

this sort are: how up to date is it; and how thorough is the coverage? The information on each organisation was collected by means of a questionnaire and it appears that around 40% of the organisations listed did not reply in time for inclusion. Information is therefore included on them from other sources. The introduction is dated May 1986 so presumably the survey was carried out in 1985; it would be of assistance to readers to be told this. It is perhaps even harder to judge the second test. Obviously some countries are dealt with more fully than others, but the spread is surprisingly uneven. Europe is reasonably well covered (France 588 entries, West Germany 491 entries, UK 807 entries, for example) but the rest of

the world does not fare so well: Canada 122, China 60, USA 379 and USSR only 9 entries!

The way in which multilayer organisations are presented may distort these figures a little in that a university, faculty and department, for example, may appear as three adjacent entries. In practice, this is well handled by means of clear typography and cross-referencing.

Even bearing these limitations in mind, it is still a most valuable compilation, well-presented and easy to use. It should find a place on the reference shelf of many libraries, even at the high price.

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Concrete for hazard protection

Proceedings of the First International Conference, Edinburgh, 27–30 September 1987

London, The Concrete Society, 1987. 297 × 210 mm. pp. iv, 337. Reproduced typewriting, paperback. ISBN 0946691 185. Price £40.00.

This collection of conference papers deals with man-made hazards, particularly those arising from industrial plant and processes: explosions, extreme temperature effects, impact, and radiological and toxic effects. There is also a section on philosophy in design. The papers are, inevitably, varied in their approach, ranging from papers presenting research data, to discussion of design problems, and case studies of particular hazards against which concrete has been successfully used.

The theme that runs through the 27 papers is that, providing it is designed and detailed appropriately, reinforced and prestressed concrete are suitable materials for withstanding all manner of extreme mechanical, thermal or chemical hazards. The growing need to consider such hazards explicitly in the design of structures means that risks must be assessed in order to make design decisions and information is given on some aspects of risk analysis and assessment in a number of the papers.

Hazards such as blast and impact impose dynamic loads on structures and it is necessary for designers to appreciate the order of magnitude and duration of such loads. Results are presented in several papers of impact tests on prestressed beams, a novel mesh-reinforced concrete, slabs, and on the impact resistance of reinforcing bars. The growing understanding of energy dissipation and absorption in concrete structures means that such studies are leading to a sounder basis for developing and validating theoretical methods.

Information on the performance of concrete in fire and at cryogenic temperatures is presented in six papers and the use of concrete as a barrier or containment for toxic and nuclear waste is discussed in two papers. The need to take account of 'non-technical' issues (political, economic, human) is touched on by many of the authors.

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