

The Third International Symposium on the Chemistry of Cement

The Third International Symposium on the Chemistry of Cement was held in London from the 15th to the 20th September 1952 under the joint sponsorship of the Building Research Station of the Department of Scientific and Industrial Research and the Cement and Concrete Association.

Previous symposia had been held in London in 1918 by the Faraday Society and in 1938 in Stockholm by the Swedish Institution for Engineering Research and the Swedish Cement Association.

Delegates were welcomed in speeches by the President, Sir Ben Lockspeiser, F.R.S., Secretary of the Department of Scientific and Industrial Research, and the Vice President, Sir Francis Meynell, R.D.I., Director of the Cement and Concrete Association, at the inaugural meeting at the Royal Institution, Albemarle Street, W.1. Introductory addresses from Dr. A. Allan Bates, Vice President, Portland Cement Association, U.S.A., and Prof. H. Lafuma, Director, Centre d'Etudes et de Recherches de l'Industrie des Liants Hydrauliques, France, were also read, and the session was concluded with two introductory papers—a short survey of the fundamental research on cement and allied materials at the Swedish Cement and Concrete Research Institute, given by its Director, Prof. G. Wästlund, and a paper on "The Early History of Cement in England," by P. Gooding and P. E. Halstead of the Cement and Concrete Association, London.

Subsequent sessions were held in the lecture theatre of the Royal Society of Arts, Adelphi, London, W.C.2, and the papers were grouped under four headings:—

The Constitution of Portland Cement

THE TRICALCIUM SILICATE PHASE

J. W. Jeffery, U.K.

THE DICALCIUM SILICATE PHASE

R. W. Nurse, U.K.

INTERSTITIAL PHASES IN PORTLAND CEMENT CLINKER

H. Insley, U.S.A.

THE FERRITE PHASE

G. L. Malquori, Italy

V. Cirilli, Italy

THE ALKALI PHASES IN PORTLAND CEMENT CLINKER

T. F. Newkirk, U.S.A.

TRICALCIUM ALUMINATE

F. Ordway, U.S.A.

STUDIES ON THE CONSTITUTION OF PORTLAND CEMENT CLINKER

R. H. Bogue, U.S.A.

The Setting and Hardening of Portland Cement

THE STRUCTURES OF CEMENT HYDRATION COMPOUNDS

J. D. Bernal, U.K.

THE REACTIONS AND THERMOCHEMISTRY OF CEMENT HYDRATION AT ORDINARY TEMPERATURE

H. H. Steinour, U.S.A.

THE REACTIONS OF CEMENT HYDRATION AT ELEVATED TEMPERATURES

G. L. Kalousek, U.S.A.

THE PHYSICAL STRUCTURE OF CEMENT PRODUCTS AND ITS EFFECT ON DURABILITY

F. E. Jones, U.K.

CHEMICAL ASPECTS OF THE DURABILITY OF CEMENT PRODUCTS

T. Thorvaldson, Canada

Special Cements

THE CONSTITUTION OF ALUMINOUS CEMENT

T. W. Parker, U.K.

SLAG CEMENTS

F. Keil, Germany

EXPANSIVE CEMENTS

H. Lafuma, France

OIL WELL CEMENTS

W. C. Hansen, U.S.A.

MASONRY CEMENT

C. E. Wuerpel, U.S.A.

Applications of Research

THERMODYNAMICS OF THE CEMENT KILN

H. Gygi, Switzerland

F. Guye

THE INFLUENCE OF THE FINENESS OF CEMENT
RAW MIXES ON THEIR DURABILITY

T. Heilmann, Denmark

SOME RECENT DEVELOPMENTS IN THE DESIGN AND
CONSTRUCTION OF CONCRETE STRUCTURES

A. R. Collins, U.K.

DEVELOPMENT OF CEMENTS FOR SPECIAL USES IN
THE UNITED STATES

M. A. Swayze, U.S.A.

The proceedings were closed with an address by Dr. F. M. Lea, Director, Building Research Station, on *Cement research and the future.*

The papers provoked much interest and many written and verbal contributions were made to the discussions which followed the prepared papers. The whole of the proceedings will be published in due course as bound volumes.

There seemed to be general agreement that the

Symposium was timely and that a useful opportunity had been provided for reviewing the present state of knowledge of the chemistry of cements. In retrospect, the chief advances appear to have been made in the knowledge of the hydration products of Portland cement, and in the detailed composition of both Portland and aluminous cement clinker.

Interesting new types of cement were described and the chemical engineering problems of cement manufacture appeared to be receiving more attention. Greater interest in the use of cement was indicated by the papers on concrete which dealt with design problems and considered at length the chemical and physical aspects of the long term stability and durability of concrete.

Attendance at the Symposium was by invitation and its world wide appeal was reflected in the receipt of registrations from 260 delegates from 25 countries.

As is usual at these international gatherings, many opportunities were provided for informal conversations between delegates and many availed themselves of the facilities provided for their entertainment.

Visits were also arranged to cement works and to the research laboratories of the Associated Portland Cement Manufacturers Ltd., the Cement and Concrete Association, Birkbeck College, and the Building Research Station.