
Kovinske in druge anorganske prevleke – Korozijski preskus Corrodokote (preskus CORR) (ISO 4541:1978)

Metallic and other non-organic coatings - Corrodokote corrosion test (CORR test) (ISO 4541:1978)

Metallische und andere anorganische Überzüge - Corrodokote-Korrosionsprüfung (CORR-Test) (ISO 4541:1978)

Revetements métalliques et autres revêtements non organiques - Essai de corrosion Corrodokote (Essai CORR) (ISO 4541:1978)

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Ta slovenski standard je istoveten z: EN ISO 4541:1994

ICS:

25.220.40

Kovinske prevleke

Metallic coatings

SIST EN ISO 4541:1999

en

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EUROPEAN STANDARD

EN ISO 4541

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1994

ICS 25.220.30; 25.220.40

Descriptors: metal coatings, chromium coatings, decorative coatings, corrosion tests, corrodokote tests

English version

**Metallic and other non-organic coatings -
Corrodokote corrosion test (CORR test)
(ISO 4541:1978)**

Revêtements métalliques et autres revêtements
non organiques - Essai de corrosion Corrodokote
(Essai CORR) (ISO 4541:1978)

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This European Standard was approved by CEN on 1994-10-26. 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 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

This European Standard was taken over by the Technical Committee CEN/TC 262 "Protection of metallic materials against corrosion" from the work of ISO/TC 107 "Metallic and other inorganic coatings" of the International Standards Organization (ISO).

CEN/TC 262 had decided to submit the final draft for Formal Vote. The result was positive.

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 1995, and conflicting national standards shall be withdrawn at the latest by April 1995.

According to 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, United Kingdom.

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Endorsement notice

The text of the International Standard ISO 4541:1978 has been approved by CEN as a European Standard without any modification.

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



Annex ZA (normative)**Normative references to international publications
with their relevant European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 1462		Metallic coatings - Coatings other than those anodic to the basis metal - Accelerated corrosion tests - Method for the evaluation of the results		
ISO 3768		Metallic coatings - Neutral salt spray test (NSS test)		

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INTERNATIONAL STANDARD



4541

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Metallic and other non-organic coatings — Corrodkote corrosion test (CORR test)

Revêtements métalliques et autres revêtements non organiques — Essai de corrosion Corrodkote (Essai CORR)

First edition — 1978-06-15

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UDC 620.193.4

Ref. No. ISO 4541-1978 (E)

Descriptors : metal coatings, chromium coatings, decorative coatings, corrosion tests, corrodkote tests.

Price based on 3 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4541 was developed by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*, and was circulated to the member bodies in November 1976.

It has been approved by the member bodies of the following countries :

Australia	Italy	Spain
Austria	Japan	Sweden
Bulgaria	Korea, Rep. of	Switzerland
Czechoslovakia	Mexico	Turkey
France	Philippines	United Kingdom
Germany	Poland	U.S.A.
Hungary	Portugal	U.S.S.R.
India	Romania	Yugoslavia
Israel	South Africa, Rep. of	

No member body expressed disapproval of the document.

Metallic and other non-organic coatings — Corrodkote corrosion test (CORR test)

0 INTRODUCTION

In many instances, there is no direct relation between the results of an accelerated corrosion test and the resistance to corrosion in other media, because several factors which influence the progress of corrosion, such as the formation of protective films, vary greatly with the conditions encountered. The results obtained in the test should not, therefore, be regarded as a direct guide to the corrosion resistance of the tested materials in all environments where these materials may be used. Furthermore, performance of different materials in the test cannot always be taken as a direct guide to the relative corrosion resistance of these materials in service.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the reagent, the apparatus and the procedure for assessment of the quality of metallic and related coatings by the Corrodkote procedure.

The method is primarily applicable to copper-nickel-chromium or nickel-chromium electroplated parts.

2 REFERENCES

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

ISO 3768, *Metallic coatings — Neutral salt spray test (NSS test).*

3 PRINCIPLE

Application of a slurry containing corrosive salts to test specimens, allowing the slurry to dry, and exposure of the coated specimens to a high relative humidity for a specified period of time.

4 CORRODKOTE SLURRY

Prepare the Corrodkote slurry in a glass beaker by dissolving 0,035 g of reagent grade copper(II) nitrate trihydrate $[\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}]$, 0,165 g of reagent grade iron(III) chloride hexahydrate $(\text{FeCl}_3 \cdot 6\text{H}_2\text{O})$, and 1,0 g of reagent grade ammonium chloride (NH_4Cl) in 50,0 ml of distilled

water and stirring into the solution 30,0 g of water-washed ceramic grade kaolin. Mix the slurry thoroughly with a glass stirring rod and allow it to stand for about 2 min so that the kaolin becomes saturated. Mix the slurry thoroughly with a glass stirring rod just before using.

NOTES

1 An alternative method of preparing the Corrodkote slurry is as follows: Weigh 2,50 g of copper(II) nitrate trihydrate $[\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}]$ and dilute with distilled water to the mark in a 500 ml one-mark volumetric flask. Weigh 2,50 g of iron(III) chloride hexahydrate $(\text{FeCl}_3 \cdot 6\text{H}_2\text{O})$, and dilute with distilled water to the mark in a 500 ml one-mark volumetric flask. Weigh 50,0 g of ammonium chloride (NH_4Cl) and dilute with distilled water to the mark in a 500 ml one-mark volumetric flask. Then transfer exactly 7,0 ml of the copper(II) nitrate solution, 33,0 ml of the iron(III) chloride solution and 10,0 ml of the ammonium chloride solution to a beaker and add 30,0 g of kaolin. Stir with a glass stirring rod.

2 Keep the iron(III) chloride solution in the dark in a flask fitted with a rubber or glass stopper. The iron(III) chloride solution shall not be more than 2 weeks old, since older solutions become unstable.

5 APPARATUS

5.1 The apparatus shall consist of a humidity chamber, specimen supports, provision for heating the chamber and provision for air circulation in the chamber.

5.2 The design shall be such that drops of moisture which might accumulate on the roof or walls of the chamber, or on the specimen supports, do not fall on the test specimens.

5.3 The materials of construction shall be such as not to affect the test.

6 TEST SPECIMENS

6.1 Select the type and number of test specimens to be used, as well as the criteria for evaluation of the test results, according to the specification for the coating or products being tested.

6.2 The test specimens may be solvent cleaned prior to testing, using a suitable solvent such as ethanol, diethyl ether, acetone or light petroleum. Do not use solvents that are corrosive or that deposit protective films.