

# SVENSK STANDARD

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### **Workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours – Part 3: Performance requirements for apparatus used for general gas detection**

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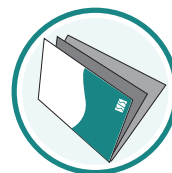
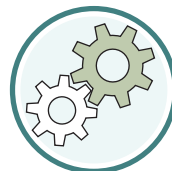
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Europastandarden EN 45544-3:2015 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 45544-3:2015.

Denna standard ersätter SS-EN 45544-3, utgåva 1.

The European Standard EN 45544-3:2015 has the status of a Swedish Standard. This document contains the official English version of EN 45544-3:2015.

This standard supersedes the Swedish Standard SS-EN 45544-3, edition 1.

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English Version

## Workplace atmospheres - Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours - Part 3: Performance requirements for apparatus used for general gas detection

Atmosphères des lieux de travail - Appareillage électrique utilisé pour la détection directe des vapeurs et gaz toxiques et le mesurage direct de leur concentration - Partie 3: Exigences de performance des appareillages utilisés pour la détection de gaz générale

Arbeitsplatzatmosphäre - Elektrische Geräte für die direkte Detektion und direkte Konzentrationsmessung toxischer Gase und Dämpfe - Teil 3: Anforderungen an das Betriebsverhalten von Geräten, die für allgemeine Gaswarnanwendungen eingesetzt werden

This European Standard was approved by CENELEC on 24 November 2014. CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN and CENELEC member.

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 and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

## Contents

Page

Foreword .....	3
Introduction.....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 General requirements .....	5
5 Performance requirements.....	5
5.1 General .....	5
5.2 Standard requirements .....	5
5.3 Unpowered storage .....	6
5.4 Calibration curve .....	6
5.5 Mechanical tests.....	6
5.5.1 Vibration .....	6
5.5.2 Drop test.....	6
5.6 Environmental tests .....	6
5.6.1 Temperature .....	6
5.6.2 Pressure .....	6
5.6.3 Humidity .....	6
5.6.4 Air velocity .....	6
5.7 Performance tests .....	7
5.7.1 Alarm set point(s).....	7
5.7.2 Time to alarm or alarm reading.....	7
5.7.3 Flow rate.....	7
5.7.4 Warm-up time.....	7
5.7.5 Time of response.....	7
5.7.6 Time of recovery.....	7
5.7.7 Addition of sampling probe (portable and transportable apparatus only).....	7
5.7.8 Field calibration kit.....	7
5.7.9 Gas concentrations above the full scale indication .....	7
5.7.10 Extended operation in test gas .....	7
5.7.11 Orientation tests .....	8
5.8 Electrical tests .....	8
5.8.1 Battery capacity.....	8
5.8.2 Power supply variations .....	8
5.8.3 Electromagnetic compatibility .....	8
5.8.4 Time-weighted average (TWA) function.....	8
5.9 Stability.....	8
5.10 Verification of software and digital components .....	8
Annex A (informative) Table of significant changes in comparison to EN 45544-3:1999.....	9

## Foreword

This document (EN 45544-3:2015) has been prepared by CEN/CENELEC Joint Working Group Continuous Measuring Instruments (JWG CMI).

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-11-24
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-11-24

This document supersedes EN 45544-3:1999.

## Introduction

National laws and regulations based on European Directives require the assessment of the potential exposure of a worker to chemical agents in workplace atmospheres.

EN 45544, *Workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours*, consists of the following parts:

- *Part 1: General requirements and test methods;*
- *Part 2: Performance requirements for apparatus used for exposure measurement;*
- *Part 3: Performance requirements for apparatus used for general gas detection;*
- *Part 4: Guide for selection, installation, use and maintenance.*

EN 45544 series is based on EN 482 which specifies general performance requirements for procedures for measuring the concentration of chemical agents in workplace atmospheres. These performance requirements are intended to apply under environmental conditions present at the workplace. However, because a wide range of environmental conditions are encountered in practice, this document specifies requirements that have to be fulfilled by measuring procedures when tested under prescribed laboratory conditions.

EN 45544-2 details the performance requirements outlined in EN 482 specifically for electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours intended for exposure measurement.

EN 45544-3 details the performance requirements for general gas detection apparatus, e.g. safety warning, leak detection. The measuring range will be defined by the manufacturer. In general, the requirements for accuracy will be higher for EN 45544-2 apparatus than for EN 45544-3 apparatus.

The same apparatus may be used for applications covered by EN 45544-2 and EN 45544-3.

EN 45544 series will help manufacturers, test laboratories and users of apparatus to adopt a consistent approach to, and provide a framework for, the assessment of performance criteria. It is the manufacturer's primary responsibility to ensure that the apparatus meets the requirements laid down in this European Standard including environmental influences which can be expected to affect performance.

Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours generate readings in clean air (zero readings) which vary with environmental conditions and time. This standard therefore also includes test methods and requirements for acceptable variations in zero readings.

## 1 Scope

This European Standard specifies the performance requirements for electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours in workplace atmospheres.

This European Standard is applicable to apparatus used for general gas detection.

EXAMPLE Safety warning and leak detection are examples of general gas detection.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 45544-1:2015, *Workplace atmospheres - Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours - Part 1: General requirements and test methods*

EN 50270, *Electromagnetic compatibility - Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen*

EN 50271, *Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen - Requirements and tests for apparatus using software and/or digital technologies*