

**Metall- ja teised anorgaanilised katted.
Vääveldioksiidikatse niiskuse
üldkondensatsioon arvestades**

Metallic and other non organic coatings - Sulfur
dioxide test with general condensation of moisture

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 6988:1999 sisaldab Euroopa standardi EN ISO 6988:1994 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 6988:1999 consists of the English text of the European standard EN ISO 6988:1994.</p> <p>This document is endorsed on 12.12.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>Standard määrab kindlaks meetodi materjalide või toodete vastupidavuse määramiseks vääveldioksiidi sisaldavale kondenseeritud niiskusele.</p>	<p>Scope:</p>
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ICS 25.220.20, 25.220.40

Võtmesõnad: katsed, katseseadmed, katted, korrosioonikatsed, metallkatted, mitteorgaanilised katted, vääveldioksiid

ICS 25.220.30; 25.220.40

Descriptors: Metal coatings, non-organic coatings, sulfur dioxide, corrosion testing.

English version

Metallic and other non-organic coatings

**Sulfur dioxide test with general condensation of moisture
(ISO 6988:1985)**

Revêtements métalliques et autres
revêtements non organiques – Essai au
dioxyde de soufre avec condensation
générale de l'humidité (ISO 6988:1985)

Metallische und andere anorganische
Überzüge – Prüfung mit Schwefeldioxid
unter allgemeiner Feuchtigkeits-
kondensation (ISO 6988:1985)

This European Standard was approved by CEN on 1994-10-26 and is identical to the ISO Standard as referred to.

CEN 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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 6988:1985 Metallic and other non-organic coatings – Sulfur dioxide test with general condensation of moisture, which was prepared by ISO/TC 107 'Metallic and other inorganic coatings' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 262 'Protection of metallic materials against corrosion' as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by April 1995 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 6988:1985 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

0 Introduction

0.1 Moist air containing sulfur dioxide quickly produces easily visible corrosion of many metals in a form resembling that occurring in industrial environments. It is therefore a test medium well suited to detect pores or other sources of weakness in protective coatings and deficiencies in corrosion resistance associated with unsuitable alloy composition or treatments.

The results obtained in the test should not be regarded as a direct guide to the corrosion resistance of the tested materials in all environments where these materials may be used. Similarly, performances of different materials in the test should not be taken as a direct guide to the relative corrosion resistance of these materials in service.

0.2 The exposure conditions may be varied by either proceeding continuously or in cycles of alternate exposure to the sulfur dioxide-containing atmosphere and to the ambient atmosphere.

0.3 The variant of the test to be used, the test duration, the type of test specimen and the criteria of failure are not specified in this International Standard. Such details are provided in appropriate material and product specifications.

1 Scope and field of application

This International Standard specifies a method for assessing the resistance of materials or products to condensed moisture containing sulfur dioxide.

The method has been found to be suitable for testing metallic and non-organic coatings.

NOTE — For testing paints and varnishes, see ISO 3231, *Paints and varnishes — Determination of resistance to humid atmospheres containing sulphur dioxide*.

2 References

ISO 1462, *Metallic coatings — Coatings other than those anodic to the basis metal — Accelerated corrosion tests — Method for the evaluation of the results*.

ISO 4540, *Metallic coatings — Coatings cathodic to the substrate — Rating of electroplated test specimens subjected to corrosion tests*.

3 Apparatus and material

3.1 Test cabinet, of preferred capacity $300 \pm 10 \text{ dm}^3$, with a door capable of being closed hermetically, and fitted with the components specified in 3.2, 3.3 and 3.4. Typical test cabinets are shown in figures 1 and 2.

NOTE — Test cabinets of capacities other than $300 \pm 10 \text{ dm}^3$ may be used, provided that the other test conditions to which the test specimens are submitted are the same. The details and instructions given in this International Standard are, however, appropriate to test cabinets of the preferred capacity and will require corresponding modifications for other capacities.

3.1.1 Materials of construction

All the materials used in the construction of the test cabinet shall be resistant to the action of moist sulfur dioxide and shall themselves not emit any gas or vapour likely to influence corrosion of the test specimens.

The floor and lower parts of the walls shall be capable of being heated and shall be able to retain without leakage at least $2,5 \text{ dm}^3$ of water containing dissolved sulfur dioxide, this volume being required to flush the apparatus. Lead-clad construction material is suitable for these parts and for the framework and fittings of the cabinet, but the greater part of the walls and door should be made of transparent sheet, such as glass or suitable plastics material.

A new cabinet shall be operated at least once, without introduction of test specimens, following the procedure applicable to an atmosphere containing 2 dm^3 of sulfur dioxide, before it is brought into use for testing. This should reduce risks of contamination of the atmosphere by vapours from the materials of construction.

3.1.2 Shape

Some variation in the shape of the test cabinet can be tolerated, but the roof should be shaped so that moisture condensing on it does not fall on test specimens in the test cabinet. An inclination of the roof of about 12° to the horizontal provides a suitable safeguard.

3.1.3 Ambient conditions

The test cabinet shall be installed in a room in which there is a clean atmosphere and shall be protected from large or rapid temperature fluctuations, strong direct sunlight and draughts. (See also 6.5.2.)