

Physical testing of rubber —

Part A6: Method for determination of compression set at ambient, elevated or low temperatures

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Plastics and Rubber Standards Policy Committee (PRM/-) to Technical Committee PRM/22, upon which the following bodies were represented:

- BP Chemicals Ltd.
- British Railways Board
- British Rubber Manufacturers' Association Ltd.
- GAMBICA (BEAMA Ltd.)
- Institution of Mechanical Engineers
- Institution of Water and Environmental Management
- Malaysian Rubber Producers' Research Association
- Ministry of Defence
- RAPRA Technology Ltd.
- SATRA Footwear Technology Centre

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National foreword

This British Standard has been prepared under the direction of the Plastics and Rubber Standards Policy Committee. It is identical with ISO 815 *Rubber, vulcanized or thermoplastic — Determination of compression set at ambient, elevated or low temperatures*, as amended by Technical Corrigendum 1 published by the International Organization for Standardization (ISO). As ISO 815:1991 now supersedes ISO 1653 this Part has been revised to incorporate Part A39 *Determination of compression set under constant deflection at low temperatures*. The standard specifies rather different methods for the determination at low temperatures and at ambient or elevated temperatures. In particular, recovery and subsequent measurement for the low temperature test are at the test temperature. BS 903-A6:1969 and BS 903-A39:1980 are withdrawn.

Other changes to the standard are

- a) the requirement for lubrication of the test piece
- b) a change in the micrometer used for measurement of test piece thickness
- c) closer control of strain by matching of spacer to original thickness of the test piece,
- d) the test pieces are now identified as Types A and B rather than 2 and 1 respectively.

Additional information. The information given in the second paragraph of clause 1 is ambiguous as to what percentage compression strain should be applied if the rubber hardness is 80 IRHD. The information given in the fourth paragraph of 4.1.3 is similarly ambiguous with regard to a hardness of 90 IRHD. For the removal of doubt the following interpretation is recommended:

- 1) apply 25 % compression strain for rubbers whose nominal hardness is equal to or less than 80 IRHD.
- 2) apply 15 % compression strain for rubbers whose nominal hardness is equal to or greater than 81 IRHD but less than or equal to 89 IRHD.
- 3) apply 10 % compression strain for rubbers whose nominal hardness is greater than 89 IRHD.

Cross-references

International standard	Corresponding British Standard
ISO 471:1983	BS 903 <i>Physical testing of rubber</i> Part A35:1985 <i>Temperatures, humidities and times for conditioning and testing of test pieces</i> (Identical)
ISO 3383:1985	Part A32:1988 <i>General directions for achieving elevated or subnormal temperatures for test purposes</i> (Identical)
ISO 4648:1991	Part A38:1991 <i>Methods for the determination of dimensions of test pieces and products for test purposes</i> (Identical)
ISO 4661-1:1986	Part A36:1988 <i>Preparation of samples and test pieces</i> (Identical)
ISO 5725:1986	BS 5497 <i>Precision of test methods</i> Part 1:1987 <i>Guide for the determination of repeatability and reproducibility for a standard test method by inter-laboratory tests</i>

The Technical Committee has reviewed the provisions of ISO 1826:1981, to which normative reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard. A British Standard related to ISO 1826:1981 is BS 903-A19:1986. A British Standard related to ISO 468:1982 is BS 1134-1:1988. A British Standard related to ISO/TR 9272:1986 is BS 5497-1:1987.

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Summary of pages

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This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

