Beedle, L. S.
RECENT RESULTS ON CONNECTION RESEARCH AT LEHIGH, Paper No.
13, ASCE-IABSE Regional Conference on Tall Buildings,
Bangkok, Thailand, January 1974.

Fritz Engineering Laboratory Reports:

1. 217.36 Huang, J. S.
A COMPARISON: AREA AND CRC (CHART OF COLUMN PROBLEMS,
INTERIM REPORT NO. 4), December 1967.
2. 217.40 Huang, J. S. and Yen, B. T.
BIBLIOGRAPHY OF REPORTS IN COLUMN RESEARCH COUNCIL LIBRARY,
March 1970.
3. 327.3 Yen, B. T., Corrado, J. A., Huang, J. S. and Patterson, P. J.
PROPOSAL FOR PROOF TESTING OF WELDED PLATE GIRDERS, October
1967.
4. 327.4A Huang, J. S.
STIFFENER REQUIREMENTS FOR PLATE GIRDERS, M.S. Thesis, May
1968.
5. 333.7 Huang, J. S., Fielding, D. J., Chen, W. F. and Project Staff
FUTURE CONNECTION RESEARCH PROBLEMS, July 1972. (Revised)

6. 333.12 Huang, J. S. and Chen, W. F.
PROPOSAL FOR TESTS OF MOMENT-RESISTANT BEAM-TO-COLUMN CONNECTIONS, March 1971.
7. 333.15 Huang, J. S., Chen, W. F. and Regec, J. E.
TEST PROGRAM OF STEEL BEAM-TO-COLUMN CONNECTIONS, July 1971.
8. 333.17 Regec, J. E., Huang, J. S. and Chen, W. F.
MECHANICAL PROPERTIES OF C-SERIES CONNECTIONS, March 1972.
9. 333.20 Huang, J. S., Chen, W. F. and Beedle, L. S.
BEHAVIOR AND DESIGN OF STEEL BEAM-TO-COLUMN MOMENT CONNECTIONS, May 1973.
10. 333.20A Huang, J. S. and Chen, W. F.
HIGHLIGHTS OF TESTS OF STEEL BEAM-TO-COLUMN CONNECTIONS, August 1972.
11. 333.20D Huang, J. S.
ANALYSIS AND DESIGN OF STEEL BEAM-TO-COLUMN MOMENT CONNECTIONS, Ph.D. Dissertation, April 1973.
12. 333.21 Regec, J. E., Huang, J. S. and Chen, W. F.
TEST OF A FULLY-WELDED BEAM-TO-COLUMN CONNECTION, September 1972.

3. FURTHER WORK

Tests to be completed in C-series are specimens C6, C7, C8 and C9. Further research work on Proj. 333 is presented in Report 333.7, entitled "Future Connection Research Problems".

4. FUTURE EMPLOYMENT

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