Book Review

The Magnetic Properties of Materials

J. E. Thompson

Pp 173 (The Hamlyn Group, 1968) 63*s*

It is undoubtedly appropriate that the Newnes Series of International Monographs on Materials Science and Technology should contain a volume on the magnetic properties of materials. The last decade has seen considerable advances in our understanding of magnetic phenomena and great strides have been made in the development of new and better materials. The computer and telecommunications industries have stimulated this process although notable improvements have also been made in more "classical" applications such as materials for permanent magnets and power transformers.

The book begins with an introduction to some of the basic ideas of magnetism and is then divided into five self-contained sections. These sections are devoted to grain oriented silicon iron, ferrites, high permeability materials, thin films and permanent magnets. Each provides a fairly thorough background for the student or beginning research worker, although the choice of detailed subject matter at times shows a curious bias. This leads to a feeling of incompleteness in some chapters whilst others contain an excess of fine detail.

The chapter on thin films includes a general survey on the observation of ferromagnetic domains. It is unfortunate that much of the information in this section appears to be misplaced since it applies more to the observation of domains on bulk specimens. It is also curious to find no reference here to stripe domains, first observed in thin films and of potential application in optical switching devices.

With apologies to the general trend in teaching the author understandably adopts the mixed cgs system of units. However, figures in other units have been directly transferred from the literature, producing a collection such as watts/lb, watts/kg, and £/ton in one chapter alone.

Although, therefore, this monograph is a potentially useful publication in providing basic information on magnetic materials for the would-be materials scientist, the shortcomings mentioned above will probably limit the number of readers who would otherwise benefit from it.

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