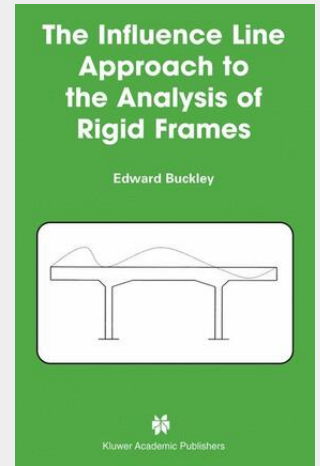


Buckley

The Influence Line Approach to the Analysis of Rigid Frames

When graduates leave college to enter the design office they will have at their disposal computer programs to suit particular projects. Nevertheless, they should have a basic understanding of how a structure should be loaded to achieve maximum design criteria otherwise their understanding and use of programs will be limited. Codes of practice classify loadings depending on the type and proposed use of a structure and offer guides as to how loads should be positioned. Influence line diagrams are, however, the best indicators for placing loads on a structure especially a continuous structure irrespective of whether the loads are moving, as in the case of bridges, or static. They also show clearly the effects of the self weight of the structure in the design process. It is important that the more general applications of influence line diagrams be recognised rather than restricting their use to moving loads only. They also define the parameters within which many codes have been drafted.

The Influence Line Approach to the Analysis of Rigid Frames offers a simple method of analysis of indeterminate structures. It is original and independent of other methods. The author derived these equations by applying an algebraic rather than an arithmetical method of distribution of fixed-end moments. His method is fully explained and illustrated by worked examples. The equations listed in the Tables in The Influence Line Approach to the Analysis of Rigid Frames offer a simple approach to the analysis of rigid frames, including building frames, rendering them statically determinate for any system of loading, static or moving and including the self weight of a structure. Particularly useful aspects to the reader are: -The equations are of an elementary nature consisting only of distribution factors and the co-efficient of a span length and to which values from zero to unity are given. -The equations can be used to analyze frames the members of which can be either of constant or variable cross-section, and in both cases distributions of fixed-end moments are not required. -In addition, the evaluation of fixed-end moments is not required when the frame consists of members of constant cross-section. -The equations are independent of other methods of analysis requiring neither the use of model analysis nor the application of linear equations. -The equations offer a good indication of structural behavior. -The Tables lend themselves to expansion catering for different degrees of end fixation. The Influence Line Approach to the Analysis of Rigid Frames can be taught not only to university undergraduate students, but also to those pursuing middle-level courses in Civil Engineering, Structural Engineering and Building. In addition, practicing assistant structural designers will find it a useful reference work.



106,99 €
99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781402075858
Medium: Buch
ISBN: 978-1-4020-7585-8
Verlag: Springer US
Erscheinungstermin: 30.09.2003
Sprache(n): Englisch
Auflage: 2003
Produktform: Gebunden
Gewicht: 453 g
Seiten: 169
Format (B x H): 160 x 241 mm

