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6. Publications

Brücken – Historische Entwicklung – Faszination der Technik

Charlotte Jurecka

Die Autorin versteht es in subtiler Weise, den Leser mit der Fülle und Zwangsläufigkeit der durch bereits während zweieinhalb Jahrtausenden in Eigenständigkeit bestehenden Brückenbaukunst vertraut zu machen und diese für den Bestand unserer Zivilisation so lebensnotwendige Äusserung menschlichen Pioniergeistes auch innerhalb des geschichtlichen und gesellschaftspolitischen Kontextes zu sehen.
Die Hochkulturen des Altertums von den subtropischen Stromländern bis zum Weltreich der Römer haben den Brückenbau durch die direkte Zuordnung zu Priestern und Königen, als ein überirdischen Einflüssen verhaftetes Geschehen, immer auf die höchste Stufe gestellt. Nach einer viele Jahrhunderte andauernden Stagnation war es wiederum der Brückenbau, der auf Überlieferungen aufbauend, den Boden für die technologischen Entwicklungen im Zuge der Industriellen Revolution aufbereitete.
Die Vielfalt an Wechselwirkungen, die Zwangshaftigkeit von Ereignissen, menschliche Grösse wie Tragik werden vor dem Leser ausgebreitet und er wird dadurch empfänglich für den Entwicklungssprung, der die technischen Hochleistungen der letzten drei Jahrzehnte kennzeichnet.

A. Pauser

Erscheinung: 1986 2., erweiterte Auflage
Preis: öS 490
232 Seiten, 35 Farbbilder, 135 Abbildungen
Format 20 × 27 cm
ISBN 3-7031-0620-4
Verlag Anton Schroll
Spengergasse 39 A-1051 Wien

Guidelines for the Assessment of Loads on Bulk Solids Containers

The design for strength and serviceability of storage structures for the containment of bulk solids has been the focus of attention of the engineering profession for a number of years. The interest in the correct determination of loads has been renewed due to the fact that a number of failures of these structures have occurred, these failures being of varying severity. Over recent years, a significant amount of research and design development in relation to the design of bulk storage structures has been taking place. These guidelines are a concensus document representing an agreed set of views on the current state of knowledge.

Published in 1986
Price: AUS$ 30.00
58 pages
The Institution of Engineers, Australia
11 National Circuit
Barton, ACT 2600
Australia

High-Rise Buildings: Recent Progress

This volume is the eigth in a series of tall building monographs released sequentially starting in 1978. It brings together the latest developments from the fields of high rise building research, planning, design, construction and operation. Illustrated with photographs, drawings, and tables, this work is a collection of papers from high-rise experts organized into six main sections:
- Planning and Environmental Criteria
- Systems and Concepts
- Building Service Systems
- Criteria and Loading
- Structural Design of Tall Steel Buildings
- Structural Design of Tall Concrete and Masonry Buildings

Structural developments and state-of-the-art technology, in addition to the planning and design aspects of tall buildings, continue the informative material contained in RECENT PROGRESS.

Published in 1986
Price: US$ 57.50
310 pages
ISBN 0-939 493-00-4
Council on Tall Buildings and Urban Habitat
Lehigh University
Bethlehem, PA 18015
USA

Construction Insurance

by Nael G. Bunni

The construction industry is currently bedevilled by a savage trinity of forces which are essentially misunderstandings: clients of the industry misunderstand its ability to deliver problem-free products; society as a whole misunderstands the role of insurance; legal tribunals misunderstand the special nature of the construction milieu. In the increasingly litigious consumer-led environment which has been evolving over the last two decades these three misunderstandings are diminishing the professional, commercial and physical resources available to pursue the construction process.
This book makes a significant contribution towards enlightening us on the nature of the misunderstandings. Those of us in the industry, and amongst its clients, who are neither lawyers nor insurance professionals must welcome a treatise on construction insurace by a practising engineer who not only works in the construction trinity as a structural designer of high calibre but also has a long experience in, and a deep understanding of, the insurance world.

Published in 1986
Price: £ 50.00
336 pages
ISBN 0-85334-438-8
Elsevier Applied Science Publishers
Crown House, Linton Road
Barking, Essex IG211 8JU
England

Etude de cas de fissurations dans des ponts métalliques

John W. Fisher

Traduction de l'ouvrage en anglais du prof. Dr John W. Fisher, «Fatigue and Fracture in Steel Bridges» paru en 1984 chez John Wiley & Sons, Inc. ISBN 0-471-80469-X
Au cours d'une période comprise entre 1967 et 1982, un certain nombre de structures de ponts-routes et de ponts-rails aux Etats-Unis et au Canada ont présenté des fissures de fatigue dues aux charges d'exploitation, dont quelques-unes se sont transformées en ruptures fragiles. Cet ouvrage présente un examen détaillé et une récapitulation de vingt-deux cas différents de ponts ayant présenté des fissurations.
L'auteur signale les différents types de fissures survenues dans les structures de ponts sous l'effet des charges d'exploitation, examine les raisons de leur apparition et procéde à une évaluation sous l'angle de la mécanique de la rupture afin d'établir les relations entre paramètres de taille de la fissure, contraintes, géométrie du détail constructif, propagation de la fissure et résistance du matériau mis en œuvre. Chacun des cas examinés donne un aperçu précieux des cas de la fissuration, de la signification des détails, ainsi que de l'influence que les défauts exercent sur le comportement des structures soumises à des charges cycliques. Toutes les causes de fissuration examinées dans ce livre peuvent être prévenues grâce aux connaissances technologiques et à d'autres outils dont nous disposons actuellement. Les enseignements tirés du passé doivent aider à cerner le comportement des structures et l'importance des détails constructifs et de leur exécution dans le but d'une fiabilité accrue des systèmes structuraux soumis à des charges cycliques.

Publié en 1985
Prix: SFr. 50.—
272 pages
ICOM-Construction métallique
EPFL
CH-1015 Lausanne

Strength Evaluation of Existing Concrete Bridges

The American Concrete Institute conducted two Symposia in Washington, DC, 1979 and New York, NY, 1984. Twelve papers presented at these meetings are included in this volume, which covers a wide range of subjects on strength evaluation of existing concrete bridge structures: condition survey, analytical investigation methods such as finite element analysis and modified compression field theory, in situ load testing, laboratory modeling and testing, deflection measurement methods, remote sensing techniques, and strategy for rating older concrete bridges. Case histories are also included.

Published in 1985
Price: US$ 41.25
262 pages
Catalog number SP-88
American Concrete Institute
P.O. Box 19150
Detroit, MI 48219, USA

Steel Fiber Concrete

S.P. Shah, A. Skarendahl (Editors)

Addition of randomly distributed steel fibers to brittle cement based matrices can increase, by an order of magnitude, their cracking resistance (fracture toughness, ductility, impact resistance, fragmentation and spalling resistance). As fibers can be pre-mixed in a conventional manner, fabricated in a fashion similar to fiberglass production or sprayed on site, the concept of steel fiber concrete has added an extra dimension to concrete construction. The currently successful applications of steel fiber concrete include shotcrete (e.g. tunnel linings and repair), pavements and overlays, precast products, protective concrete structures and furnace linings with stainless steel fibers.
The book reports on various topics dealing with fabrication, design, material properties, specifications, novel applications, durability, and structural behavior of steel fiber reinforced concrete construction.

Published in 1986
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526 pages
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Elsevier Applied Science Publishers Ltd
Crown House, Linton Road
Barking, Essex IG11 8JU, England

Concrete Structures: Stresses and Deformations

by A. Ghali and R. Favre

Two basic requirements must be considered in the design of any concrete structure. The structure must be safe against failure and it must perform satisfactorily in use. In recent years structural engineers have been concerned more with the first of these two requirements than with the second. This book redresses the balance by concentrating on the methods to be used in concrete design as checks on the main serviceability requirements: the control of deflections and cracking.
The authors deal with the time-dependent effects of creep and shrinkage of concrete and relaxation of structural steel and present easy-to-apply methods of analysis. These analytical methods allow designers to account for variations of concrete performance from project to project and country to country, making the book universally applicable. American and European codes of practice are covered in the appendices.

Published in 1986
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352 pages
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Chapman and Hall
11 New Fetter Lane, Londen EC4P 4EE