

Physical testing of rubber

Part 3: Acquisition and presentation of comparable single-point data

ICS 83.060

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to PRI/22, Physical testing of rubber, upon which the following bodies were represented:

- British Rubber Manufacturers Association Ltd.
- Chemical Industries Association
- Materials Engineering Research Laboratory Ltd.
- RAPRA Technology Ltd.
- Royal Society of Chemistry
- SATRA Technology Centre
- Tun Abdul Razak Research Centre

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Test piece preparation	3
5 Conditioning	3
6 Processability properties	3
7 Test requirements	3
8 Presentation of results	4
Table 1 — Test methods for processability data	4
Table 2 — Test conditions and format for the presentation of single point data	5
Table 3 — Test conditions and format for the presentation of single point data — Additional properties	6

Foreword

This British Standard has been prepared under the direction of PRI/22, *Physical testing of rubber*.

BS 903-3 has been prepared because designers and users of rubbers find that published data cannot always be readily used to compare the properties of similar materials, especially when the data have been supplied by different sources. Even if the same standard tests have been used, they often allow the adoption of alternative test conditions and the results are not necessarily comparable. The purpose of BS 903-3 is to identify specific methods and conditions of test to be used for the acquisition and presentation of data in order that valid comparisons between materials can be made.

BS 903-3 is concerned with tests employed to present “single point” data, particularly on the limited range of properties commonly included in data sheets and used for the preliminary selection of materials. Such data represent the most basic approach to specification of properties of materials and this standard thus facilitates the first steps towards more efficient selection of rubber compounds in the many applications to which they are suited. The data can be extended to cover less commonly measured properties where these are important for intended applications of the material.

Single point data measured under specified conditions allow valid comparison of materials but are severely limited by the comparison only being valid for those specific conditions. Data measured under different conditions can produce different relative performance.

A complementary British Standard BS 903-4 is concerned with the standardized acquisition and presentation of multi-point data to demonstrate how properties vary with important factors such as time, temperature and the presence of particular natural and chemical environments. Its use will provide a more substantial database than one containing only single point data, and so will enable improved assessment of the fitness of a material for any particular application.

BS 903-4 and this British Standard together define the means of acquiring and presenting a core set of comparable data for use in material selection. Use of these standards should result in a rationalization of effort and a reduction of cost associated with the provision of these data. Furthermore, reference to these standards will simplify the development of data models for the computerized storage of data and exchange of data concerning material properties.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 6, an inside back cover and a back cover.

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