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Conveyor belts — Test atmospheres and conditioning periods

Courroies transporteuses — Atmosphères d'essai et durées de conditionnement

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Foreword

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This document was prepared by Technical Committee ISO/TC 41 *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This third edition cancels and replaces the second edition (ISO 18573:2012), of which it constitutes a minor revision. The changes are as follows:

— Clause 2 and the Bibliography have been updated.

— Clause 3 has been updated.

— Content in parentheses in Clause 5 c), d) and e) has been deleted.

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Introduction

The conditioning of test pieces prior to testing is commonly accepted as an essential practice in most, but not necessarily all, methods of test. Its purpose is to provide a common ground base for the commencement of the test and to remove an unnecessary variable in the search for the optimum precision for the particular test.

In order to meet these objectives, it is essential to standardize as many of the variables as possible.

Conveyor belts, other than steel cord conveyor belts, contain a textile element. This can be highly hydrophobic or somewhat more hydrophilic. Similarly, the polymer layer or cover can be thermoplastic or subject to thermal ageing. Each of these factors can have a significant effect on the property of the conveyor belt. These factors need to be taken into account when making a decision as to whether conditioning is necessary and, if so, what the most appropriate conditions would be. The provisions given in ISO139,[1] ISO23529[2] and ISO2231[3] have been taken into account in the preparation of this document.

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Conveyor belts — Test atmospheres and conditioning periods

1 Scope

This document specifies the temperature, humidity and time conditions used for the conditioning and testing of all types of conveyor belt, irrespective of whether they have plastics or rubber covers. It also specifies the requirements for the time interval to be observed between production and testing of conveyor belt test pieces.

Special conditions applicable to a particular test or material or simulating a particular climatic environment are not included.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

3.1
standard atmosphere
specified temperature and humidity in which samples are conditioned and tested

Note 1 to entry: See Clause 5.

3.2
moisture equilibrium
condition reached by a conveyor belt test piece when, after free exposure to air in motion, there is no appreciable change in mass

3.3
conditioning
exposure of a test piece to a standard atmosphere for a stipulated period of time immediately before testing, in order to improve the reproducibility of test results

3.4
temperature equilibrium
condition reached by a conveyor belt test piece when it is at a uniform temperature throughout its mass and is within 1 °C of the temperature of its environment

4 Preconditioning

If the textile element of the conveyor belt is of a highly hygroscopic material or if the method of test is highly sensitive to differences in the moisture content of the test piece, it is highly desirable that moisture equilibrium be approached from the dry side of the moisture hysteresis curve. This shall be achieved by

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