

Australian Standard®

1038.16—1986

METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

Part 16—ACCEPTANCE AND REPORTING OF RESULTS



PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

Incorporated by Royal Charter



This Australian standard was prepared by Subcommittee MN/1/1, Coal Evaluation, under the supervision of Committee MN/1, Coal and Coke. It was approved on behalf of the Council of the Standards Association of Australia on 10 October 1986 and published on 5 December 1986.

The following interests are represented on Committee MN/1:

Australasian Institute of Mining and Metallurgy
Australian Coal Association
Australian Coal Industry Research Laboratories Ltd
Australian Institute of Energy
Bureau of Steel Manufacturers of Australia
Coal Preparation Societies of New South Wales and Queensland
Confederation of Australian Industry
CSIRO, Division of Fossil Fuels
Department of Mineral Resources, N.S.W.
Department of Mines, Qld
Department of Resources and Energy
Electricity Supply Association of Australia
Institution of Engineers, Australia
Joint Coal Board
Queensland Coal Board
Royal Australian Chemical Institute
Standing Committee on Coalfield Geology, N.S.W.
State Chemical Laboratory, Vic.
Universities

Review of Australian Standards. To keep abreast of progress in industry, Australian standards are subject to periodic review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all SAA publications will be found in the Catalogue of SAA Publications; this information is supplemented each month by SAA's journal 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn standards.

Suggestions for improvements to Australian standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian standard should be made without delay in order that the matter may be investigated and appropriate action taken.

First published (as AS K152 Part 16)	
(endorsement of BS 1016: Part 16: 1960)	1965
AS 1038, Part 16 first published	1975
Second edition	1981
Third edition	1986

This standard was issued in draft form for comment as DR 85217.

ISBN 0 7262 4421 X

PREFACE

This edition of this standard was prepared by the Association's Subcommittee on Coal Evaluation under the supervision of the Committee on Coal and Coke and the direction of the Minerals Standards Board as a replacement for AS 1038.16—1981. The principal differences from AS 1038.16—1981 are as follows:

- (a) This standard is applicable to the AS 1038 series of methods for the analysis and testing of coal and coke, as well as associated standards, including the AS 2434 series of methods for the analysis and testing of lower rank coal and its chars. The presentation has been revised and the technical coverage, though similar, has been expanded.
- (b) Some inaccuracies in formulas, calculations and precision statistics have been corrected.
- (c) Revised, restructured, and additional parts of AS 1038 and associated standards have been referenced.
- (d) Repeatability and reproducibility data have been adjusted to accommodate the common experience of Australian coal testing laboratories, particularly for proximate and ultimate analysis results which were previously based on precision statistics presented in the corresponding British Standard.

This standard will be continuously revised because of ongoing development and updating of all other standards in the AS 1038 series and associated standards. For this reason, information presented in each edition of AS 1038.16 may at any given time be ahead of or behind the actual state of development or updating of other standards. It is therefore recommended that this standard be used only in conjunction with other appropriate standards.

CONTENTS

	<i>Page</i>
1 SCOPE	4
2 REFERENCED DOCUMENTS	4
3 DEFINITIONS AND ABBREVIATIONS	5
4 CORRECTIONS APPLICABLE TO ANALYTICAL RESULTS	6
5 REPORTING ANALYSES TO DIFFERENT BASES	7
6 DERIVATION OF FORMULAS USED FOR METHOD CALCULATIONS	10
7 SAMPLING AND PROCEDURE	12
8 ACCEPTANCE OF RESULTS	13
9 REPEATABILITY AND REPRODUCIBILITY LIMITS	15

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1986

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.



STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

PART 16—ACCEPTANCE AND REPORTING OF RESULTS

1 SCOPE. This standard provides procedures and information for the reporting of results obtained by the use of methods detailed in the AS 1038 series and associated standards. Technical aspects relevant to the derivation of formulas required for calculation and to the acceptance of analytical results are also provided.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- | | | | |
|-----------|---|-----------|---|
| AS 1038 | Methods for the Analysis and Testing of Coal and Coke | Part 14.2 | Analysis of Higher Rank Coal Ash and Coke Ash (Acid Dissolution—Flame Atomic Absorption Spectrometric Method) |
| Part 1 | Total Moisture in Hard Coal* | Part 15 | Fusibility of Coal Ash and Coke Ash* |
| Part 2 | Total Moisture in Coke* | Part 17 | Determination of Moisture Holding Capacity (Equilibrium Moisture) of Higher Rank Coal† |
| Part 3 | Proximate Analysis of Hard Coal* | Part 19 | Determination of Abrasion Index of Higher Rank Coal† |
| Part 4 | Proximate Analysis of Coke* | Part 20 | Determination of the Hardgrove Grindability Index of Hard Coal* |
| Part 5 | Gross Specific Energy of Coal and Coke* | Part 21 | Determination of the Relative Density and Apparent Relative Density of Hard Coal |
| Part 6 | Ultimate Analysis of Higher Rank Coal | Part 22 | Direct Determination of Mineral Matter and Water of Hydration of Minerals in Hard Coal |
| 6.1 | Determination of Carbon and Hydrogen | Part 23 | Determination of Carbonate Carbon in Higher Rank Coal |
| 6.2 | Determination of Nitrogen | AS 1152 | Test Sieves* |
| 6.3.1 | Determination of Total Sulphur (Eschka Method) | AS 1661 | Method for Float and Sink Testing of Hard Coal and Presentation of Results* |
| 6.3.2 | Determination of Total Sulphur (High Temperature Combustion Method) | AS 2137 | Hard Coal—Determination of Plastic Properties by the Gieseler Plastometer |
| 6.3.3 | Determination of Total Sulphur (Infrared Method) | AS 2418 | Glossary of Terms Relating to Solid Mineral Fuels |
| Part 7 | Ultimate Analysis of Coke | AS 2434 | Methods for the Analysis and Testing of Lower Rank Coal and its Chars |
| Part 8 | Chlorine in Coal and Coke | Part 1 | Determination of the Moisture Content of Brown Coal |
| Part 9 | Phosphorus in Coal and Coke | Part 2 | Determination of the Volatile Matter in Low Rank Coal |
| 9.1 | Dry Oxidation Method* | Part 3 | Determination of the Moisture Holding Capacity of Lower Rank Coals |
| Part 10 | Arsenic in Coal and Coke* (to be revised as AS 1038.10.2) | Part 4 | Determination of the Apparent Density of Dried Lower Rank Coal and Its Chars (Mercury Displacement Method) |
| 10.1 | Determination of Trace Elements—Determination of Eleven Trace Elements in Coal, Coke and Fly-Ash—Flame Atomic Absorption Spectrometric Method | Part 5 | Determination of Moisture in Bulk Samples and in Analysis Samples of Char from Lower Rank Coal |
| Part 11 | Forms of Sulphur in Coal | Part 6.1 | Ultimate Analysis of Lower Rank Coal—Classical Methods |
| Part 12.1 | Determination of Crucible Swelling Number of Coal | Part 7 | Determination of Moisture in the Analysis Sample of Lower Rank Coal |
| 12.2 | Assessment of Caking Power of Hard Coal: Gray-King Coke Type Test | | |
| 12.3 | Determination of the Dilatometer Characteristics of Higher Rank Coal | | |
| Part 13 | Tests Special to Coke* | | |
| Part 14.1 | Analysis of Coal Ash, Coke Ash and Mineral Matter (Borate Fusion—Flame Atomic Absorption Spectrometric Method) | | |

* In course of revision.

† In course of preparation.