

Corrosion of metals and alloys - Vocabulary (ISO 8044:2024)

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ICS 01.040.77, 77.060

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EUROPEAN STANDARD

EN ISO 8044

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Corrosion of metals and alloys - Vocabulary (ISO 8044:2024)

Corrosion des métaux et alliages - Vocabulaire (ISO 8044:2024)

Korrosion von Metallen und Legierungen - Begriffe (ISO 8044:2024)

This European Standard was approved by CEN on 22 December 2024.

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This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 8044:2025) has been prepared by Technical Committee ISO/TC 156 "Corrosion of metals and alloys" 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of an identical text or by endorsement, at the latest by July 2025, and conflicting national standards shall be withdrawn at the latest by July 2025.

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.

This document supersedes EN ISO 8044:2020.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 8044:2024 has been approved by CEN as EN ISO 8044:2025 without any modification.

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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 document 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*, in collaboration with 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 accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This sixth edition cancels and replaces the fifth edition (ISO 8044:2020) which has been technically revised.

The main changes are as follows:

- several definitions have been changed, including the definition of corrosion;
- several editorial changes were made, including the addition of cross-references to other terms within the definitions.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The definitions in this document have been drawn up with the objective of achieving a proper balance between precision and simplicity. The main objective of this document is to provide definitions that can be understood to have the same meaning by all concerned. Some corrosion terms in present use have developed through common usage and are not always logical. It has not, therefore, been possible to define certain terms in the form they are used in some countries. Because of the occasional conflicts between tradition and logic, some definitions inevitably represent a compromise.

An example of this kind of conflict is the term “corrosion”. This has been used to mean the process, the results of the process and the damage caused by the process. In this document, corrosion is understood to mean the process. Any detectable result of corrosion in any part of a corrosion system is termed “corrosion effect”. The term “corrosion damage” covers any impairment of the function of the technical system of which the metal and the environment form a part. Consequently, the term “corrosion protection” implies that the important thing is to avoid corrosion damage rather than to prevent corrosion, which in many cases is impossible and sometimes not necessary.

Corrosion of metals and alloys — Vocabulary

1 Scope

This document defines terms relating to corrosion that are widely used in modern science and technology. In addition, some definitions are supplemented with short explanations.

Throughout the document, International Union of Pure and Applied Chemistry rules for electrode potential signs are applied. The term “metal” is also used to include alloys and other metallic materials.

Terms and definitions related to the inorganic surface treatment of metals are given in ISO 2080.

2 Normative references

There are no normative references in this document.

3 Terms related to corrosion in general

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 corrosion

chemical or electrochemical interaction between a material, usually a metal, and its environment

Note 1 to entry: This can lead to deterioration of material properties, the environment or the function of the system containing that material.

3.2 corrosive agent

substance that initiates or promotes *corrosion* (3.1) when in contact with a given metal

3.3 corrosive environment

environment that contains one or more *corrosive agents* (3.2)

3.4 corrosion system

system consisting of one or more metals and those parts of the environment that influence *corrosion* (3.1)

Note 1 to entry: Parts of the environment can be, for example, coatings, surface layers or additional *electrodes* (7.1.2).

3.5 corrosion effect

change in any part of the *corrosion system* (3.4) caused by *corrosion* (3.1)

3.6 corrosion damage

corrosion effect (3.5) that causes impairment of the function of the metal, the environment or the technical system of which these form a part