

What's New

Structural Health Monitoring Technologies—SP-292

Structural health monitoring (SHM) is a process aimed at providing accurate and timely information concerning structural health condition and performance. The information obtained from monitoring is generally used to plan and design maintenance activities, increase the safety, verify hypotheses, reduce uncertainty, and widen the knowledge concerning the structure being monitored. The technologies used to perform the SHM are continuously developing, and researchers and practitioners are not always aware of their market maturity, performances, and applicability. The papers included in this CD: 1) identify the state-of-the-art SHM technologies, including their performances, applications, and market maturity; 2) generalize the use of SHM technologies for various classes of problems and structures; 3) examine how the SHM technologies can be used in evaluation of the current conditions and performances of concrete structures; and 4) analyze the benefits of SHM technologies regarding the preservation and safety of concrete structures and long-term management activities in general.

This CD consists of 10 papers that were presented at a technical session sponsored by ACI Committee 444 at the ACI Convention in Cincinnati, OH, in October 2011.

Order Code: SP292CD

Format: CD

Price: \$74.50 (ACI members \$45.00)

Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement—SP-293

Practicing engineers increasingly favor the use of high-strength concrete and reinforcement in their design. The papers included in this CD present results from recent research studies and examples of practical applications and use of high-strength concrete and steel reinforcement in recent projects.

This CD consists of 10 papers that were presented at a technical session sponsored by ACI Committee 441 at the ACI Convention in Toronto, ON, Canada, in October 2012.

Order Code: SP293CD

Format: CD

Price: \$72.50 (ACI members \$44.00)

Advances in Green Binder Systems—SP-294

There is a growing interest all over the world to develop and implement environmentally friendly binding materials for concrete applications. The emphasis of the research and construction community is on finding sustainable alternatives for ordinary portland cement to reduce the overall environmental and energetic impact of cement production. The use

of high volumes of fly ash and slag are already accepted means of cement reduction for sustainable concretes; however, the dramatic increase in the consumption of concrete requires novel and sustainable binder systems. Recent research results provide an introduction into several areas of active work on green binder systems. The papers in this CD deal with a wide variety of topics that are of significant interest and impact, including the chemistry of geopolymerization of fly ash, mixture proportioning of concretes containing fly ash alone as the binder, methods to improve the reactivity of fly ash through nanomodification or the use of fine limestone, and phosphate-based cements. Also, novel methods of the use of waste glass powder and rice husk ash as cementing materials are detailed. These papers are a useful addition to the library for any researcher, materials producer, or end user interested in alternative and sustainable binding materials for concrete.

This CD consists of eight papers that were presented at a technical session sponsored by ACI Committees 130, 232, and 236 at the ACI Convention in Dallas, TX, in March 2012.

Order Code: SP294CD

Format: CD

Price: \$74.50 (ACI members \$45.00)

Recent Advances in the Design of Prestressed Concrete Piles in Marine Structures in Seismic Regions—SP-295

This CD consists of eight papers that were presented at a technical session sponsored by ACI Committees 357, 423, and 543 at the ACI Convention in Minneapolis, MN, in April 2013. The papers cover key aspects relevant to seismic analysis, design, detailing, and experimental testing of precast prestressed concrete piles as substructure elements of marine structures.

Order Code: SP295CD

Format: CD

Price: \$70.50 (ACI members \$43.00)

What's Coming

Winter 2013/2014

Building Code Requirements and Specification
for Masonry Structures and Companion
Commentaries—ACI 530-13