International Standard

ISO 1014-1

First edition
2025-07

Coke —

Part 1: Determination of apparent relative density

Coke —

Partie 1: Détermination de la densité relative apparente

Reference number
ISO 1014-1:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025
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
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 Sample **3**
7 Procedure **4**
7.1 Procedure using an elliptical tank (5.2) 4
7.2 Procedure using a rectangular cross-sectioned tank with a spout (5.2) 4
8 Expression of results **4**
8.1 Procedure using an elliptical tank 4
8.2 Procedure using a rectangular cross-sectioned container with a spout 5
9 Precision **5**
9.1 Repeatability 5
9.2 Reproducibility 5
10 Test report **5**
Bibliography **6**

© ISO 2025 – 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 27, *Coal and coke*, Subcommittee SC 3, *Coke*.

This first edition of ISO 1014-1, together with ISO 1014-2 and ISO 1014-3, cancels and replaces ISO 1014:2021.

A list of all parts in the ISO 1014 series can be found on the ISO website.

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.

© ISO 2025 – All rights reserved

Coke —

Part 1:
Determination of apparent relative density

1 Scope

This document specifies the method for the determination of the apparent relative density of coke, i.e. the ratio of the mass of a volume of dry coke to the mass of an equal volume of water.

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 728, *Coke — Size analysis by sieving*

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

ISO 13909-6, *Coal and coke — Mechanical sampling — Part 6: Preparation of test samples of coke*

ISO 18283, *Coal and coke — Manual sampling*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

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

4 Principle

The volume of a large amount of coke is determined by displacement in water according to Archimedes' principle; dividing the mass of the dried coke by the mass of an equal volume of water gives the apparent relative density.

NOTE Experimental work has shown that the difficulties in the determination of the apparent relative density of coke, due to water draining out of large pores after immersion in water (to determine the amount of water which has entered the porous structure), can be overcome by limiting this drainage period to 30 s. A simple reproducible method is thus obtained which gives results agreeing with more complex methods, such as filling the external pores with gelatine gel.

5 Apparatus

5.1 Cage, approximately 0,03 m^3 capacity, made of galvanized iron wire or metallic mesh with hole size about 12 mm, fitted with a lid of the same material and a fastening device.

© ISO 2025 – All rights reserved