

BS ISO 26146:2012



BSI Standards Publication

# Corrosion of metals and alloys — Method for metallographic examination of samples after exposure to high-temperature corrosive environments

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**National foreword**

This British Standard is the UK implementation of ISO 26146:2012.

The UK participation in its preparation was entrusted to Technical Committee ISE/NFE/8, Corrosion of metals and alloys.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Corrosion of metals and alloys —  
Method for metallographic examination  
of samples after exposure to high-  
temperature corrosive environments**

*Corrosion des métaux et alliages — Méthode d'étude  
métallographique d'échantillons soumis à des environnements  
corrosifs à haute température*





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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 26146 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

# Corrosion of metals and alloys — Method for metallographic examination of samples after exposure to high-temperature corrosive environments

## 1 Scope

This International Standard covers examination of samples that have previously been exposed to corrosive environments at high temperatures.

This International Standard covers the classification, identification, and thickness measurement of any corrosion layer forming during the exposure.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3611, *Geometrical product specifications (GPS) — Dimensional measuring equipment: Micrometers for external measurements — Design and metrological characteristics*

ISO 13385-1, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Callipers; Design and metrological characteristics*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE [Figure 1](#) provides a diagrammatic representation of appropriate parameters.

### 3.1

#### **original metal surface**

surface of the metallic sample before coating or exposure to the corrosive environment

### 3.2

#### **original coating surface**

surface of the coating after final processing treatment but before exposure to the corrosive environment

### 3.3

#### **interdiffusion zone**

region around the original interface between coating and substrate that, during exposure, has changed composition through diffusion processes between the coating and the substrate

### 3.4

#### **deposit**

chemically active liquid or solid species that are placed in contact with or are deposited on the test piece before and/or during exposure

EXAMPLE Salts, fly ashes, chars, and molten metals.

### 3.5

#### **deposit thickness**

distance, normal to the test piece surface, between the outer extent of corrosion product and the surface of the deposit layer