Plastic Design

Plastic Design of Frames—2 Applications. By J. Heyman, Cambridge University Press, 1971, viii and 292 pages. Price $14.00.

REVIEWED BY S. J. FENVES[1]

THIS volume is a companion to Volume 1, *Fundamentals* (AMR Review No. 1126, Apr. 1970) and will generally be used in conjunction with it for a course on plastic design. With some introductory coverage, it may suffice by itself for a more design-oriented course. The book is in a clear, expository style with many examples, the discussion extrapolating beyond the examples covered. Most chapters deal with separate application areas, but the organization is consistent and logical. The first seven chapters cover: yield surface for overall frame, space frames including effect of torsion, unsymmetrical bending including effect of axial force, reinforced concrete and masonry, elasto-plastic analysis concentrating on deflections at collapse, repeated loads causing incremental collapse and alternating plasticity, and minimum-weight design covering both dynamic and linear programming. The last three chapters summarize the topics covered, and deal with organization of computations, design considerations for tall frames, and a complete worked-out design example. Each of the last five chapters is a concise, but comprehensive, introduction to the respective topics and should be useful to practitioners.

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