INTERNATIONAL STANDARD

ISO 12985-1

Second edition
2018-05

Carbonaceous materials used in the production of aluminium — Baked anodes and cathode blocks —

Part 1: Determination of apparent density using a dimensions method

Produits carbonés utilisés pour la production de l'aluminium — Anodes cuites et blocs cathodiques —

Partie 1: Détermination de la masse volumique apparente par une méthode de mesurage dimensionnel

Reference number
ISO 12985-1:2018(E)

© ISO 2018



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Apparatus **1**
6 Sampling **2**
7 Procedure **2**
7.1 Measurement of dimensions 2
7.2 Determination of dry mass 2
8 Calculation **2**
9 Precision **3**
9.1 Repeatability 3
9.2 Reproducibility 3
10 Test report **3**
Bibliography **4**

© ISO 2018 – All rights reserved

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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 226, *Materials for the production of primary aluminium*.

This second edition cancels and replaces the first edition, ISO 12985-1:2000, of which it constitutes a minor revision.

A list of all parts in the ISO 12985 series can be found on the ISO website.

© ISO 2018 – All rights reserved

Carbonaceous materials used in the production of aluminium — Baked anodes and cathode blocks —

Part 1: Determination of apparent density using a dimensions method

1 Scope

This document specifies a dimensions method for the determination of the apparent density of carbonaceous products used in the production of aluminium.

This method is applicable to samples with a simple or well-defined geometry (for example cylindrical, rectangular parallelepipedical or cubic) and a smooth surface profile. The accuracy of measurement is strongly influenced by the equipment used for sampling, i.e. the drilling and sawing machines.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8007-1, *Carbonaceous materials used in the production of aluminium — Sampling plans and sampling from individual units — Part 1: Cathode blocks*

ISO 8007-2, *Carbonaceous materials used in the production of aluminium — Sampling plans and sampling from individual units — Part 2: Prebaked anodes*

3 Terms and definitions

No terms and definitions are listed in this document.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The geometry of the test specimen and its mass are measured and the apparent density is calculated.

5 Apparatus

5.1 Balance, capable of weighing to the nearest 0,1 g for test specimens with a mass of 100 g or more and capable of weighing to the nearest 0,01 g for test specimens of a mass of less than 100 g.

5.2 Callipers, for measuring the sample dimensions, capable of measuring to the nearest 0,05 mm for dimensions of 30 mm or more and capable of measuring to the nearest 0,01 mm for dimensions of less than 30 mm.

© ISO 2018 – All rights reserved