INTERNATIONAL STANDARD

ISO 23052

First edition
2020-09

Anodizing of aluminium and its alloys — Test method for chemical resistance of anodic oxidation coatings on aluminium and its alloys using electromotive force apparatus

Anodisation de l'aluminium et de ses alliages — Méthode d'essai pour la résistance chimique des couches d'oxydation anodique sur l'aluminium et ses alliages à l'aide d'un appareil à force électromotrice

Reference number
ISO 23052:2020(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 79, *Light metals and their alloys*, Subcommittee SC 2, *Organic and anodic oxidation coatings on aluminium*.

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

Anodic oxidation coatings can be exposed to various chemicals and attacked by chemical means. The resistance of anodic oxidation coatings to chemicals can give important information about how the characteristics of the coatings are affected by anodizing conditions, especially sealing conditions.

The test given in this document evaluates resistance to alkali or acid by measuring the dissolving time of anodic oxidation coatings. This method can test the chemical resistance characteristics of the whole thickness of the coatings.

This test method for chemical resistance using electromotive force apparatus has positive characteristics, such as a simplified testing apparatus, the reduction of artificial errors and applicability to thick anodic oxidation coatings over 20 μm. This test method is characterized by its small test area, the small quantity of test liquid used and a short testing time. In addition, both the test solutions can be supported by the same apparatus.

This method specified in this document uses sodium hydroxide or phosphoric acid, but it is possible to use other chemicals in accordance with the use environment. Therefore, this method can be widely applicable to anodic oxidation coatings for industrial products, electrical appliances or kitchenware.