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Flexible and rigid cellular polymeric materials — Accelerated ageing tests

Matériaux polymères alvéolaires souples et rigides — Essais de vieillissement accéléré

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (others than hoses)*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 2440:2019) which has been technically revised.

The main changes are as follows:

- ~~addition of~~ [subclause 7.2](#) ~~subclause 7.2~~;;
- ~~addition of~~ [Clause 9](#) ~~Clause 9~~;;
- ~~addition of a method for verification in~~ [Annex A](#) ~~Annex A~~;;
- ~~addition of precision data in~~ [Annex B](#) ~~Annex B~~..

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The measurement of ageing effects, either by oxidation or hydrolysis by humidity, is used to assess the long-term behaviour of cellular polymeric materials under laboratory conditions. The physical properties of interest are measured before and after the application of the specified treatments.

Test conditions are ~~only~~ given for open cellular latex, ~~both~~ open- and closed-cell polyurethane foams, and closed-cell polyolefin foams. ~~Conditions for other materials will be added as required.~~

The effect of the ageing procedures on any of the physical properties of the material can be examined, but those normally tested are either the elongation and tensile properties, or the compression or indentation hardness properties.

These tests do not necessarily correlate either with service behaviour or with ageing by exposure to light.

If desired, the ageing conditions contained in this document can be applied to composite structures containing any of the above types of cellular material. This can be helpful in the investigation of possible interactions between cellular materials and other substrates. Composite constructions can be in the form of complete finished products or representative small specimens cut there-from.

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