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Rubber and plastics hoses — Assessment of ozone resistance under static conditions

Tuyaux en caoutchouc et en plastique — Évaluation de la résistance à l'ozone dans des conditions statiques

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*.

This fourth edition cancels and replaces the third edition (ISO 7326:2006), which has been technically revised with the following changes:

— in Clause 2, the latest edition of ISO 1431-1 has been cited;

— 5.5 and 9.4.1 have been amended;

— in 6.1.1, the formula has been amended.

Introduction

The methods described in this document provide a means of assessing the resistance of hoses to the deleterious effects of atmospheric ozone under static conditions.

Rubber and plastics hoses — Assessment of ozone resistance under static conditions

1 Scope

This document specifies five methods for determining the ozone resistance of the outer covers of hoses:

— method 1, for bore sizes up to and including 25 mm, carried out on the hose itself;

— method 2, for bore sizes greater than 25 mm, carried out on a test piece from the hose wall;

— method 3, for bore sizes greater than 25 mm, carried out on a test piece from the cover;

— method 4, for all bore sizes, carried out on the hose itself;

— method 5, for all bore sizes, carried out on hoses that are expandable, for example textile-reinforced hoses.

NOTE For hoses with built-in fittings from which it is not possible to take test pieces, the ozone resistance can be assessed on slabs in accordance with ISO 1431-1, using test sheets of the appropriate polymeric compound vulcanized to the same degree.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1431-1:2012, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 General considerations

Method 1 and method 2 are the methods normally used, method 3 being used only if it is not possible to carry out the test in accordance with method 2. Method 4 is suitable for all bore sizes. Method 5 is specifically for testing expandable hoses in the expanded state.

The results of tests carried out in accordance with method 1 may not be comparable with the results obtained when tests are carried out in accordance with method 2 or method 3, even if the cover compounds of the hoses under test are identical in composition and are cured to the same degree. The test method to be used shall be as specified in the product standard.