

power, equipment, and materials that is an historic fact in the construction industry, more structures could be produced at lower cost and, for the present with the existing craftsmen.

One method of doing this is to utilize cold weather masonry construction methods. Current building code requirements and recent research on cold weather masonry construction are obtained in *Technical Notes*, No. 1 Revised, December 1967, entitled 'Cold Weather Masonry Construction, Introduction'. *Technical Notes*, No. 1A, January 1968, entitled 'Cold Weather Masonry Construction, Construction and Protection Recommendations', sets forth the SCPI recommendations based on this research and study.

This issue of *Technical Notes* is devoted to the present practice being successfully used in various European countries where they have employed 'Winter Building' construction methods, in some cases, for many years. This *Technical Notes* covers, in general, the winter building techniques and practices in Northern Europe. The purpose is to document the attitudes, planning, techniques, methods, and equipment that are currently being successfully used in that part of the world. It is hoped and anticipated that some of these methods, techniques, and equipment will be adopted or adapted for use in this country.

Typical European Programs: There are several orders of winter building programs in Northern Europe. Some are governmentally organized and supported; others are less official but equally as effective, being part of union contract agreements. In many of these countries, trade associations, design organizations, and, in some cases, government bodies are continuing research into technical and other aspects of winter building.

The United Kingdom has had a formal government program on winter building for approximately five years. The program was originated by the Minister of Public Building and Works in June of 1963 with the appointment of a technical group designated the *Committee on Winter Building*. At present, the program is administered by the Ministry of Public Building and Works, with the cooperation of the Building Research Laboratories and the advice of the *Committee on Winter Building* which includes representatives of the design professions, the building contractors, and material suppliers.

The Government of the United Kingdom is continuing research and investigations into improved methods, techniques, and equipment. In the meantime, they are promoting continuous building through educational efforts, project specifications, and limited subsidy as incentive for contractors. They also have a staff of advisors available for consultation and assistance to contractors and designers. A major effort has been the area of research, design, and development of suitable clothing for the British construction worker. The clothing is to be waterproof, warm, durable, and to allow freedom of movement. They have met with some success, but the work continues.

In Denmark, 'Winter Building' is a way of life. The Danes approach winter building in a logical and systematic way. The Danish system had its beginnings in construction labor union contract negotiations in 1908. It was at this time that the first 'rules' for a winter building site were set down. Most of the technical requirements of Danish winter building are based on long experience and research done by others.

The Danish government also actively promotes their winter building system through education, consultation, and, in some instances, increased term and/or amounts on mortgages for housing construction that continues through the winter.

In Sweden as in Denmark, continuous building is the accepted way. The regulations in Sweden closely follow those in Denmark with a few minor exceptions.

The Swedish government is also active in promoting continuous construction by means of education and consulting through the National Swedish Institute for Building Research. The government also has incentives of longer time or increased percentage of mortgage financing for housing that continues through the wintertime.

The Swiss have been engaged in extensive winter building for only a short time. As in other countries, this move was necessitated by a growing shortage of housing units. Even today they do not have the formal organization and government involvement in this field that exists in some other countries. The Swiss have performed some studies and have done some research in this field, but to date they are only actively engaged in issuing 'advisory bulletins' to architects and engineers through the Swiss Federal Materials Testing Laboratory (EMPA).