BS EN ISO 4623-2:2016



BSI Standards Publication

Paints and varnishes — Determination of resistance to filiform corrosion

Part 2: Aluminium substrates
(ISO 4623-2:2016)

bsi.

National foreword

This British Standard is the UK implementation of EN ISO 4623-2:2016. It supersedes BS EN ISO 4623-2:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee STI/10, Test methods for paints.

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

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Beschichtungsstoffe - Bestimmung der Beständigkeit gegen Filiformkorrosion - Teil 2: Aluminium als Substrat (ISO 4623-2:2016)

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European foreword

This document (EN ISO 4623-2:2016) has been prepared by Technical Committee ISO/TC 35 “Paints and varnishes” in collaboration with Technical Committee CEN/TC 139 “Paints and varnishes” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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

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Endorsement notice

The text of ISO 4623-2:2016 has been approved by CEN as EN ISO 4623-2:2016 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 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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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 4623-2:2003), which has been technically revised. It also incorporates the Technical Corrigendum ISO 4623-2:2003/Cor 1:2005. The following main changes have been made:

a) duplicate determination has been changed to triplicate determination;

b) information on the shape of the scribe marks has been added;

c) the width of the scribe marks has been changed to be in line with EN 3665;

d) a note on using the CASS test for initiating filiform corrosion was added;

e) the supplementary test conditions previously in Annex A have been integrated in the test report.

ISO 4623 consists of the following parts, under the general title *Paints and varnishes — Determination of resistance to filiform corrosion*:

— *Part 1: Steel substrates*

— *Part 2: Aluminium substrates*

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Introduction

A scribe mark cut through a coating of paints or varnishes on metal can give rise to various types of corrosion, such as blistering of the coating, corrosion of the metal under the coating as well as filiform corrosion. Filiform corrosion tends to develop under specific conditions of temperature and relative humidity and when traces of acids, bases or salts are present either under the paint coating or at breaks in the coating. These conditions are often found in marine and/or industrial environments. A certain amount of under-corrosion of the coating, starting from the scribe mark, will always occur. Filiform corrosion, however, is considered to be present only if the typical pattern in the form of threads is obvious.

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INTERNATIONAL STANDARD ISO 4623-2:2016(E)

Paints and varnishes — Determination of resistance to filiform corrosion —

Part 2: Aluminium substrates

1 Scope

This part of ISO 4623 describes a test procedure for assessing the protective action of coatings of paints or varnishes on aluminium against filiform corrosion arising from a scribe mark cut through the coating.

It is only suitable for assessing the performance of the coating/substrate combination tested. It is not suitable for predicting the performance of the coating on different substrates.

2 Normative references

The following referenced 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 1513, *Paints and varnishes — Examination and preparation of test samples*

ISO 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 4628-8, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 8: Assessment of degree of delamination and corrosion around a scribe or other artificial defect*

ISO 4628-10, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 10: Assessment of degree of filiform corrosion*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

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

3.1
filiform corrosion
type of corrosion proceeding under a coat of paint, varnish or related product, in the form of threads, generally starting from bare edges or from local damage to the coating

Note 1 to entry: Usually the threads are irregular in length and direction of growth, but they may also be nearly parallel and of approximately equal length. They usually follow the extrusion direction and do not cross over one another. They need to be initiated by aggressive ions.

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