

BOOK REVIEW

*K. R. White, J. Minor and K.N. Derucher:
Bridge Maintenance, Inspection and Evaluation*

Marcel Dekker, Inc., New York, 1992. 360 pages

The book deals with problems very up-to-date in Hungary too and contains important knowledges for engineers working in bridge maintenance and inspection.

After a short historical review, it shows the different types of bridges and bridge elements, further the possible causes of failures (flooding, scour, brittle fracture, impact of ships, earthquake, wind, corrosion, fatigue, etc.) are listed. It demonstrates in detail the most important materials of the bridges (wood, steel, concrete), their properties and the possible deteriorations. As an elementary schoolbook it discusses with the bridge mechanics. However, it is unusual for a Hungarian reader that moment and shear diagrams and the influence lines are inverted, and the American units of measurement are inconvenient. It details the system and methods of inspections, the sequences, the standard form of reports and the rating of the bridges. Different chapters deal with the inspection of superstructures, substructures and movable bridges, the services and inspection equipment, including the nondestructive testing. It shows some examples for the bridge capacity rating and discusses the computer-aided bridge capacity rating and evaluation. A separated chapter is devoted to the problems of waterways and terrain: e.g. scour, degradation, flood damages, etc. The book demonstrates the important cases of maintenance and rehabilitation: replacement of the deck or other elements, strengthening, and dead load reduction. The last chapter deals with the culverts.

In the Appendix there are guidelines for condition rating of bridges or bridge elements indicating ten categories. The book is supplemented many good photos, illustrating the problems discussed.

Summarizing, the book is a good help for engineers working in bridge maintenance and inspection.

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