SLOVENSKI STANDARD
SIST EN ISO 14956:2003

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Kakovost zraka - Vrednotenje primernosti merilnega postopka s primerjavo z zahtevano merilno negotovostjo (ISO 14956:2002)

Air quality - Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956:2002)

Luftbeschaffenheit - Beurteilung der Eignung eines Messverfahrens durch Vergleich mit einer geforderten Messunsicherheit (ISO 14956:2002)

Qualité de l'air - Evaluation de l'aptitude à l'emploi d'une procédure de mesurage par comparaison avec une incertitude de mesure requise (ISO 14956:2002)

Ta slovenski standard je istoveten z: **EN ISO 14956:2002**

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Air quality - Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty (ISO 14956:2002)

Qualité de l'air - Evaluation de l'aptitude à l'emploi d'une procédure de mesurage par comparaison avec une incertitude de mesure requise (ISO 14956:2002)

Luftbeschaffenheit - Beurteilung der Eignung eines Messverfahrens durch Vergleich mit einer geforderten Messunsicherheit (ISO 14956:2002)

This European Standard was approved by CEN on 28 July 2002.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 14956:2002) has been prepared by Technical Committee ISO /TC 146 "Air quality" in collaboration with 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of an identical text or by endorsement, at the latest by February 2003, and conflicting national standards shall be withdrawn at the latest by February 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 14956:2002 has been approved by CEN as EN ISO 14956:2002 without any modifications.

INTERNATIONAL STANDARD

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Air quality — Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty

Qualité de l'air — Évaluation de l'aptitude à l'emploi d'une procédure de mesurage par comparaison avec une incertitude de mesure requise

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14956 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 4, *General aspects*.

Annex B forms a normative part of this International Standard. Annexes A, C and D are for information only.

Introduction

A measuring task generally includes information on the required quality of the measurement result, which may be quantified by the measurement uncertainty. The required quality may be specified, e.g. by legislation, by authorities or the parties involved.

The quality of a measurement result strongly depends on the performance of the measuring method used. This International Standard specifies the procedures to determine the measurement uncertainty of an individual measurement result, using relevant performance characteristics of the measuring method, and to verify compliance with the requirements of the measuring task.

A procedure for establishing the uncertainty of the time average of a series of single measurements will be given in a separate International Standard [3].

Air quality — Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty

1 Scope

This International Standard specifies, for the field of air quality measurement procedures, the:

— estimation of measurement uncertainty from actual or claimed values of all important performance characteristics of a method under stationary conditions;

— assessment of whether or not specified values for these performance characteristics comply with the required quality of a measured value at a stated measurand value;

— evaluation of the applicability of the measurement method based on laboratory performance and confirmatory field test;

— establishment of requirements on dynamic behaviour of instruments.

This International Standard is applicable to measurement procedures whose output is a defined time average.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6879:1995, *Air quality — Performance characteristics and related concepts for air quality measuring methods*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 6879 and the following apply.

3.1
dynamic condition
⟨of operation⟩ condition where the measurand value or/and the value of an influence quantity is time-dependent

3.2
performance requirement
requirement of the measurement, in terms of standard uncertainty and dynamic behaviour, against which the suitability of the measurement system is being assessed

3.3
standard uncertainty
uncertainty of the result of a measurement expressed as a standard deviation.

[GUM:1993, 2.3.1]

3.4
stationary condition
〈of operation〉 condition where the measurand value and the values of all influence quantities are constant.

3.5
uncertainty
parameter, associated with the result of a measurement, that characterizes the dispersion of the values that could reasonably be attributed to the measurand.

[VIM:1993, C.2.11]

4 Symbols and abbreviated terms

b_j	sensitivity coefficient of c for influence quantity x_j at $C = c_{\text{test}}$
$b_{j,\,\max}$	maximum value of b_j
C	measurand
c	measured value of the measurand
c_{test}	value of the measurand at which the required measurement uncertainty is given
$D(y_i)$	drift of measured value on input quantity Y_i at $C = c_{\text{test}}$
$f(y_i)_{\text{cal}}$	analytical function; function of input quantities where the impact of influence quantities is excluded
I_j	ratio of the change in measured value and the corresponding change of the interferent value x_i at $C = c_{\text{test}}$
i	index of input quantities Y
j	index of influence quantities X
k	coverage factor
n	total number of input quantities; last number
m	total number of influence quantities
P	percentage value
p	index of the performance characteristic
$p_{\max}$	maximum number of performance characteristics considered
$s[c(x_j)]$	standard deviation of c caused by x_j at $C = c_{\text{test}}$
$s(x_j)$	standard deviation of x_j at $C = c_{\text{test}}$