



KOMPOZİT SANAYİCİLERİ DERNEĞİ
TURKISH COMPOSITES MANUFACTURERS ASSOCIATION

INTERNATIONAL WORKSHOP ON COMPOSITES IN CONSTRUCTION

This full-day workshop is jointly organized by ACI, NEX and TCMA. This comprehensive workshop will explain construction practices with FRP composites, focusing on FRP composites as internal reinforcement for concrete structures, and external strengthening/rehabilitation of concrete structures using FRP composites. The workshop topics will include application, design and construction practices of nonmetallic composite materials in construction.

SCHEDULE OF EVENTS

8.30 – 9.00	Workshop attendees to pick up registration materials at the entrance
9.00 – 9.10	Welcoming remarks by TCMA Board of Directors President
9.10 – 9.30	Introduction to ACI and NEX by ACI Middle East Regional Director & NEX representative
SESSION 1 Structural Concrete Reinforced with Glass Fiber Reinforced Polymer Bars (GFRP)	
9.30 – 10.30 (60 mins)	➤ General introduction to ACI CODE 440.11 ➤ GFRP reinforcement details & introduction to ASTM D7957 ➤ General introduction to ACI SPEC 440.5 ➤ Fire resistance of GFRP reinforced concrete
10.30 – 11.00	Refreshment Break
11.00 – 12.00 (60 mins)	➤ General design provisions for: ▪ Flexural Strength ▪ Serviceability Requirements ▪ Shear Strength ▪ Combined Axial and Flexural Strength ▪ Seismic Limitations ▪ Structural system requirements ➤ Slabs-on-Ground
12.00 – 13.00	Lunch Break

SESSION 2 Strengthening of Structural Concrete with Fiber-Reinforced Polymer (FRP) Systems	
13.00 – 14.00 (60 mins)	➤ General introduction to ACI CODE 440.13 & GUIDE 440.2R ➤ FRP material specification per ACI SPEC 440.8 ➤ Concrete substrate requirements ➤ Fire resistance of FRP strengthened concrete member ➤ Field inspection, testing & evaluation
14.00 – 14.30	Refreshment Break
14.30 – 15.30 (60 mins)	➤ General design requirements ➤ FRP system requirements ➤ Design & detailing for: • Flexural strengthening • Shear strengthening • Axial force, combined axial force and moment strengthening ➤ Guide for seismic strengthening with FRP
15.30 – 16.00	Concluding remarks & adjournment, exit by 16.00

Learning Objectives:

Session 1

- Understand GFRP reinforcing bar material properties, production and proper material selection.
- Gain insights into construction principles for reinforced concrete construction using GFRP reinforcement.
- Learn about basic design provisions for reinforced concrete construction using GFRP reinforcement.

Session 2

- Understand carbon or glass FRP fabric & composite material properties and proper material selection.
- Learn about the basic design provisions for reinforced concrete member strengthening using FRP composites.
- Gain insights into construction principles and field inspection, testing & evaluation.