

Australian Standard™

**Methods for the analysis and testing of
lower rank coal and its chars**

**Part 7: Lower rank coal—Determination
of moisture in the analysis sample**

This Australian Standard was prepared by Committee MN-001, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 16 September 2002 and published on 1 October 2002.

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Australian Coal Association
Australian Coal Preparation Society
Australian Institute of Energy
CSIRO, Energy Technology
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PREFACE

This Standard was prepared by Standards Australia Committee MN-001, Coal and Coke, to supersede AS 2434.7—1986, *Methods for the analysis and testing of lower rank coal and its chars*, Part 7: *Determination of moisture in the analysis sample of lower rank coal*.

This Standard describes two procedures, viz. direct gravimetric and drying in nitrogen, for the determination of moisture in the analysis sample of lower rank coals. Moisture content of the analysis sample of lower rank coal is generally less than 15 per cent.

Although the value of the result obtained for moisture in the analysis sample has little significance in itself, it is required for the calculation of other results to any required basis. As moisture content of coal can vary on standing, test portions for moisture determinations should be taken and weighed simultaneously with test portions for determinations of other properties.

Reference to the vacuum method described in AS 1038.3, *Coal and coke—Analysis and testing*, Part 3: *Proximate analysis of higher rank coal* has been deleted as it gives unacceptable results for lower rank coals.

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Australian Standard

Methods for the analysis and testing of lower rank coal and its chars

Part 7: Lower rank coal—Determination of moisture in the analysis sample

1 SCOPE

This Standard sets out two procedures for the determination of moisture in the analysis sample of lower rank coal, viz. direct gravimetric method, where the water is absorbed in magnesium perchlorate and weighed, and an indirect method, where the difference in the mass of the coal before and after drying is measured. Both methods involve drying under nitrogen.

2 REFERENCED DOCUMENTS

The following Standards are referred to in this Standard:

AS

1038	Coal and coke—Analysis and testing
1038.16	Part 16: Assessment and reporting of results
1152	Specification for test sieves
2243	Safety in laboratories (series)
2418	Coal and coke—Glossary of terms
2508	Safe storage and handling information card (series)
4264	Coal and coke—sampling
4264.3	Part 3: Lower rank coal—Sampling procedures

3 DEFINITIONS

For the purpose of this Standard, the definitions in AS 2418 apply.

4 SAFETY

For information on laboratory safety, reference should be made to the relevant parts of AS 2243 and AS 2508.

5 SAMPLE**5.1 General**

The sample shall be taken according to AS 4264.3 and shall be prepared so that at least 90 percent passes a 212 μm sieve complying with AS 1152.

5.2 Equilibration of the sample

The sample received in the laboratory shall be brought into approximate equilibrium with the laboratory atmosphere by exposure in a thin layer on a tray. As many lower rank coals are prone to oxidation, the exposure time shall be kept to the minimum necessary. The sample shall be thoroughly mixed, preferably by mechanical means, immediately before the determination. Portions for duplicate determinations shall be weighed out consecutively. The determinations should not be made in the same apparatus at the same time.