भारतीय मानक ब्यूरो

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भारतीय मानक मसौदा

धात्विक और अन्य अकार्बनिक लेपन - विद्युत, इलेक्ट्रॉनिक और इंजीनियरिंग प्रयोजन के लिए इलेक्ट्रोडेपोजिटेड स्वर्ण और स्वर्ण मिश्रधातु लेपन - विशिष्टि और परीक्षण की पद्धतियाँ

(*IS 3266 का दूसरा पुनरीक्षण*)

Draft Indian Standard

Metallic and Other Inorganic Coatings — Electrodeposited Gold and Gold Alloy Coatings for Electrical, Electronic and Engineering Purposes — Specification and Test Methods

(*Second Revision of IS 3266*)

ICS 25.220.40

Corrosion Protection and Finishes Sectional Committee, MTD 24	Last date of comment: 04/07/2024

NATIONAL FOREWORD

This draft standard is identical to ISO 27874 : 2008 'Metallic and other inorganic coatings — Electrodeposited gold and gold alloy coatings for electrical, electronic and engineering purposes — Specification and test methods' issued by the International Organization for Standardization (ISO), and subject to its finalization, is to be adopted by the Bureau of Indian Standards on the recommendation of the Corrosion Protection and Finishes Sectional Committee and approval of the Metallurgical Engineering Division Council.

This standard was first published in 1965 and subsequently revised in 1982. The second revision of this standard has been undertaken to align with the International Standard ISO 27874 : 2008 under dual numbering system.

Former title of the Indian Standard IS 3266 was 'Specification for - Electroplated coatings of gold for general engineering purpose' which has been changed to 'Metallic and other inorganic coatings — Electrodeposited gold and gold alloy coatings for electrical, electronic and engineering purposes — Specification and test methods' as per the title of ISO 27874.

The text of ISO standard has been approved as suitable for publication as in Indian Standard without deviations. Certain terminologies and conventions are, however, not identical with those used in Indian Standard. Attention is especially drawn to the following:

a) Wherever the words `International Standard' appear referring to this standard, it should be read as `Indian Standard'

b) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use a point (.) as the decimal marker.

c) In this adopted standard, reference appears to certain International Standards for which Indian Standards also exists. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the edition indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 2177 : 2003 Metallic coatings — Measurement of coating thickness — Coulometric method by anodic dissolution	IS 14126 : 2019 / ISO 2177 : 2003 Metallic coatings - Measurement of coating thickness - Coulometric method by anodic dissolution (*First Revision*)	Identical
ISO 9587 : 2007 Metallic and other inorganic coatings — Pretreatment of iron or steel to reduce the risk of hydrogen embrittlement	IS 18463 : 2023 / ISO 9587 : 2007 Metallic and other inorganic coatings Pretreatment of iron or steel to reduce the risk of hydrogen embrittlement	Identical
ISO 9588 : 2007 Metallic and other inorganic coatings — Post-coating treatments of iron or steel to reduce the risk of hydrogen embrittlement	IS 18436 : 2023 / ISO 9588 : 2007 Metallic and other inorganic coatings Post-coating treatments of iron or steel to reduce the risk of hydrogen embrittlement	Identical
ISO 3543 : 2000 Metallic and non-metallic coatings — Measurement of thickness — Beta backscatter method	IS 14149 : 2008 / ISO 3543 : 1981 Metallic and non - Metallic coating - Measurement of thickness - Beta backscatter method (*First Revision*)	Identical
ISO 4516 : 2002 Metallic and other inorganic coatings — Vickers and Knoop microhardness tests - (Withdrawn)		
Superseded by		
i) ISO 4545-1:2023 Metallic materials — Knoop hardness test Part 1: Test method	IS 6885 (Part 1) : 2020 / ISO 4545-1 : 2017 Metallic Materials — Knoop Hardness Test Part 1 Test Method (*Second Revision*)	Identical
ii) ISO 6507-1:2023 Metallic materials — Vickers hardness test Part 1: Test method	IS 1501 (Part 1) : 2020 / ISO 6507-1 : 2018 Metallic Materials — Vickers Hardness Test Part 1 Test Method (*Fifth Revision*)	Identical
ISO 1463 : 2021 Metallic and oxide coatings — Measurement of coating thickness — Microscopical method	IS 3203 : 1982 Methods of testing local thickness of electroplated coatings (*First Revision*)	Not Equivalent

The technical committee responsible for the preparation of this standard has reviewed the provisions of following International Standards referred in these adopted standards and decided their acceptability for use in conjunction with this standard.

International Standard	*Title*

ISO 2064 : 1996	Metallic and other inorganic coatings — Definitions and conventions concerning the measurement of thickness
ISO 2080 : 2022	Metallic and other inorganic coatings — Surface treatment, metallic and other inorganic coatings — Vocabulary
ISO 2819 : 2017	Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion
ISO 3497 : 2000	Metallic coatings — Measurement of coating thickness — X-ray spectrometric methods
ISO 3868 : 2000	Metallic and other non-organic coatings — Measurement of coating thicknesses — Fizeau multiple-beam interferometry method
ISO 3882 : 2024	Metallic and other inorganic coatings — Review of methods of measurement of thickness
ISO 4518 : 2021	Metallic coatings — Measurement of coating thickness — Profilometric method
ISO 4519 : 1980	Electrodeposited metallic coatings and related finishes — Sampling procedures for inspection by attributes
ISO 4524-2 : 2000	Metallic coatings — Test methods for electrodeposited gold and gold alloy coatings — Part 2: Mixed flowing gas (MFG) environmental tests
ISO 4524-3 : 1985	Metallic coatings — Test methods for electrodeposited gold and gold alloy coatings — Part 3: Electrographic tests for porosity
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 10289 : 1999	Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates — Rating of test specimens and manufactured articles subjected to corrosion tests
ISO 10308 : 2006	Metallic coatings — Review of porosity tests
ISO 12687 : 1996	Metallic coatings — Porosity tests — Humid sulfur (flowers of sulfur) test
ISO 14647 : 2000	Metallic coatings — Determination of porosity in gold coatings on metal substrates — Nitric acid vapour test
IEC 60068-2-20 : 2021	Environmental testing — Part 2-20: Tests - Test Ta and Tb: Test methods for solderability and resistance to soldering heat of devices with leads

In reporting the result of a test or analysis made in accordance with this standard, is to be rounded off, it shall be done in accordance with IS 2 : 2022 ‘Rules for rounding off numerical-values (*second revised*)’.

The scope of the standard is as follows:

SCOPE

This International Standard specifies the requirements for electrodeposited gold and gold alloy coatings for electrical, electronic and other engineering applications on metallic and non-metallic substrates. It also specifies test methods for measuring the properties of the coatings.

Although this International Standard does not specify the condition, finish or surface roughness of the basis material prior to electroplating, the appearance and serviceability of electroplated gold or gold

alloy coatings depends on the condition of the basis material. It is essential that the purchaser specify the surface finish and roughness of the basis material in order to conform to the product requirements.

This International Standard does not apply to coatings on threaded articles or to coatings on sheet or strip in non-fabricated form.

The complete document/text of ISO 27874 : 2008 'Metallic and other inorganic coatings — Electrodeposited gold and gold alloy coatings for electrical, electronic and engineering purposes — Specification and test methods' may be made available, on request to:

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