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NATIONAL RESEARCH COUNCIL OF CANADA

DIVISION OF BUILDING RESEARCH

No.

285

TECHNICAL NOTE

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DATE July 1959

SUBJECT Paint Research at the National Research Council

The purpose of this brief statement is to make clear the position of paint research within the general programme of the National Research Council and with particular reference to the activities of the Canadian Government Specifications Board.

Paint research is of long-standing interest to the National Research Council. For many years work in this field was carried out in the Division of Chemistry under the direction of Dr. C.Y.Hopkins. When the Division of Applied Chemistry was formed in 1952 this work was transferred to the new Division. Plans were made for providing proper accommodation for it in the new building being planned for the Division of Applied Chemistry at the Montreal Road Laboratories in Ottawa.

As a further part of the internal reorganization within the Council following the war years, the Division of Building Research next assumed responsibility for this paint research work in 1953, at the request of Dr. E.W.R.Steacie, soon after his appointment as President of the Council in succession to Dr. C.J.Mackenzie.

The Division of Building Research was started by the Council in 1947, its principal function being to provide a research service to Canada's largest industry, the construction industry. The detailed functions of the Division, its organization and its accommodation, are described in a small pamphlet entitled "The Division of Building Research: What it is - What it does". It will suffice therefore to note here that research in connection with building materials has been a leading part of the Division's programme from its initiation. In keeping with the importance which materials occupy in the construction industry, the Building Materials Section of the Division is today the largest section numerically and will probably long remain so.

It was in the Building Materials Section that the new function of paint research was included in 1953. Since paint research was not contemplated as a divisional function when the Building Research Centre had been planned, the Division had no suitable accommodation for paint research in 1953. It had therefore to request that the work remain in the new Applied Chemistry building until proper accommodation could

be provided for it. The Building Research Centre was first occupied by the Division in 1953 and plans were almost immediately started for an extension to the building materials laboratories specifically to provide proper accommodation for paint research. This extension to the original building was ready for use in 1957 and the paint research work of the Council was therefore transferred late in that year from the Applied Chemistry building to the Building Research Centre.

Today the paint unit of the Building Materials Section, the chief of which is Mr. E.V. Gibbons, is headed by Mr. John Harris who has working with him three professional workers and five technical assistants. This staff may be increased slightly in the immediate future. The paint research laboratories used by this unit include a general chemical laboratory, a special paint application laboratory and conditioned rooms for the examination of paints and conducting accelerated weathering tests. In addition paint and varnish preparation laboratories have been provided together with special rooms required for the safe storage of solvent, resins and oils. These facilities occupy an area of 5000 square feet.

The Division is therefore well equipped for carrying out paint research, ranging from fundamental chemical studies to practical problems of painting. Since the industry itself has research laboratories which are naturally primarily concerned with research into paint as a material, the Division anticipates that the general direction of its work will be towards research into painting and with relation to paint in service, but inevitably fundamental studies of paint as a material will also be included.

It will therefore be appreciated that, with the several reorganizations of the paint research work of the N.R.C., and of the fact that it is only within the last year that the new paint research laboratories have been brought into full use, the results of the N.R.C. paint research work have not resulted in any appreciable number of scientific papers. A further reason for this is that until relatively recently almost the entire time of the paint research unit has been devoted to carrying out specific projects for the Canadian Government Specifications Board, the Department of National Defence and other federal bodies. This work has resulted in privately circulated reports which contain a great deal of useful information with regard to paint and painting. It is the intention of the Division to use every effort to see that this valuable information is now put into convenient form for publication, so that it may be available for general use by the industry. In the future, the amount of work carried out by the paint research unit for C.G.S.B., etc., will be proportionately less, not only in view of the increase in staff but also as the demands of C.G.S.B. are shared with other laboratories. The Division therefore anticipates a steadily increasing number of publications recording the results of its paint research work.

In all this work, the Division looks forward to maintaining the closest possible links with the paint industry in Canada just as it is privileged to maintain close links with paint research in other countries, notably the United States (through A.S.T.M. and by personal

contact) and with Commonwealth countries. Visitors from the paint industry will always be welcomed at the Division. It is hoped that in due course some co-operative work with industry may even be carried out in the Division's own paint laboratories.

The Canadian Government Specifications Board, to which reference has already been made, is an interdepartmental agency which serves all the departments and agencies of the federal government in connection with standard specification needs. Under the provisions of the National Research Council Act, the Council was asked to undertake the responsibility for this body when it was originally established in 1934 as the Canadian Government Purchasing Standards Committee. Since no other national specifications for paints existed, CGPSC commenced work on the preparation of paint specifications in 1934 and paint specifications have been an important part of this work ever since. After the war and as a further part of the Council's reorganization the work of the CGPSC was transferred to the newly formed Division of Building Research in 1947 for administrative purposes. After careful review the name was changed, in 1948, to the Canadian Government Specifications Board.

The Board itself consists of the Deputy Ministers of all interested Departments with the President of the National Research Council as Chairman. The work of the Board is directed by an Executive Committee consisting of senior representatives of the respective Deputy Ministers, the Director of the Division of Building Research acting as Chairman of this Executive Committee. The work of the Board is carried out by a technical and secretarial staff which operates, for administrative purposes, as the Specifications Section of the Division of Building Research. This results in most of the CGSB meetings being held in the Building Research Centre and this quite naturally leads visitors to Ottawa to imagine that this specification work is a part of building research. It is hoped that this explanation makes quite clear that it is for administrative convenience only that the work of CGSB is carried out in the Building Research Centre, and that the secretarial staff is accommodated within the Division of Building Research.

In the development of CGSB test methods for paints much laboratory research work has been necessary and has occupied a large proportion of the time of the paint research unit of the Division of Building Research. This fact has added still further to the misunderstanding which has existed about the respective functions of CGSB and DBR. The situation was not helped by the fact that one of the subcommittees of the main CGSB Paint Committee was initially called the "Test Methods and Research Subcommittee". The subcommittee now has its proper name indicating its concern with test methods only. Research has never been and will not be a function of CGSB.

The paint industry has been most helpful in participating actively in the CBSG paint committee work. This assistance has been greatly valued: it has helped to make the "CG" paint specifications truly national standards. With this clarification of the paint research situation, it is hoped that similarly close liaison may be developed between those responsible for paint research work in the industry and in the NRC Division of Building Research respectively.