

Rubber, vulcanized and thermoplastic — Resistance to weathering

ICS 83.060

National foreword

This British Standard reproduces verbatim ISO 4665:1998 and implements it as the UK national standard. It supersedes BS 903-A53:1989 (1995), BS 903-A54:1989 (1995) and BS 903-A55:1989 (1995) which are withdrawn.

Additional Information

The major changes in this edition of ISO 4665 are as follows.

1. Incorporation of methods for natural weathering, artificial weathering and determination of change in properties into a single part standard, with reference to the methods described in the corresponding standards for plastics, ISO 877 and ISO 4892.

2. Acceptance of fluorescent UV lamps and open-flame carbon-arc lamps as alternatives to Xenon-arc sources for artificial weathering.

NOTE. In clause 10 the change in property is calculated by subtracting the exposed value from the initial value. In ISO 4665-3:1987, as in the current editions of of ISO 188 and ISO 1817, the change is calculated by subtracting the initial value from the exposed value to ensure that a loss in property is denoted by a minus sign. It is therefore important that any loss or decrease is recorded in this way.

The UK participation in its preparation was entrusted to Technical Committee PRI/22, Physical testing of rubber, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii and iii, a blank page, pages 1 to 7 and a back cover.

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Amendments issued since publication

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INTERNATIONAL STANDARD

**ISO
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Rubber, vulcanized and thermoplastic — Resistance to weathering

Caoutchouc vulcanisé ou thermoplastique — Résistance aux intempéries



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.

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.

International Standard ISO 4665 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Physical and degradation tests*.

This edition cancels and replaces ISO 4665-1:1985, ISO 4665-2:1985 and ISO 4665-3:1987, of which it constitutes a technical revision.

Annex A of this International Standard is for information only.

Introduction

A number of different exposure techniques can be used to provide information on the effects of environmental stresses such as light, heat and water on rubbers. Each of these has its own particular application and relevance. Explanation of, and guidance on, methods for exposure to natural and artificial weathering is given in the introduction to ISO 877 and in ISO 4892-1. Particular guidance on exposure to determine resistance to ozone is given in ISO 1431-1. The methods for exposure to weathering standardized for plastics materials are essentially suitable for rubbers and hence this standard refers to the relevant ISO standards for plastics for the apparatus and procedures.

It is desirable that the procedures for the determination of changes in properties should be the same whatever exposure is used and that the results should be expressed in a uniform manner. Such procedures are specified in this standard.

Exposure to weathering alters the properties of the material, particularly in the surface layer. The test method used to determine changes in properties should be selected after consideration of the properties of the material which are important in its proposed application and taking into account the fact that degradation may be concentrated at the surface layer. The methods chosen should be capable of measuring change in properties with sufficient precision within the ranges which are important in practice, so as to provide significant criteria of change.