

**Indoor air - Part 19: Sampling strategy for moulds (ISO 16000-19:2012)**

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English Version

**Indoor air - Part 19: Sampling strategy for moulds (ISO 16000-19:2012)**

Air intérieur - Partie 19: Stratégie d'échantillonnage des moisissures (ISO 16000-19:2012)

Innenraumluftverunreinigungen - Teil 19:  
Probenahmestrategie für Schimmelpilze (ISO 16000-19:2012)

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of ISO 16000-19:2012 has been prepared by Technical Committee ISO/TC 146 "Air quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 16000-19:2014 by Technical Committee CEN/TC 264 "Air quality" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by *April 2015*, and conflicting national standards shall be withdrawn at the latest by *April 2015*.

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### Endorsement notice

The text of ISO 16000-19:2012 has been approved by CEN as EN ISO 16000-19:2014 without any modification.

# Contents

Page

Foreword .....	iv
Introduction.....	vi
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 Properties, origin and occurrence of moulds in indoor environments .....</b>	<b>4</b>
<b>5 Sampling and detection methods .....</b>	<b>5</b>
<b>6 Measurement strategy .....</b>	<b>6</b>
<b>6.1 General aspects .....</b>	<b>6</b>
<b>6.2 Selection of appropriate procedure.....</b>	<b>9</b>
<b>7 Quality requirements and uncertainty considerations .....</b>	<b>17</b>
<b>Annex A (informative) Moisture damage indicators .....</b>	<b>18</b>
<b>Annex B (informative) Devices for total spore count and detection of culturable fungi.....</b>	<b>19</b>
<b>Annex C (informative) Field inspection report to describe sampling procedure and to document potential mould damage .....</b>	<b>21</b>
<b>Bibliography.....</b>	<b>27</b>

## Introduction

Mould spores and metabolites can be inhaled via the air and cause allergic and irritating reactions and/or complex symptoms in humans. Moreover, mould growth can be associated with severe odour nuisances. In rare cases, some mould species can cause infections (so-called mycoses) in certain risk groups.<sup>[14][18][19]</sup>

There is sufficient epidemiological evidence that damp and mouldy buildings increase the risk of respiratory symptoms, respiratory infections and enhances asthma symptoms of the occupants.<sup>[8]</sup> In addition, there is some evidence for increased risk of development of allergic rhinitis and asthma. Furthermore, there is clinical evidence for rare symptoms like allergic alveolitis, chronic rhinosinusitis and allergic sinusitis. Toxicological studies *in vivo* and *in vitro* show irritating and toxic reactions of microorganisms (including spores, cell components and metabolites) from damp buildings.<sup>[8]</sup>

Growth of microorganisms in damp buildings can lead to increased concentrations of spores, cell fragments, allergens, mycotoxins, endotoxins,  $\beta$ -glucanes and MVOC (microbial volatile organic compounds). From the studies conducted so far it is not clear which compounds are the causative agents of the health effects observed. Nevertheless, increased concentrations of each of these compounds are considered a potential health risk<sup>[8][18]</sup> and growth of mould in buildings should, therefore, be avoided.

The prime objective of this part of ISO 16000 is to provide assistance in identifying mould sources in indoor environments.

# Indoor air —

## Part 19:

# Sampling strategy for moulds

## 1 Scope

This part of ISO 16000 describes the measurement strategy for the detection of fungi in indoor environments.

It describes suitable sampling and analysis methods together with a description of the applicability and the interpretation of the measurement results to maximize the comparability of the measured data obtained for a given measurement objective. It does not include details on recording building characteristics or field inspections by qualified professionals which have to take place prior to any microbiological measurement.

This part of ISO 16000 is not applicable to a detailed description of the building physics- and building-engineering-related procedures applicable to field inspections. The methods and procedures presented do not allow quantitative exposure assessment with regard to the room occupants.

The application of this part of ISO 16000 presupposes the knowledge of ISO 16000-1.

## 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 16000-16, *Indoor air — Part 16: Detection and enumeration of moulds — Sampling by filtration*

ISO 16000-18, *Indoor air — Part 18: Detection and enumeration of moulds — Sampling by impaction*

## 3 Terms and definitions

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

### 3.1

#### **pre-existing mouldy condition**

desiccated “old” mould growth, where additional biomass growth no longer occurs and the indoor air mould spore concentration gradually decreases with time

### 3.2

#### **biological preservation efficiency**

capacity of the sampler to maintain the viability of the airborne microorganisms during collection and also to keep the microbial products intact

[SOURCE: EN 13098:2000<sup>[6]</sup>]