

Agenda

Presented by Elias Toubia, Ph. D., P.E.

Portland Cement Concrete

Materials
Testing methods

Masonry

Materials
Testing methods

Fiber-Reinforced Composites

Materials
Testing methods
Treatment of fiber reinforcement in building codes and standards

Fiber-Reinforced Polymer (FRP) Composites Reinforcement

FRP flexural reinforcement
FRP shear reinforcement

FRP Strengthening

FRP flexural strengthening
FRP shear strengthening
FRP confining

Overview of Sandwich Materials and Structures

Introduction to composite sandwich structures
Sandwich structure applications
Comparison to other structural forms
Advantages and disadvantages
Materials selection
Face sheets
Core material
Adhesives
General design considerations
Applications for fiber reinforcement/case studies

Fiber-Reinforced Composites for Building and Construction
Worthington, OH - Friday, January 26, 2018

NON-PROFIT
U.S. POSTAGE PAID
EAU CLAIRE, WI
PERMIT NO. 2016

Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Discuss the contents of and applications for fiber-reinforced concrete and masonry.

Review the treatment of fiber reinforcement in building codes and standards.

Learn about using fiber-reinforced polymer composites for flexural and shear reinforcement.

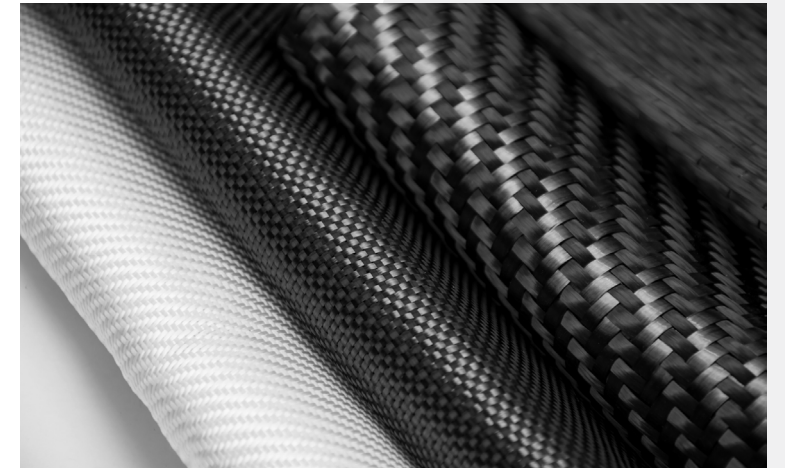
Understand the construction of and applications for sandwich-structured composite materials.

Review case studies featuring fiber-reinforced materials.



Fiber-Reinforced Composites for Building and Construction

Worthington, OH - Friday, January 26, 2018



Discuss the contents of and applications for fiber-reinforced concrete and masonry

Review the treatment of fiber reinforcement in building codes and standards

Learn about using fiber-reinforced polymer composites for flexural and shear reinforcement

Understand the construction of and applications for sandwich-structured composite materials

Review case studies featuring fiber-reinforced materials

Continuing Education Credits

Professional Engineers

6.5 PDHs

Architects

6.5 HSW Continuing Ed. Hours

6.5 AIA HSW Learning Units

Construction Contractors

Non-Credit Continuing Ed.



HalfMoon Education Inc.
WWW.HALFMOONSEMINARS.ORG



Faculty

Elias Toubia, Ph.D., P.E. *Associate Professor with the University of Dayton's School of Engineering*

Dr. Toubia is an associate professor with the University of Dayton's School of Engineering where he teaches classes in mechanics, civil engineering materials, design of concrete structures, masonry design, design of timber structures and structural dynamics. His research interests include innovative structural design systems, composite materials and experimental testing, behavior of reinforced concrete, and masonry structures. Dr. Toubia is a member of the American Society of Engineering Education, the Society for the Advancement of Material and Process Engineering, and The Masonry Society. Dr. Toubia holds a US Patent and an outstanding paper award from the *Masonry Society Journal*. Dr. Toubia has extensive experience in designing complex structures, and he has written articles on structures and composite materials featured in major peer-reviewed journals.

Here’s what past attendees had to say about the program and presenter Elias Toubia:

- “Mr. Toubia has very good knowledge and presentation skills.” — *Civil Engineer*
- “Delivered a highly-technical subject in a practical manner.” — *Civil Engineer*
- “Very passionate while packing an enormous amount of information into 8 hours.” — *Construction Consultant*

Seminar Information

Holiday Inn Columbus/Worthington 7007 North High Street Worthington, OH 43085 (614) 436-0700	Registration 8:00 - 8:30 am Morning Session 8:30 am - 12:00 pm	Lunch (On your own) 12:00 - 1:00 pm Afternoon Session 1:00 - 4:30 pm
--	---	---

- Tuition**
- \$279** for individual registration
 - \$259** for three or more simultaneous registrations.
- Each registration includes a complimentary continental breakfast and printed seminar manual.*
- How to Register**
- Visit us online at www.halfmoonseminars.org
 - Mail-in or fax the attached form to 715-835-6066
 - Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar. You may also send another person to take your place.

Additional Learning

- Webinar Series**
- Flood-Resistant Buildings**
- **Floodplain Development under NFIP Standards**
Wed., Nov. 29, 2017, 11:00 AM - 12:00 PM CST
 - **Building Design under NFIP Standards**
Wed., Nov. 29, 2017, 12:30 - 2:00 PM CST
 - **Designing and Constructing Flood-Resistant Buildings**
Fri., Nov. 30, 2017, 11:00 AM - 12:00 PM CST
 - **Designing and Constructing Foundations and Above-Grade Flood Resistance**
Fri., Nov. 30, 2017, 12:30 - 2:30 PM CST
- Construction Cost Estimating**
- **Introduction to Cost Estimating**
Thurs., Dec. 7, 2017, 11:00 AM - 12:30 PM CST
 - **Cost Components - A Closer Look at the Estimates**
Thurs., Dec. 7, 2017, 1:00 - 3:00 PM CST
 - **Cost Estimate Organization**
Fri., Dec. 8, 2017, 11:00 AM - 1:00 PM CST
 - **Cost Estimating Topics**
Fri., Dec. 8, 2017, 1:30 AM - 3:00 PM CST
- Retaining Walls and Slope Stabilization**
- **Retaining Wall Basics**
Thurs., Dec. 14, 2017, 11:00 AM - 12:00 PM CST
 - **Geosynthetics and Retaining Walls**
Thurs., Dec. 14, 2017, 12:30 - 2:30 PM CST
 - **Slope Stability and Geosynthetics**
Fri., Dec. 15, 2017, 11:00 AM - 12:30 PM CST
 - **Slope and Retaining Wall Failures, Fixes and Prevention**
Fri., Dec. 15, 2017, 1:00 - 2:30 PM CST

- Solar Photovoltaic Project Design and Development**
- **Solar Photovoltaic Project Design and Development, Part I**
Thurs., Nov. 30, 2017, 11:00 AM - 3:15 PM CST
 - **Solar Photovoltaic Project Design and Development, Part II**
Fri., Dec. 1, 2017, 11:00 AM - 2:15 PM CST
- For more information visit:
www.halfmoonseminars.org/webinars/

Continuing Education Credit Information

This live lecture presentation is open to the public and offers 6.5 PDHs to professional engineers and 6.5 HSW continuing education hours to architects in all states, except Florida architects. Educators and courses are not subject to preapproval in Ohio.

This seminar is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is deemed an approved continuing education sponsor for New York architects. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar offers a non-credit continuing education opportunity to contractors. It has not been approved by any state contractor licensing entity for mandatory continuing education credit.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Registration

Fiber-Reinforced Composites for Building and Construction

Worthington, OH - Friday, January 26, 2018

How to Register		Registrant Information
Online: www.halfmoonseminars.org		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900		Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066		Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		() I need special accommodations. Please contact me.
Complete the entire form. Attach duplicates if necessary.		

Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

Checks: Make payable to HalfMoon Education Inc.

Credit Card: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____
Email: _____