

Book reviews

THE TECHNOLOGY OF CEMENT AND CONCRETE

Volume I: Concrete Materials

by Robert F. Blanks and Henry L. Kennedy

Published by John Wiley & Sons Inc., New York; Chapman & Hall Ltd, London. 1st edition, 1955. Price 88s. pp. ix, 422.

The book deals very fully with the known facts about cement, admixtures and aggregates and their concrete-making qualities. It is based on material prepared for a course of lectures in cement and concrete technology for advanced students, but one would imagine that only a few would be able to absorb most of the fund of authentic information in the book; there is plenty for the specialist to study. It is a pity that, when the whole text (including Volume II: Concrete) had to be split, the work was not further sub-divided by publishing the chapters on cement and admixtures and on aggregates in separate volumes: many working in one or other field might then have wanted a copy to keep for reference although they will feel that the price for the book as it stands is rather high.

The authors have achieved their aim in making the book "interesting as well as informative" and of presenting their subject in a plain style which is easy to read. Perhaps the reader could have been given more help in finding the information he wanted if the index had included more page numbers where some valuable, although subsidiary, references to a subject could be found. In a book which is so free from printing errors one is surprised to find that a few of the page numbers in the index do not tie up with those in the text.

It is natural that the authors should deal at length with a number of techniques and problems which have received much attention in the U.S.A. in recent years although, at present, some may seem to be of little importance to British engineers. A larger number of types of Portland and other hydraulic cements are in regular use and all are described in some detail. Of necessity, precise instructions for carrying out the various processes in the manufacture of cement will not be found because the techniques depend so much on local conditions; but the factors to be considered and the principles

to be followed are discussed at some length, and there is constant reference to the effect of different characteristics of cements on their concrete-making properties. Chapters are devoted to pozzolanic activity and to air-entraining and other admixtures and they should prove to be of great value to any who have a growing concern for the durability of their concrete. The problems of alkali-aggregate reaction (which does not appear to occur in Great Britain) and of ensuring that the physical properties of the aggregates are compatible with those of the cement paste are examined thoroughly. In fact, the authors take exception to the idea that aggregate is an inert material and state that "most aggregates when bound into concrete by a cementing medium are highly reactive". One is almost driven to the conclusion that the New World is composed of rocks so new and virile that there is small chance of any concrete being durable! However, such an impression is only due to the thoroughness with which they deal with the characteristics of aggregates. They show how careful processing can result in uniformly good aggregates, and American producers find that the extra expense involved can be more than offset by the saving in the cost of the concrete produced.

Das Hängende Dach

(The catenary roof)

Dr.-Ing. Frei Otto

Published by Bauwelt Verlag, Berlin. 1st edition. 1954. Price DM 35.00. pp. 160.

The progressive-minded architect and the structural engineer will, each from his own point of view, find this a stimulating and highly interesting book.

The catenary roof in its present form is an ultra-modern and in many respects revolutionary method of construction. Yet it traces its descent from what is perhaps one of the earliest and humblest forms of artificial structure, namely, the tent. It also has points in common with the suspension bridge. It consists essentially of a skin suspended between fixed supports. This skin, which is subject only to tensile stresses, may consist of a continuous membrane or, which is more often the case, of