

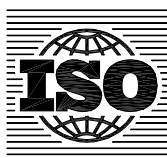
This is a preview of "ISO 7404-2:2009". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2009-10-01

Methods for the petrographic analysis of coals —

Part 2: Methods of preparing coal samples

*Méthodes d'analyse pétrographique des charbons —
Partie 2: Préparation des échantillons de charbon*



Reference number
ISO 7404-2:2009(E)

© ISO 2009

This is a preview of "ISO 7404-2:2009". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a preview of "ISO 7404-2:2009". [Click here to purchase the full version from the ANSI store.](#)

Contents

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Principle	1
5 Reagents and materials	1
6 Apparatus	2
7 Procedure	3
Annex A (informative) Examples of procedures for the preparation of a polished particulate block suitable for petrographic analysis from a sample of crushed coal	6

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 7404-2 was prepared by Technical Committee ISO/TC 27, *Solid mineral fuels*.

This second edition cancels and replaces the first edition (ISO 7404-2:1985), which has been technically revised.

ISO 7404 consists of the following parts, under the general title *Methods for the petrographic analysis of coals*:

- *Part 1: Vocabulary*¹⁾
- *Part 2: Methods of preparing coal samples*
- *Part 3: Method of determining maceral group composition*
- *Part 4: Methods of determining microlithotype, carbominerite and minerite composition*¹⁾
- *Part 5: Method of determining microscopically the reflectance of vitrinite*

1) Parts 1 and 4 of this International Standard will be available under the original title, *Methods for the petrographic analysis of bituminous coal and anthracite*, until the revisions of these documents have reached the stage at which they are publicly available.

This is a preview of "ISO 7404-2:2009". [Click here to purchase the full version from the ANSI store.](#)

Introduction

Petrographic analyses have been recognized internationally as important in the context of the genesis, vertical and lateral variation, continuity, metamorphism and usage of coal. The International Committee for Coal Petrology (ICCP) has made recommendations concerning nomenclature and analytical methods and has published an extensive handbook that is continuously updated, describing in detail the characteristics of a wide range of coals. The text of this part of ISO 7404 agrees substantially with the text of the handbook and incorporates many useful comments made by members of the ICCP and by member bodies of ISO/TC 27, *Solid mineral fuels*.

Petrographic analyses of single-seam coals provide information about the rank, the maceral and microlithotype compositions and the distribution of mineral matter in the coal. The reflectance of vitrinite is a useful measure of coal rank and the distribution of the reflectance of vitrinite in a coal blend. Together with a maceral group analysis, it can provide information about chemical and technological properties of the coal and coal blend. Various other applications, like the characterization of bulk samples, cargoes, etc., and the precise determination of different rank vitrinites in complex coal blends are in use.

ISO 7404 (all parts) is concerned with the methods of petrographic analysis currently employed in characterizing coal in the context of its technological use and establishes a system for petrographic analysis.

The method is applicable for low-, medium- and high-rank coals.

The varied petrographic composition and hardness of coal and the type and amount of included mineral matter does not permit the formulation of a precise procedure that can be applied with equal success to all types and ranks of coal. For example, a successful preparation method for use with medium- and high-rank coals might not be applicable among low-rank coals. Within these limits, therefore, this part of ISO 7404 allows the operator to apply individual skills and experience to the preparation of a satisfactory polished surface. Nevertheless, recommended procedures that have been found applicable to a variety of coals, are given in the Annex A, which is for information only.

Many processes are involved between the mining of the coal and its preparation for industrial use. Petrographic analysis can be required at any stage on samples from the coal seam *in situ*, from borehole cores, on the raw product from the colliery, on the products from the preparation plant, or on the final product. The amount and size distribution of the coal being investigated thus varies widely and it is important to ensure that the sample obtained for petrographic analysis is fully representative.