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NSAI Standards

Irish Standard
I.S. EN ISO 2819:2018

Metallic coatings on metallic substrates - Electrodeposited and chemically deposited coatings - Review of methods available for testing adhesion (ISO 2819:2017)

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National Foreword

I.S. EN ISO 2819:2018 is the adopted Irish version of the European Document EN ISO 2819:2018, Metallic coatings on metallic substrates - Electrodeposited and chemically deposited coatings - Review of methods available for testing adhesion (ISO 2819:2017)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 2819

March 2018

ICS 25.220.40

Supersedes EN ISO 2819:1994

English Version

Metallic coatings on metallic substrates - Electrodeposited and chemically deposited coatings - Review of methods available for testing adhesion (ISO 2819:2017)

Revêtements métalliques sur bases métalliques - Dépôts électrolytiques et dépôts par voie chimique - Liste des différentes méthodes d'essai d'adhérence (ISO 2819:2017)

Metallische Überzüge auf metallischen Grundwerkstoffen - Galvanische und chemische Überzüge - Überblick über Methoden der Haftfestigkeitsprüfung (ISO 2819:2017)

This European Standard was approved by CEN on 1 December 2017.

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European foreword

This document (EN ISO 2819:2018) has been prepared by Technical Committee ISO/TC 107 "Metallic and other inorganic coatings" in collaboration with Technical Committee CEN/TC 262 "Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2018, and conflicting national standards shall be withdrawn at the latest by September 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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INTERNATIONAL STANDARD

ISO 2819

Third edition
2017-11

Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion

Revêtements métalliques sur bases métalliques — Dépôts électrolytiques et dépôts par voie chimique — Liste des différentes méthodes d'essai d'adhérence

Reference number
ISO 2819:2017(E)

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys*, in collaboration with ISO Technical Committee TC 107, *Metallic and other inorganic coatings*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 2819:1980), which has been technically revised.

The main changes compared to the previous edition are as follows:

— tensile test has been extended by centrifugal adhesion testing;

— Rockwell-C test has been added;

— scratch test has been added;

— cavitation test has been added;

— editorial changes and informative references to further existing standards have been made.

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Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion

WARNING — When particular methods of adhesion testing are included in International Standards for individual coatings, they should be used in preference to the methods described in this document and should be agreed upon beforehand by the supplier and the purchaser.

1 Scope

This document specifies methods of checking the adhesion of electrodeposited and chemically deposited coatings. It is limited to tests of a qualitative nature.

This document does not describe certain tests that have been developed at various times to give a quantitative measure of adhesion of metallic coating to a substrate, since such tests require special apparatus and considerable skill in their performance which renders them unsuitable as quality control tests for production parts. Some of these quantitative tests can, however, be useful in research and development work.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Methods of test

4.1 Burnishing test

If plated parts are subjected to burnishing in a localized area, the deposit will tend to work-harden and absorb frictional heat. If the coating is thin, separation of the coating from the basis metal as blisters will occur under these conditions in areas of poor adhesion.

When the shape and size of the part permit, an area of not more than 6 cm^2 of the plated surface should be rubbed with a smooth implement for about 15 s. A suitable implement is a steel rod 6 mm in diameter with a smooth hemispherical end.

The pressure shall be sufficient to burnish the coating at every stroke but not so great as to cut the coating. Poor adhesion is indicated by the appearance of a blister which grows as the rubbing is continued.

If the mechanical properties of the coating are poor, the blister may crack and the coating will peel from the basis metal. This test shall be limited to relatively thin deposits.

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