

Book reviews

Spannbeton für die Praxis

(Prestressed concrete practice)

by Dr.-Ing. Fritz Leonhardt

Published by Wilhelm Ernst & Sohn, Berlin. 1st edition 1955. Price DM 59.00. pp. 472.

As the title indicates, the aim of this book is a practical one in the sense that it provides comprehensive guidance for the practising designer or site engineer. It is not, therefore, a mere manual of constructional practice but gives, in addition, a very full treatment of the theory of prestressed concrete design. In fact, it covers the whole range of specialized technical knowledge which the prestressed concrete engineer should, in the author's opinion, have at his disposal.

The book contains numerous graphs and charts for the design of beams of rectangular, T and trough-shaped section. Continuous structures are dealt with in some detail, and formulae for design and analysis covering a large number of different cases are derived. Despite the author's claim that the theoretical part of the book has been kept as simple as possible, his treatment of the loss of prestress due to creep and shrinkage has a strongly mathematical bias and is, indeed, more elaborate than anything to be found in other books of comparable scope. Ultimate load analysis is facilitated by the inclusion of a series of special graphs for the determination of the failure moment. Subjects such as end-block design and friction in prestressing tendons are likewise treated

with the author's customary thoroughness.

On the practical side, a large number of German and other prestressing systems are discussed, including, of course, the author's own well-known system. A chapter is devoted to a description of the various types of jacking equipment in current use. The grouting of post-tensioned tendons is given particular attention.

From the designer's point of view, the book should prove useful as a storehouse of information, in particular with regard to the detailing of structures. The many excellent illustrations are of especial value in this connexion.

In the practical sphere, one of the chief merits of this book is its repeated insistence upon the exercise of due care in the execution of prestressed concrete structures, and upon the desirability of using skilled specialist staff for the job. Thus, it is pointed out that negligence in positioning the prestressing tendons in the section, which is often met with in contractors' men who are familiar only with the less exacting technique of ordinary reinforced concrete construction, may have disastrous consequences.

An exhaustive list of literature references is included at the end of the volume.