



SLOVENSKI STANDARD
SIST EN ISO 4524-6:1999

01-oktober-1999

Metallische Überzüge - Prüfverfahren für elektrolytisch abgeschiedene Überzüge aus Gold und Goldlegierungen - Teil 6: Bestimmung von Restsalzen (ISO 4524-6:1988)

Metallic coatings - Test methods for electrodeposited gold and gold alloy coatings - Part 6: Determination of the presence of residual salts (ISO 4524-6:1988)

Revetements métalliques - Méthodes d'essai des dépôts électrolytiques d'or et d'alliages d'or - Partie 6: Recherche des sels résiduels (ISO 4524-6:1988)

Ta slovenski standard je istoveten z: EN ISO 4524-6:1994

ICS:

25.220.40 Kovinske prevleke Metallic coatings

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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Descriptors: coatings, metal coatings, electrodeposited coatings, gold plating, decorative coatings, protective coatings, tests, determination, chemical residues

English version

**Metallic coatings - Test methods for
electrodeposited gold and gold alloy coatings - Part
6: Determination of the presence of residual salts
(ISO 4524-6:1988)**

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Revêtements métalliques - Méthodes d'essai des
dépôts électrolytiques d'or et d'alliages d'or
- Partie 6: Recherche des sels résiduels
(ISO 4524-6:1988)

Metallische Überzüge - Prüfverfahren für
elektrolytisch abgeschiedene Überzüge aus Gold
und Goldlegierungen - Teil 6: Bestimmung von
Restsalzen (ISO 4524-6:1988)

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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.

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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

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- The text of the International Standard [ISO 4524-6:1988](#) has been approved by CEN as a European Standard **without any modification**. [standards/sist/822490f0-ab16-470e-88ea-0a38332212e1/sist-en-iso-4524-6-1999](#)



INTERNATIONAL STANDARD

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

**Metallic coatings — Test methods for
electrodeposited gold and gold alloy coatings —****Part 6 :
Determination of the presence of residual salts****(standards.iteh.ai)***Revêtements métalliques — Méthodes d'essai des dépôts électrolytiques d'or et d'alliages d'or —**Partie 6 : Recherche des sels résiduels*
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ISO 4524-6 : 1988 (E)

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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4524-6 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*.

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Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

ISO 4524 consists of the following parts, under the general title *Metallic coatings — Test methods for electrodeposited gold and gold alloy coatings*:

- *Part 1: Determination of coating thickness*
- *Part 2: Environmental tests*
- *Part 3: Electrographic tests for porosity*
- *Part 4: Determination of gold content*
- *Part 5: Adhesion tests*
- *Part 6: Determination of the presence of residual salts*
- *Part 7: Determination of sheet resistivity*

Metallic coatings — Test methods for electrodeposited gold and gold alloy coatings —

Part 6 : Determination of the presence of residual salts

1 Scope and field of application

This part of ISO 4524 specifies a test method for assessing the freedom from contamination by residual salts of gold and gold alloy coatings for engineering, decorative and protective purposes. It is applicable to parts made entirely of metal and excludes composite parts, for example those containing both plastics and coated metal.

2 Principle

Boiling of the parts in water of known electrical conductivity for a specified time and measurement of any increase in conductivity arising from extraction of residual salts and other conducting impurities.

3 Reagent

Water, having a conductivity not greater than $100 \mu\text{S/m}$ at $20 \pm 1 \text{ }^\circ\text{C}$.

4 Apparatus

All glassware used shall be made of borosilicate glass, shall be reserved solely for this determination and shall meet the requirements for cleanliness of 5.2.

4.1 Round-bottomed flask, of capacity 250 ml, fitted with a reflux water condenser.

4.2 Beaker, of suitable dimensions for the parts being tested, marked at a volume of 100 ml and fitted with a suitable means of reducing undue evaporative loss of water, for example a water-cooled lid.

4.3 Conductivity meter.

5 Procedure

5.1 Test portion

Take a part or parts, consisting entirely of coated metal and having a total surface area of about 30 cm^2 . Depending on their dimensions (see 5.3), carry out the determination in accordance with 5.3.1 or 5.3.2, as appropriate.

Take care to avoid accidental contamination of the test portion. Use clean gloves to handle the parts under examination.

5.2 Check for cleanliness of apparatus

Before carrying out any determination, transfer 100 ml of water (clause 3) to the extraction vessel (4.1 or 4.2) and boil it gently for 10 min using the appropriate test conditions (see 5.3.1 and 5.3.2). Allow the water to cool to $20 \pm 1 \text{ }^\circ\text{C}$ and measure its conductivity with the conductivity meter (4.3).

If the value exceeds $100 \mu\text{S/m}$, repeat the procedure with a further 100 ml of the water. If the value again exceeds $100 \mu\text{S/m}$, discard the extraction vessel and repeat the test using a new vessel.

Reserve satisfactory glassware solely for this determination.

5.3 Determination

5.3.1 Parts with a cross sectional width or diameter not greater than 15 mm and not longer than 40 mm

Having checked the apparatus for cleanliness (see 5.2), transfer the test portion (5.1) to the round bottomed flask (4.1) and add 100 ml of water (clause 3), the conductivity of which has been measured immediately prior to the determination, ensuring that the water completely covers the test piece. Fit the flask with its reflux condenser, bring the water in the flask to the boil and allow it to boil gently for 10 min. Allow the water to cool to $20 \pm 1 \text{ }^\circ\text{C}$ and measure its conductivity with the conductivity meter (4.3). Calculate any increase in conductivity incurred as a result of the determination.

5.3.2 Parts with a cross sectional width or diameter greater than 15 mm and longer than 40 mm

Carry out the procedure described in 5.3.1 but placing the test portion (5.1) in the beaker (4.2) to which water (clause 3) has been previously added to the 100 ml mark. Prevent undue evaporative loss during the determination using, for example, the water-cooled lid (4.2), adding more water (clause 3), if necessary, to replace that lost due to boiling.

ISO 4524-6 : 1988 (E)**6 Test report**

The test report shall include at least the following information :

- a) a reference to this part of ISO 4524;
- b) the results and the method of expression used;
- c) any unusual features noticed during the determination;
- d) any operation not included in this International Standard;
- e) any other relevant information requested by the purchaser.

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