

Corrosion of metals and alloys - Basic terms and definitions (ISO 8044:2015)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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ICS 01.040.77, 77.060

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English Version

Corrosion of metals and alloys - Basic terms and definitions (ISO 8044:2015)

Corrosion des métaux et alliages - Termes principaux
et définitions (ISO 8044:2015)

Korrosion von Metallen und Legierungen -
Grundbegriffe (ISO 8044:2015)

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European foreword

This document (EN ISO 8044:2015) 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” 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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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Endorsement notice

The text of ISO 8044:2015 has been approved by CEN as EN ISO 8044:2015 without any modification.

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Introduction

The definitions in this International Standard have been drawn up with the objective of achieving a proper balance between precision and simplicity. The main objective of this International Standard 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, results of the process and damage caused by the process. In this International Standard 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 — Basic terms and definitions

1 Scope

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

NOTE 1 Throughout the document IUPAC rules for electrode potential signs are applied. The term “metal” is also used to include alloys and other metallic materials.

NOTE 2 Terms and definitions related to inorganic surface treatment of metals are given in ISO 2080.

NOTE 3 See also the ISO online browsing platform (OBP): www.iso.org/obp/ui/

2 General terms

2.1

corrosion

physicochemical interaction between a metal and its environment that results in changes in the properties of the metal, and which may lead to significant impairment of the function of the metal, the environment, or the technical system, of which these form a part

Note 1 to entry: This interaction is often of an electrochemical nature.

2.2

corrosive agent

corrodent

substance which when in contact with a given metal will cause *corrosion* (2.1)

2.3

corrosive environment

environment that contains one or more *corrosive agents* (2.2)

2.4

corrosion system

system consisting of one or more metals and those parts of the environment that influence *corrosion* (2.1)

Note 1 to entry: Parts of the environment may be, for example, coatings, surface layers or additional *electrodes* (6.1.2).

2.5

corrosion effect

change in any part of the *corrosion system* (2.4) caused by *corrosion* (2.1)

2.6

corrosion damage

corrosion effect (2.5) that causes impairment of the function of the metal, the environment or the technical system, of which these form a part

2.7

corrosion failure

corrosion damage (2.6) characterized by the total loss of function of the technical system