BS ISO 4666-3:2010

BSI Standards Publication

Rubber, vulcanized — Determination of temperature rise and resistance to fatigue in flexometer testing

Part 3: Compression flexometer (constant-strain type)

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National foreword

This British Standard is the UK implementation of ISO 4666-3:2010. It supersedes BS 903-A50:1984 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/22, Physical testing of rubber.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 3: Compression flexometer (constant-strain type)

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Partie 3: Flexomètre à compression (type à déformation constante)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4666-3 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This second edition cancels and replaces the first edition (ISO 4666-3:1982), which has been revised to update the normative references (ISO 4648 has been replaced by ISO 23529). In addition, the layout of Clause 11, the test report, has been updated. The text has also been clarified in places. A precision statement and calibration schedule are added as annexes. Finally, the title has been changed to make a clear distinction from ISO 4666-4 (constant-stress flexometer).

ISO 4666 consists of the following parts, under the general title *Rubber, vulcanized — Determination of temperature rise and resistance to fatigue in flexometer testing*:

— *Part 1: Basic principles*

— *Part 2: Rotary flexometer*

— *Part 3: Compression flexometer (constant-strain type)*

— *Part 4: Constant-stress flexometer*

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Introduction

One major consequence of the internal heat generation of rubber under a flexing compression is the development of an elevated temperature in the rubber. This International Standard provides for the measurement of the temperature rise.

Under particularly severe heat generation and temperature rise conditions, internal rupture of the test piece may occur with fatigue failure. Provision is also made for the measurement of resistance to this type of fatigue.

The test is conducted under conditions of a selected static pre-stress or compression and a selected cyclic strain of constant maximum amplitude imposed upon the pre-stressed test piece.

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