INTERNATIONAL STANDARD

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Resilient, textile and laminate floor coverings — Test method for volatile organic compound (VOC) emissions

Revêtements de sol résilients, textiles ou stratifiés — Méthode d'essai des émissions de composés organiques volatils (COV)

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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 10580 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Introduction

The health and comfort of the occupants of indoor spaces are influenced by the indoor climate that exists in a room (in particular, ventilation, temperature and relative humidity) and by potential indoor air pollutants. Such pollutants may have a variety of sources. International bodies have already dealt with the assessment of VOC emissions from building products. The results of their work have been published in reports, which contain sufficiently detailed information to be considered as “pre-normative” documents. The main purpose of this International Standard is to give guidance to those organizations that protect consumers from exposure to chemical pollutants (i.e. carcinogens, teratogens, irritants, odours) and resulting adverse health effects which could be caused by chemical emissions from materials. This protection can be effectively achieved by supporting the market demand for low-emitting flooring materials. In response to the need for improved consumer protection, different kinds of systems for evaluating material emissions have been developed in many countries and by industrial organizations.

This International Standard refers to existing international test methods related to VOC emissions from textile, resilient and laminate floor coverings.

Please be aware that some countries have legal regulations and requirements for emissions of VOC and formaldehyde based on mandatory test methods other than this method. The test method for VOC and formaldehyde described in this International Standard offers an alternative, but is not intended to replace existing legislative test methods.

Resilient, textile and laminate floor coverings — Test method for volatile organic compound (VOC) emissions

1 Scope

This International Standard specifies a general laboratory test method for determination of the area-specific emission rate of volatile organic compounds (VOC) and/or the vapour-phase VOC concentration under defined climate conditions.

This International Standard describes emission test chambers used for the determination of the emission of volatile organic compounds from resilient, textile and laminate floor coverings.

A description of an emission test chamber is given in Annex A. Annex B provides details of the evaluation systems used in Europe and North America, respectively.

Studies of the emission of volatile organic compounds from unused (pre-installation) floor covering products in test chambers require proper handling of the product prior to testing, and during the testing period. For each type of floor covering product, specifications are given for the sampling procedures, transport conditions and storage parameters that can affect emissions of volatile organic compounds. For each type of floor covering product, the preparation of a test specimen is prescribed.

NOTE Depending on the non-homogeneity of the product, it can be necessary to make measurements on multiple test specimens from the same sample in order to determine the specific emission rate.

2 Normative references

The following referenced documents are indispensable for the application 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 16000-3, *Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds — Active sampling method*

ISO 16000-6:2004, *Indoor air — Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas chromatography using MS/FID*

ISO 16000-9:2006, *Indoor air — Part 9: Determination of the emission of volatile organic compounds from building products and furnishing — Emission test chamber method*

ISO 16000-11:2006, *Indoor air — Part 11: Determination of the emission of volatile organic compounds from building products and furnishing — Sampling, storage of samples and preparation of test specimens*

ISO 16017-1:2000, *Indoor, ambient and workplace air — Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography — Part 1: Pumped sampling*

ASTM D5197, *Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology)*