
Introductory Remarks

Peter Hirsch

Phil. Trans. R. Soc. Lond. A 1983 **310**, 5
doi: 10.1098/rsta.1983.0060

Email alerting service

Receive free email alerts when new articles cite this article - sign up in the box at the top right-hand corner of the article or click [here](#)

To subscribe to *Phil. Trans. R. Soc. Lond. A* go to: <http://rsta.royalsocietypublishing.org/subscriptions>

Introductory remarks

BY SIR PETER HIRSCH, F.R.S.

Department of Metallurgy and Science of Materials, University of Oxford, U.K.

World manufacture of hydraulic cements is close to one thousand million tonnes per year, and cements along with steel are the most important constructional materials. Yet our understanding of the structure and properties of cements is not anything like as advanced as that of steels. But the cheapness and ready availability of the primary product, the facts that the energy consumed in manufacture is considerably smaller than that for metals, plastics, or ceramics and that hardening takes place with water at ordinary temperatures, provides the motivation for improving the strength, toughness and durability of cements not only for their more conventional uses, but also so that they might be used in quite new applications as replacements for energy intensive plastics, metals and ceramics. During the last 5–10 years there have been significant advances in fundamental understanding of the physics and chemistry of cements, and various recipes are available for cements with much improved properties. The aims of this meeting are to review the present understanding of structure–property relations, and cement hydration, to describe the improvements in properties that have been obtained so far, and to discuss the potential applications of such materials. The organizers hope that this meeting, which has attracted people from different disciplines, researchers, and industrial producers and users, will not only help to stimulate research aimed at further improvements, but even more important, also help to promote the very difficult process of the transfer of the technological advances.