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CSA-S806: Design and Construction of Building Components with Fibre- Reinforced Polymers A One-Day Workshop

Ottawa, ON- Tuesday, December 2, 2003, 8:00 - 4:30

Embassy West Hotel, 1400 Carling Ave., Ottawa, ON H1Z 7L8,

Toronto, ON- Wednesday, December 3, 2003, 8:00 - 4:30

Days Inn Toronto Downtown, 30 Carleton St., Toronto, ON M5B 2E

Guide CSA-S806

Course Description

Since fibre-reinforced polymers (FRP) are increasingly gaining acceptance as an alternative to traditional reinforcing materials in aggressive environments, the Canadian Standards Association has developed the world's first full standard, called "S806-02: Design and Construction of Building Components with Fibre-Reinforced Polymers," for the design and retrofit of building components with FRP reinforcement. This course will cover the background to the various code provisions, define their scope and through detailed examples demonstrate their applications.

The standard deals with reinforced and prestressed internal reinforcement consisting of bars and grids and with external reinforcement comprising surface bonded sheets and laminates. It covers the ultimate limit state analysis and design of members under flexure, axial load or shear as well as serviceability limit state requirements such as crack width and deflection. The detailed provisions of this standard make it possible now to apply FRP in a systematic and safe way in the retrofit, strengthening and design of new building structures.

Special Offer

A purpose-designed binder containing comprehensive information will be provided to each participant, which will include charts, graphs, and tables that are included in the presentation of each topic. Adequate time for questions will be provided.

The Presenters (members of the CSA-S806 Technical Committee)

Dr. Brahim Benmokrane, P. Eng. Is a Professor of Civil Engineering at University of Sherbrooke. He has been involved in the design, construction, and monitoring of five FRP reinforced concrete bridges constructed in Canada and USA.

Don Lamb, P.Eng. is the Manager of Engineering Services at Master Builders Technologies Ltd. He has been involved in concrete materials throughout Canada for thirty years. He is a member of ACI and several CSA Technical Committees.

Dr. David T. Lau, P.Eng. is a Professor of Civil Engineering at Carleton University. He has served as consultant in numerous industry and government projects on vibration and seismic problems of structures in Canada, California and overseas.

Ghani Razaqpur, Ph.D., P.Eng. is a Professor of Civil/ Environmental Engineering at Carleton University. He has published many technical papers on FRP design and applications, and the results of his research are reflected in the S806-02 provisions.

Dr. Murat Saatcioglu, P.Eng. is a Professor of Civil Engineering and Research Chair at the University of Ottawa. His research interests include the behaviour and design of steel and FRP reinforced concrete structures with emphasis on seismic performance, retrofit and design.

Dr. Dagmar Svecova is an Assistant Professor of Civil Engineering at the University of Manitoba. She is a Project Leader with ISIS Canada, a national network of centres of excellence, and has co-authored ISIS Design Manual 3 for FRP reinforced concrete.



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AGENDA

- 8:00- Registration
- 8:30- General code philosophy, limit states and other background material
G. Razaqpur
- 8:45- Material properties, load and resistance factors
B. Benmokrane/ G. Razaqpur
- 9:45- Coffee Break
- 10:00- Internally reinforced concrete design: flexure, shear, deflection, crack width, bond
B. Benmokrane/ G. Razaqpur
- 11:30- Construction issues
G. Razaqpur/ D. Lamb
- 12:00- Lunch
- 1:00- Prestressed concrete design
G. Razaqpur/ D. Svecova
- 2:30- Coffee Break
- 2:45- Column confinement, column retrofit by wrapping
M. Saatcioglu/ D. Lau
- 3:30- Retrofit for enhanced flexural and shear strength, seismic retrofit
M. Saatcioglu/ D. Lau
- 4:30- End

CONTACT INFO

INFORMATION AND REGISTRATION

Kar-Wei Cho
Events Coordinator CSCE
T: (514) 933-2634 ext. 29
F: (514) 933-3504
E-mail: events@csce.ca

This course is recognized by



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REGISTRATION

Please fax or mail this form with your payment to: Kar-Wei Cho, Events Coordinator,
CSCE, 4920 de Maisonneuve Blvd.W., Suite 201, Montreal, QC H3Z 1N1, F: (514) 933-3504

S806 Ottawa, December 2, 2003

S806 Toronto, December 3, 2003

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I authorize CSCE to send my participation record to EIC for CE units registration. YES NO

Enrollment is limited to assure interaction is personalized and encouraged.

Group (5 or more) and student rates are available upon request.

Join CSCE now at the introductory price of \$90 + taxes and pay the CSCE member fee at this and other workshops during the coming year.

Any registrant may substitute another person eligible for the same registration fee without charge at any time. Full refund will be issued when a written notice of withdrawal is received 2 weeks before the first day. An administrative fee is deducted at this time. We regret that there will be no refunds issued past this date. In the event that CSCE must cancel the program, the participant will receive a 100% refund for workshop fees.

PAYMENT

Please check as appropriate to you. Dates refer to receipt of registration materials by CSCE. Payment must be received to confirm your place. Refreshments, lunch, course materials and manual are included.

Registration Fees	Early Registration (On or before Nov. 12, 2003)	Open Registration (After Nov 12, 2003)
CSCE Member	\$250 + tax = \$267.50 <input type="checkbox"/>	\$300 + tax = \$321.00 <input type="checkbox"/>
Newly Enrolling CSCE Member	\$300 + \$90 + tax = \$417.30 <input type="checkbox"/>	\$350 + \$90 + tax = \$470.80 <input type="checkbox"/>
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Name _____ Date of Birth _____ Sex _____

Indicate Desired Mailing Address

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Are you a member of any other Engineering Societies? If so, give details:

SOCIETY	PROVINCE(S)	MEMBERSHIP GRADE
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Academic Record/Work Experience (Please submit C.V. & photocopies of certificates or transcripts)

TECHNICAL DIVISION MEMBERSHIPS – Select up to three fields in order of preference, (i.e. 1,2,3)

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_____ Construction	_____ Environmental	_____ Transportation
		_____ Sustainable Dev.

Membership Grades

Member: normally holds a recognized educational qualification in Civil Engineering at the level recognized by a provincial Association of Professional Engineers and whose competence has been established by at least four years of professional experience.

Associate Member: normally holds an engineering degree from a recognized university but has not yet acquired the qualifications for member status related to the extent of professional practice.

Professional Affiliate: technologists, technicians and other persons working in the field of Civil Engineering.

Graduate Student Member: those engaged in full time postgraduate studies at a recognized Canadian university may be eligible.

Signature _____

Date _____