In the case of PG(Si), as shown in Figs. 4-6, the laminar fracture structure is clearly observed even in a sample for T_{dep} = 1730°C (Fig. 5). For T_{dep} = 1440°C (Fig. 4), a small amount of a glass-like structure may be included.

The present experimental results imply that the fracture behaviour is closely related to the X-ray structures but not to the microscopic structures. Especially for PG(Si), the presence of SiC seems to affect the fracture behaviour.

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Short notices

Principles of Metal Surface Treatment and Protection

D. R. Gabe
Pergamon Press. 180 pp. £3·00

This book sets out to provide an introduction to the principles of metal surface treatment and protection at a level suitable for both the professional metal finisher and a student of metal finishing. It covers a wide field with chapters on the Scope of Protection, Electrodeposition, Hot Dip Coating, Diffusion Coatings, Non-metallic Coatings, Oxide and Conversion Coatings, Testing and Selection, and the Theory of Corrosion Protection. The coverage of any one topic is of necessity rather brief but this should cause no concern to a reader with some prior knowledge of the field and the book could be of value both as a revision of basic principles and as an up-to-date review of the state of the art. To a student with little or no background knowledge it could, however, be hard going especially in the earlier chapters where new ideas are presented at a rate which makes them difficult to assimilate. Nevertheless on balance it is a useful book which this reviewer is happy to recommend.

D.A.W.

Fibres, Films, Plastics and Rubbers

A Handbook of Common Polymers by
W. J. Roff and J. R. Scott
Butterworths. 688 pp. £15·00

This volume is a completely revised, updated and extended version of an earlier work of reference, "Fibres, Plastics and Rubbers" by W. J. Roff. Its intended readership ranges from the student to the specialist and it contains such a wealth of information that this reviewer is satisfied that it will succeed admirably. Such a handbook stands or falls on the ease with which its subject matter can be retrieved: The firm and logical structure of this work ensures that it fulfills this requisite.

The book is divided into two parts. The first contains data on individual polymers which are grouped together on the basis of their structure and chemical properties, while the second part deals with specific properties and other related information concerning polymers in general. Thus in Part I olefin and vinyl-type polymers are considered in sections 1-12, carbohydrates in 13-19, proteins in 20-22, synthetic condensation-type polymers in 23-28, natural and synthetic rubbers in 29-40, organosilicones in 41 and inorganic polymers in 42. Within each section synonyms and trade names of the polymer are

given together with a brief description of their general characteristics and this is followed by extensive entries under the following headings; Structure, Chemistry, Physics, Fabrication, Serviceability, Utilisation, History, Additional Notes and Further Literature.

The information given in Part II compliments rather than duplicates that in Part I and is arranged in such a way that it can be considered separately or cross-referenced with Part I. The structure of polymers is considered in sections 51-53 while the chemical, general physical, thermal, electrical and mechanical properties are described in sections 54-57, 58-64, 65-68, 69-72 and 73-84 respectively.

The book is well presented and, as far as this reviewer can ascertain, contains no obvious errors. It would indeed be unfortunate if its price (£15) meant that it were destined to become a library book rather than a personal possession of those who could make best use of it. In either event it is most unlikely to be allowed to lie unused gathering dust on a bookshelf.

D.A.W.