Strengthening of Concrete Structures with Adhesively Bonded Reinforcement

Design and Dimensioning of CFRP Laminates and Steel Plates

The design and use of externally bonded CFRP strips, CF sheets and steel plates according to the German DAfStb guideline, which supplements the Eurocode. With design examples covering fatigue, creep, serviceability and ultimate limit state analysis for slabs, beams and columns.

The explanations and background information provided are mainly based on the new German guideline "Strengthening of Concrete Members with Adhesively Bonded Reinforcement" by the German Committee for Structural Concrete (DAfStb). This is the first European guideline to regulate this topic in the form of a supplement to the Eurocode. As it is planned to produce a document in a future Eurocode 2, the DAfStb guideline serves as a starting point. The authors are extensively involved in the planning, design, operation and inspection of buildings for preservation and reconstruction, and in the updating of European Technical Approval Guidelines (ETAGs) and design rules.

Selected chapters from the German concrete yearbook are now being published in the new English "Beton-Kalender Series" for the benefit of an international audience.

Since it was founded in 1906, the Ernst & Sohn "Beton-Kalender" has been supporting developments in reinforced and prestressed concrete. The aim was to publish a yearbook to reflect progress in "ferro-concrete" structures until - as the book's first editor, Fritz von Emperger (1862-1942), expressed it - the "tempestuous development" in this form of construction came to an end.

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personally Birgit.Ruediger@wiley.com / Marketing Manger

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