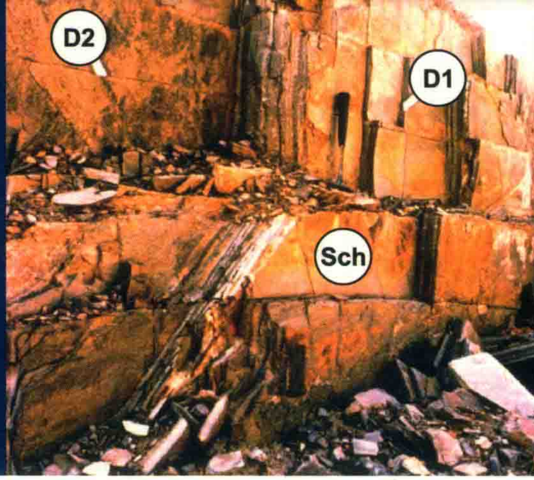

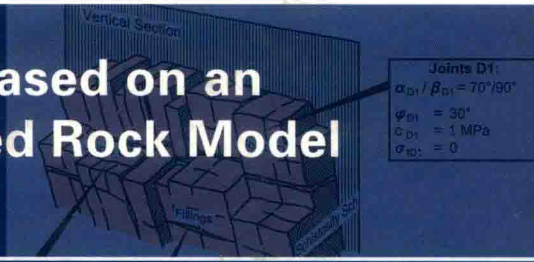

Rock Mechanics Based on an Anisotropic Jointed Rock Model (AJRM)

Walter Wittke

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(AJRM)

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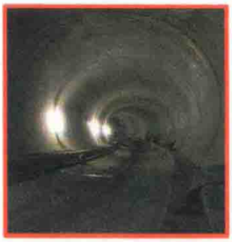

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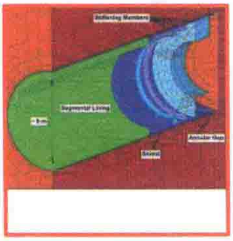

Wittke

Rock Mechanics Based on an Anisotropic Jointed Rock Model

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Preface

In 1984, my book on Rock Mechanics was published. Some years later, it was translated into English and Chinese and to a larger part also into Russian.

Since then, together with my co-workers, I have extended our anisotropic jointed rock model (AJRM) and the corresponding analysis methods to a wider spectrum of rock types. Furthermore, our design approach has been applied to many projects in tunneling, dam and slope design. Monitoring and back analyses have helped us to gain a far better understanding of rock mass behavior and to assess the corresponding properties.

Therefore, I decided to publish a new book with the title

Rock Mechanics
based on an
Anisotropic Jointed Rock Model
AJRM

I hope that many colleagues will follow this design method in order to achieve safer and more economic solutions.

In Part A, the fundamentals of our modeling concept are outlined and in part B our means of analyzing structures in and on jointed rock are presented. Part C is devoted to exploration, testing and monitoring and in Part D applications and case studies are presented.

I would like to thank Dr.-Ing. Dipl.-Phys. Johannes Kiehl for his valuable contribution to this book. He has carefully studied and summarized the recent literature related to a number of chapters of parts A and C, and he has compiled the material gathered in WBI Worldwide Engineering over many years.

Furthermore, I would like to thank Dipl.-Ing. Christa Mühlen-Senz for contributing the excellent figures to this book and Mrs. Ute Kratz for compiling the whole manuscript.

My thanks also go to my former and present colleagues in the WBI Company for their contributions to the development of models and computer programs and to the design of the related engineering projects.

In this context, I would specially mention Dr.-Ing. Bernd Pierau, Dr.-Ing. Claus Erichsen, Dr.-Ing. Bettina Wittke-Schmitt, Dr.-Ing. Patricia Wittke-Gattermann, Dr.-Ing. Martin Wittke, as well as Dipl.-Ing. Dieter Schmitt and Dipl.-Ing. Meinolf Tegelkamp.

Finally, I want to thank my wife Lilian for the many years of personal support and understanding.

Walter Wittke

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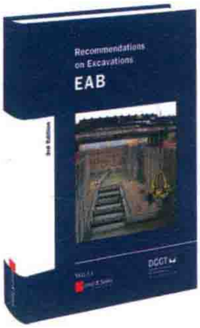
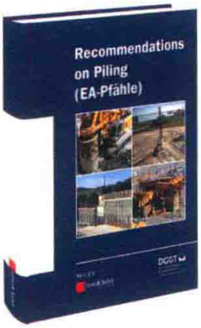
Recommendations in Geotechnical Engineering



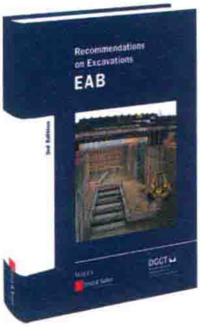
Ed.: Deutsche Gesellschaft für Geotechnik e.V.
Recommendations on Excavations
3. Edition 2013. 324 pages.
€ 79,–*
ISBN 978-3-433-03036-3
Also available as ebook

For the new 3rd edition, all the recommendations have been completely revised and brought into line with the new generation of codes (EC 7 and DIN 1054), which will become valid soon. The book thus supersedes the 2nd edition from 2008.



Ed.: Deutsche Gesellschaft für Geotechnik e.V.
Recommendations on Piling (EA Pfähle)
2013. 496 pages.
€ 109,–*
ISBN 978-3-433-03018-9
Also available as ebook

This handbook provides a complete overview of pile systems and their application and production. It shows their analysis based on the new safety concept providing numerous examples for single piles, pile grids and groups. These recommendations are considered rules of engineering.



Ed.: Deutsche Gesellschaft für Geotechnik e.V.
Recommendations for Design and Analysis of Earth Structures using Geosynthetic Reinforcements – EBGEO
2011. 316 pages.
€ 89,90*
ISBN 978-3-433-02983-1
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The Recommendations deal with analysis principles and the applications of geosynthetics used for reinforcement purposes in a range of foundation systems, ground improvement measures, highways engineering projects, in slopes and retaining structures, and in landfill engineering.

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Part C: Exploration, Testing and Monitoring