



This is a preview of ISO 502:2025. [Click here to purchase the full version from the ANSI store.](#)

ISO 502

**Hard coal — Determination of
caking power — Gray-King coke test**

**Fourth edition
2025-05**

This is a preview of ISO 502:2025. [Click here](#) to purchase the full version from the ANSI store.



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

This is a preview of ISO 502:2025. [Click here to purchase the full version from the ANSI store.](#)

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagent	1
5.1 General.....	1
5.2 Standard electrode carbon.....	1
6 Apparatus	2
7 Preparation of sample	3
8 Procedure	3
8.1 Hard coals with a Gray-King coke type within the range A to G ₂ (see 11.3).....	3
8.2 Hard coals with a Gray-King coke type greater than G ₂ (see 11.3).....	3
9 Expression of results	3
10 Precision	4
10.1 General.....	4
10.2 Repeatability.....	4
10.3 Reproducibility.....	4
11 Notes on procedure	4
12 Reference figures	6
13 Test report	10
Annex A (normative) Determination of the bulk density of electrode carbon	12
Bibliography	15

This is a preview of ISO 502:2025. [Click here to purchase the full version from the ANSI store.](#)

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 document 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 5, *Methods of analysis*.

This fourth edition cancels and replaces the third edition (ISO 502:2015), which has been technically revised.

The main changes are as follows:

- changed application of document from coal to hard coal, because the method is not applicable to brown coals and lignites;
- replaced reference from Roga Index to Caking Index;
- added [Clause 3](#);
- added normative reference ISO 5725-2;
- moved location of [Table 1](#) and added title;
- added title to [Table 2](#);
- updated CSN units from fractions to decimals.

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.

This is a preview of ISO 502:2025. [Click here to purchase the full version from the ANSI store.](#)

The purpose of the Gray-King coke test, which is one of the parameters adopted for the International Classification of Hard Coal by Type by the United Nations Economic Commission for Europe, is to assess the caking properties of a type of coal or a blend of coals by carbonizing under standard conditions.

Although the Gray-King test and the Caking Index test both assess the caking properties of a hard coal, they do not measure precisely the same parameters and are not alternative methods.