The "Red Book" presents a background to conventional foundation analysis and design. The text is not intended to replace the much more comprehensive 'standard' textbooks, but rather to support and augment these in a few important areas, supplying methods applicable to practical cases handled daily by practising engineers and providing the basic soil mechanics background to those methods. It concentrates on the static design for stationary foundation conditions. Although the topic is far from exhaustively treated, it does intend to present most of the basic material needed for a practising engineer involved in routine geotechnical design, as well as provide the tools for an engineering student to approach and solve common geotechnical design problems.
The wind energy industry in Germany has an excellent global standing when it comes to the development and construction of wind turbines. Germany currently represents the world's largest market for wind energy. The ongoing development of ever more powerful wind turbines plus additional requirements for the design and construction of their offshore foundation structures exceeds the actual experiences gained so far in the various disciplines concerned. This book gives a comprehensive overview for planning and structural design analysis of reinforced concrete and pre-stressed concrete wind turbine towers for both, onshore and offshore wind turbines. Wind turbines represent structures subjected to highly dynamic loading patterns. Therefore, for the design of load-bearing structures, fatigue effects - and not just maximum loads - are extremely important, in particular in the connections and joints of concrete and hybrid structures. There multi-axial stress conditions occur which so far are not covered by the design codes. The specific actions, the nonlinear behaviour and modeling for the structural analysis are explained. Design and verification with a focus on fatigue are addressed. The chapter Manufacturing includes hybrid structures, segmental construction of pre-stressed concrete towers and offshore wind turbine foundations. 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 pre-stressed 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. However, the "Beton-Kalender" quickly became the chosen work of reference for civil and structural engineers, and apart from the years 1945-1950 has been published annually ever since.
The Tunnel Engineering Handbook, Second Edition provides, in a single convenient volume, comprehensive coverage of all the principal classifications of tunnels, including soft ground, hard rock, immersed tube and cut-and-cover, with the state of the art in the design, construction, and rehabilitation of tunnels. It brings together essential information on the analysis, design, and performance of tunnels. The Tunnel Engineering Handbook is a definitive reference work for engineers, researchers, and students concerned with tunneling projects around the world.

The book includes 17 new chapters covering different conditions, including:
- Complete updating of all chapters from the first edition
- Seven completely new chapters covering different conditions

Written by the leading engineers in the fields, this second edition features major revisions from the first edition. It enables engineers to address such critical questions as how tunnels are planned and laid out, how the design of tunnels is carried out, and how tunnels are made to work. The book brings together comprehensive information on the design, construction, and rehabilitation of tunnels, including the broad coverage found in the Tunnel Engineering Handbook.

The book includes:
- 17 new chapters covering different conditions
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- Updated and revised content from the first edition
- Comprehensive coverage of all the principal classifications of tunnels
- Essential information on the design, construction, and performance of tunnels

The book is intended for engineers, researchers, and students concerned with tunneling projects around the world. It is a comprehensive resource for anyone involved in the design, construction, and rehabilitation of tunnels.
Read Online Loads On Circular Precast Concrete Manholes And Access

Precast concrete piles

This synthesis will be of interest to state department of transportation bridge design and structural engineers, bridge consultants, and others involved in applied and research methods for increasing the live load capacity of existing highway bridges. The synthesis describes the current state of the practice for the various methods used to increase the live load capacity of existing highway bridges. This is done predominantly for bridges in the short- to medium-span range. Information on the more common bridge material types is presented. There is an emphasis on superstructure rather than substructure strengthening.

Transportation in the National Capital Region: Engineering


Now in its second edition: the trailblazing introduction and textbook on construction includes a new section on translucent materials and an article on the use of glass.

Design Applications of Raft Foundations

This book presents the latest research development on fibre reinforced cementitious materials, especially those related to ageing and durability. The book forms the Proceedings of the International Symposium held at Sheffield in July 1992, the latest in a series of RILEM symposia on this subject, organised by RILEM Technical Committee 102-AFC Ageing.


The use of precast concrete is a well-established construction technique for beams, floors, panels, piles, walls and other structural elements. The advantages of precasting include excellent quality control, economical large scale production, improved construction productivity (especially in adverse weather conditions) and immediate structure availability. These advantages have been recognized for precast concrete raft pavement units (raft units) since their introduction in the 1930s. In the last ten years there has been a considerable increase in the use of raft units, especially in their range of applications, their analysis and their design. However, the description of these developments has been published in academic journals and conference proceedings which are not readily available to practising raft unit pavement design engineers. Pavement design engineers are under increasing pressure to produce raft unit designs that are inexpensive, long lasting and able to allow reorganization to accommodate changing use and uncertainty of future loading requirements. This is the first book devoted to raft unit pavements, and will become a standard work of reference.

Basic and Applied Soil Mechanics

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