

Guest Editorial

Special Issue on Concrete Durability

Concrete has been widely used as a major construction material. Its low cost and the easy availability of the constituent materials makes its utilization more attractive than the other construction materials. Due to its economic and technical importance, research efforts have been diverted towards producing a stronger concrete. This was done mainly by improving the properties of cement. As a result, it is now possible to produce very high strength concrete.

In the efforts of improving the strength of concrete the implications of these developments on its durability were not envisioned. Another apathy with concrete was that it was universally used without regard to the exposure conditions. The result of this ignorance on the part of the designers has been evident in terms of significant resources being utilized for the repair and rehabilitation of deteriorated concrete structures.

With concrete durability problems reported from many parts of the world, research efforts were concentrated towards their diagnosis and formulation of remedial measures. The research efforts that were initiated in the last millennium are being pursued with the aim of making concrete a durable material. This special issue is a humble contribution to these efforts.

The papers in this theme issue on *concrete durability* cover a wide range of topics related to the causes of retrogression in the performance of concrete and pre-

ventive measures. While some papers present the mechanisms of concrete deterioration and related modeling techniques, others present the results of studies conducted to enhance the durability of concrete by utilizing supplementary protection methodologies, such as coatings, inhibitors etc. Myself and the contributors will be highly elated if the information provided in this theme issue can be of use to the construction industry in building durable concrete structures.

I am thankful to Prof. R.N. Swamy for providing me the opportunity to coordinate the efforts of the contributors to this issue. I am also indebted to the contributors for accepting my invitation to publish their valuable work in this theme issue. I am grateful to the reviewers for their efforts in improving the quality of the papers. Lastly, but not the least, I acknowledge the support provided by King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia in the preparation of this theme issue.

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