

Conference report

3rd International Conference on Concrete under Severe Conditions of Environment and Loading (CONSEC'01) Vancouver, BC, June 18–20, 2001

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Significant challenges confront us today with regards to our built environment. These include a deteriorating infrastructure, discrepant ways of design, unresolved environmental issues, a fragmented research environment and lack of timely transfer of technology. Addressing these issues requires innovative, interdisciplinary and sometimes unconventional thinking along with an effective partnership between the academia and the industry. We need an extensive interaction between the four seemingly isolated sectors of design, construction, maintenance and repair and to produce cross-fertilization of ideas aimed at developing multidisciplinary, rational and 'holistic' solutions.

With these goals in mind, the Third International Conference on Concrete under Severe Conditions Environment and Loading (CONSEC'01) was held in Vancouver, BC, from June 18 to 20, 2001. Since its inception in Japan in 1995, and the continuing success in Norway in 1998, CONSEC conferences have now become a cherished tradition in all prominent 'concrete' circles. These are an effective forum for exchange of ideas, transfer of technology, launch of new concepts, diffusion of research discoveries, and a vehicle for a rapid advancement in our state-of-the-art.

At CONSEC'01, 257 papers were presented from 43 countries falling under the following five general themes:

1. *Performance of concrete under severe environments:* Physical properties and constitutive response, long-term performance of existing structures, long-term exposure tests, and deterioration mechanisms.
2. *Performance of concrete under severe loading:* Seismic loading, fatigue loading and impact loading.

3. *New design concepts:* New design methods, integration of structural and durability designs, life cycle management, life cycle economy and codes and standards.
4. *Materials and construction:* High-performance concrete, concrete production, test methods for performance criteria, environmental issues and recycling.
5. *Operations, maintenance and repairs:* Assessment of structural condition, coatings and surface treatments, electrochemical techniques, strengthening and repair methods and retrofitting for seismic loads.

Among the five themes, a disproportionately high number of papers were presented on structural strengthening and rehabilitation signifying a critical need to regenerate our rapidly deteriorating infrastructure.

The Proceedings of CONSEC'01 (edited by N. Banthia, K. Sakai, O.E. Gjrv) are available as two volumes (~2400 pages total) and carry a total of 256 fully peer-reviewed papers. These Proceedings provide an excellent snapshot of modern thinking in the five themes covered, and will remain a useful guide for many years to come. The editors hope that these will generate significant discussion in the community, set the direction for future research, advance our state-of-the-art, and perhaps best of all, improve concreting practices around the world.

A products and service exhibit was also organized during the Conference. In addition to the Canadian Society for Civil Engineering, CONSEC'01 was sponsored by most major learned professional societies including the American Concrete Institute, RILEM, Architectural Institute of Japan, Canadian Precast/Prestressed Concrete Institute, CANMET-ICON, Canada, Hokkaido Development Bureau, Japan, ISIS – Canada, Japan Concrete Institute, Japan Society of

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Civil Engineers, Kagawa University Japan, Norwegian University of Science and Technology, Portland Cement Association, Silica Fume Association, and the

University of British Columbia, among others. The next CONSEC will be held in Seoul, South Korea in 2004.