

Methods for

Analysis and testing of coal and coke —

Part 106: Ultimate analysis of coal and
coke —

Section 106.4 Determination of total
sulfur content —

Subsection 106.4.1 Eschka method

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Solid Mineral Fuels Standards Policy Committee (SFC/-) to Technical Committee SFC/3, upon which the following bodies were represented:

- British Cement Association
- British Coal Corporation
- British Gas plc
- British Steel Industry
- Electricity Industry in United Kingdom
- GAMBICA (BEAMA Ltd.)
- Power Generation Contractors' Association (BEAMA Ltd.)

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Foreword

This Subsection of BS 1016 has been prepared under the direction of the Solid Mineral Fuels Standards Policy Committee. Part 106 will form a revision of Part 6 to Part 11 of BS 1016. This Subsection supersedes 8.2 in both BS 1016-6:1977 and BS 1016-7:1977 which are to be deleted by amendment, from which the principle changes are as follows.

- a) When charging the crucible, some of the 4 g of Eschka mixture is now used to form a bottom layer in the crucible.
- b) A further alternative means, using a Gooch crucible, of filtering the solution after precipitation of the barium sulfate has been added.

Part 106 is a further Part numbered under a scheme for rationalizing and restructuring BS 1016. The new series, when complete, will begin with Part 100, which will include a general introduction. The current Parts are as follows, with the new Part numbers (which will be given to revisions when they are published) in parentheses.

- *Part 1: Total moisture of coal (Part 101);*
- *Part 2: Total moisture of coke (Part 102);*
- *Part 6: Ultimate analysis of coal (Part 106);*
- *Part 7: Ultimate analysis of coke (Part 106);*
- *Part 8: Chlorine in coal and coke (Part 106);*
- *Part 9: Phosphorus in coal and coke (Part 106);*
- *Part 10: Arsenic in coal and coke (Part 106);*
- *Part 11: Forms of sulphur in coal (Part 106);*
- *Part 14: Analysis of coal ash and coke ash (Part 114);*
- *Part 15: Fusibility of coal ash and coke ash (Part 113);*
- *Part 16: Methods of reporting results (Part 100);*
- *Part 17: Size analysis of coal (Part 109);*
- *Part 18: Size analysis of coke (Part 110);*
- *Part 20: Determination of Hardgrove grindability index of hard coal (Part 112);*
- *Part 21: Determination of moisture-holding capacity of hard coal (Part 103).*

The following Parts in the new series have been published.

- *Part 104: Proximate analysis;*
- *Part 105: Determination of gross calorific value;*
- *Part 107: Caking and swelling properties of coal;*
- *Part 108: Tests special to coke;*
- *Part 111: Determination of abrasion index of coal.*

Part 106 will be divided into a number of Sections and Subsections, including the following.

- *Section 106.1: Determination of carbon and hydrogen content;*
- *Section 106.2: Determination of nitrogen content;*
- *Section 106.3: Determination of oxygen content;*
- *Section 106.4: Determination of total sulfur content;*
- *Subsection 106.4.1: Eschka method;*
- *Subsection 106.4.2: High temperature combustion method;*
- *Section 106.5: Determination of forms of sulfur;*
- *Section 106.6: Determination of chlorine content;*
- *Subsection 106.6.1: Eschka method;*
- *Subsection 106.6.2: High temperature combustion method;*

- *Section 106.7: Determination of carbon dioxide content;*
- *Section 106.8: Determination of phosphorus content;*
- *Section 106.9: Determination of arsenic content.*

This Subsection is based on ISO 334:1992, published by the International Organization for Standardization (ISO). It is technically equivalent except for the following changes.

- a) References to the application of the method to brown coals and lignites have been removed from the main text.

NOTE The method as described for hard coal may also be applied to brown coals and lignites but in such cases the test sample (see clause 6) should be prepared in accordance with ISO 5069-2 and, if required, its moisture content should be determined in accordance with ISO 1015 or ISO 5068.

- b) References to British Standards, which are not exactly technically equivalent to the international standards referred to in ISO 334, have been substituted.

WARNING. This British Standard does not necessarily detail all the precautions necessary to comply with the requirements of the Health and Safety at Work etc. Act 1974 [1] or the Control of Substances Hazardous to Health Regulations 1988 [2]. Attention should be paid to any appropriate precautions and the method should be operated only by trained personnel.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.