Book reviews

Bond in concrete

Proceedings of the International Conference in Bond in Concrete, held at Paisley College of Technology, Scotland, from 14 to 16 June 1982, organized in association with The Concrete Society (Scotland), the Institution of Structural Engineers and the American Concrete Institute.

Editor: P. Bartos

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Bond in concrete is the proceedings of an international conference on bond which brought together speakers from all over the world to discuss the many different topics involved. This was probably the first major conference on bond to be held in Europe for 25 years.

The factors governing the bond between concrete and reinforcing steel have been extensively studied over the years. Initially information on the bond capacity was the chief interest, but then research workers turned to the study of the mechanisms involved. After all these years and the vast amount of research carried out, there is still no real consensus. Test methods have developed from the old unrealistic 'pull-out' tests to ones that more closely resemble what actually happens. Now, with new composite building materials being used, research is being undertaken on many different types of fibres in cement-based matrices.

In all, the book contains 43 papers by authors from no less than 20 different countries. The papers are arranged in groups, starting at the microscopic level looking at the bond between the cement paste and the aggregate. Then the scale gradually increases through fibre reinforcements to conventional reinforcing bars. Theories of the fundamental mechanisms

involved are discussed, along with more practical aspects such as the effects of casting position upon bond and the anchorage requirements in Codes of Practice.

The effects of cyclic loading and of fire upon bond are both considered. The effect of the latter may be serious, the bond being reduced to such a level that the lap lengths become insufficient.

The proceedings, therefore, form an excellent 'state of the art' report on bond. However, they are still simply a collection of learned papers. Whilst they are extremely valuable to those working in the subject or to those with the time to read them in detail, the practising design engineer may have difficulty in obtaining the information from them that he requires. An index, at least covering the more important topics discussed in the papers, would have been an extremely useful addition. Also, because the volume was produced before the conference, none of the points raised during the discussion are included.

Finally, *Bond in concrete* is strictly for those working in the subject, but the Editor should be congratulated on producing the papers in such a durable form: this is probably the only publication of its type.

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