DESIGN
OF
WELDED
STRUCTURES

THE JAMES F. LINDO AND WELDING FOUNDATION
CLEVELAND, OHIO
PREFACEx

WELDED STRUCTURAL CONNECTIONS have long been used in the construction of buildings, bridges, and other structures. The first welded buildings were erected in the '20s—the greatest application being in low-level buildings of many types. The American Welding Society first published specifications for welded bridges in 1936. But early progress came slowly.

During that year, 1936, The James F. Lincoln Arc Welding Foundation was created by The Lincoln Electric Company to help advance the progress in welded design and construction. Through its award programs and educational activities, the Foundation provided an exchange of experience and gave impetus to the growing application of welding.

Thus, within the last decade and particularly the past few years, unitized welded design has become widely accepted for high-rise buildings and bridges of nobler proportions in addition to the broad base of more modest structures.

Now, the Foundation publishes this manual for further guidance and challenge to architects, structural engineers, fabricators and contractors who will build the structures of tomorrow . . . and to the educators who will prepare young people for these professions. This material represents an interpretation of the best in accumulated experience of all who have participated in prior Foundation activities. The author has coordinated this with a continuing study of current welding research conducted both in the United States and Europe, and against a background of participation on various code-writing committees. Much of the direct instructional information that resulted has been pretested in over 70 structural seminars attended by over 4000 engineers.

The production of this manual has spanned several years during which constant effort was made to eliminate errors. The author will appreciate having called to his attention any errors that have escaped his attention and invites correspondence on subjects about which the reader may have questions. Neither the author nor the publisher, however, can assume responsibility for the results of designers using values and formulas contained in the manual since so many variables affect every design.

Charles Hetruck
Secretary
The James F. Lincoln Arc Welding Foundation

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