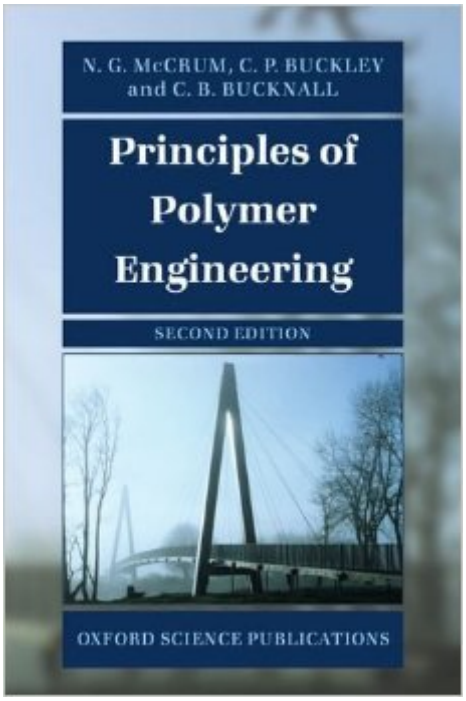
Principles Of Polymer Engineering



Synopsis

The second edition of Principles of Polymer Engineering brings up-to-date coverage for undergraduates studying materials and polymer science. The opening chapters show why plastics and rubbers have such distinctive properties and how they are affected by temperature, strain rate, and other factors. The rest of the book concentrates on how these properties can be exploited to produce functional components within the constraints placed on them. The main changes for the second edition are a new chapter on environmental issues and substantially rewritten sections on yield and fracture and forming. To request a copy of the Solutions Manual, visit: http://global.oup.com/uk/academic/physics/admin/solutions

Book Information

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Customer Reviews

Provides a thorough introduction to the field in a matter that is readily accessible for undergraduate mechanical engineers. The most complex chapter on viscoelastic theory is well-explained, and makes only a modest use of calculus. Discusses all the basics (creep, relaxation, temperature, load history, etc.) The Chapters are as follows:1) Structure of the molecule2) Structure of polymeric solids3) The elastic properties of rubber4) Viscoelasticity5) Yield and fracture6) Reinforced polymers7) Forming8) DesignFor those interested in the computer modeling of the dynamic behavior of viscoelastic solids, there is another excellent book that delves more deeply (and requires a bit more math). "Mechanical Response of Polymers" by Wineman & Rajagopal will get you where you want to go when it comes to predicting the effects of time, temperature, and loading

history. Also very accessible, although probably more suited to the graduate level.

A very complete review of all the polymer engineering. Sometimes it is too fast, but it is very helpful to have a complete view on polymeric materials