Recommendations of the Committee for Waterfront Structures Harbours and Waterways EAU 2004

8th Edition

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Preface to the 8th Revised Edition

This, the 8th English edition of the Recommendations of the Committee for Waterfront Structures, in the translation of the 10th German edition of the recommendations, which was published at the end of 2004. Now the full revision of the collected published recommendations which began with EAU 1996 is concluded. The concept of partial safety factors stipulated in EC 7 and DIN 1054 has been incorporated in the EAU’s methods of calculation. At the same time, the revised recommendations also take account of all the new standards and draft standards that have also been converted to the concept of partial safety factors and had been published by mid-2004. Like with EAU 1996, further details concerning the implementation of the partial safety factor concept can be found in section 0. The incorporation of the partial safety factor concept of DIN 1054 called for a fundamental reappraisal of the methods of calculation and design for sheet piling structures contained in sections 8.2 to 8.4 and the methods of calculation for sheet piles contained in section 13. Extensive comparative calculations had to be carried out to ensure that the established safety standard of the EAU was upheld when using methods of analysis according to the concept of partial safety factors. This has been achieved by adapting the partial safety factors and by specifying redistribution diagrams for active earth pressure. The use of the new analysis concept for the design of sheet piling structures therefore results in component dimensions similar to those found by designs to EAU 1990.

Now that the inclusion of the European standardisation concept has been concluded, the 10th German edition of the EAU (and hence also the 8th English edition) satisfies the requirements for notification by the EU Commission. It is therefore registered with the EU Commission under Notification No. 2004/305/D.

A component of the notification is the principle of “mutual recognition”, which must form the basis of contracts in which the EAU or individual provisions thereof form part of the contract. This principle is expressed as follows: “Products lawfully manufactured and/or marketed in another EC Member State or in Turkey or in an EFTA State that is a contracting party to the Agreement on the European Economic Area that do not comply with these technical specifications shall be treated as equivalent – including the examinations and supervisory measures carried out in the country of manufacture – if they permanently achieve the required level of protection regarding safety, health and fitness for use.”
The following members of the working committee have been involved with the German edition EAU 2004 since the summer of 2000.

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The fundamental revisions contained in EAU 2004 also made detailed discussions with colleagues and specialists outside the committee necessary, even to the extent of setting up temporary study groups for specific topics. The committee thanks all those colleagues who in this way made significant contributions to EAU 2004. In addition, numerous contributions presented by the professional world and recommendations from other committees and international technical–scientific associations have been incorporated in these recommendations.

These contributions and the results of the revision work mean that EAU 2004 now conforms with the current international standard. It provides the construction industry with an adapted, updated set of recommendations brought into line with European standards that will continue to act as a valuable aid for design, tendering, placing orders, technical processing, economic and ecological construction, quality control and settlement of contracts, and will thus enable harbour and waterway
construction projects to be carried out according to the state of the art and according to uniform conditions.
The committee thanks all those whose contributions and suggestions have helped to bring the recommendations up to their present state, and wishes the EAU 2004 the same success as its earlier editions.
Vote of thanks goes to Prof. Dr.-Ing. Dr.-Ing. E. h. Victor Rizkallah, who was chairman of the committee until the end of 2004 and thus the 10th German edition of the recommendations have been prepared and published under his responsibility.
In the translation works very valuable advices and help came from Prof. Dr.-Ing. Martin Hager, who was chairman of the committee up to the end of 1996. Finally a very special vote of thanks goes to my co-worker, Dipl.-Ing. Carsten Pohl, who assisted me in the extensive preparation of this edition and in the review of the text with great dedication and diligence.
Further special thanks are owed to the publisher Ernst & Sohn for the good cooperation and the meticulous care with which all drawings, tables and equations were prepared, providing once again an excellent printing quality and layout of the 8th revised English edition of EAU 2004.

Hannover, November 2005

Prof. Dr.-Ing. Werner Richwien
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