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(1986) - 8th International Specialty Conference on Cold-Formed Steel Structures

Nov 11th, 12:00 AM

Features of AISI's 1986 Cold-formed Steel Design Manual

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Recommended Citation

Clauer, Calvin Robert, "Features of AISI's 1986 Cold-formed Steel Design Manual" (1986). *International Specialty Conference on Cold-Formed Steel Structures*. 2.

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FEATURES OF AISI'S 1986
COLD-FORMED STEEL DESIGN MANUAL

by

*CALVIN ROBERT CLAUER

INTRODUCTION

The 1986 Cold-Formed Steel Design Manual contains information and tools that make it easier to use the 1986 Specification, Part I and Commentary, Part II. In addition to Parts III, IV, and V contained in the present manual, Part VI, Computer Aids, and Part VII, Test Procedures, have been added. The greatest change has occurred in Part IV, Illustrative Examples. Now in Part IV there are twenty-seven complete design examples organized as flexural members, compression members, beam-column members, tension members and connections, plus purlins.

PART III, SUPPLEMENTARY INFORMATION

This part of the Manual is similar to previous editions. It has been updated to agree with the changes in the 1986 Specification. In section 3, a new explanatory third paragraph has been added. A new feature is the addition of three flow charts to the compression member design procedures. Another new feature is Section 5, Cold-formed Steel Structural Framing, which contains a list of procedures to follow to obtain quality construction when using cold-formed steel framing.

PART IV, ILLUSTRATIVE EXAMPLES

Featured in Part IV are twenty-seven complete design examples to assist the engineer in the design of a structural member. These full-length design examples are divided as to flexural members, compression members, beam-column members, tension members and connections, and purlins. The members included channels, zees, hat sections, deck sections, tubular sections, flat sections and wall studs. Connection examples include both welded and bolted types.

PART V, DESIGN AIDS

Part V is similar to the charts and tables of previous editions. Many of the charts have been eliminated as not applicable under the new unified approach to design upon which the 1986 Specification is based. The tables have been updated and a few new sizes of members have been added.

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PART VI, COMPUTER AIDS

This new part of the Manual has been added to assist the computer programming engineer. Many flow charts covering key sections of the Specifications have been included. Also, there are four flow charts that apply to certain illustrative examples. Decision tables have been prepared and referenced, although they are not included in Part VI.

PART VII, TEST PROCEDURES

This new part of the Manual is designed to fill a void that previously existed. It consists of two parts: Standard Test Method for Rotational-Lateral Stiffness of Beam-to-Panel Assemblies, and Standard Test Method for Stub Columns.

CONCLUSIONS

Hundreds of hours of volunteer and paid effort by cold-formed steel researchers and experts have been expended to produce the AISI 1986 Cold-Formed Steel Design Manual. In my opinion the work has resulted in a manual that is full of very useful information and tools for the practicing professional engineer engaged in cold-formed steel design.

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SUMMARY

The Features of AISI's 1986 Cold-Formed Steel Design Manual include simplification, better organization, twenty-seven illustrative examples of the complete design of beams, beam-columns, columns, tension members and connections, plus two additional parts: Part VI, Computer Aids; and Part VII, Test Procedures.

