

Australian Standard™

Higher rank coal—Size analysis

[ISO title: Hard coal—Size analysis by sieving]

This Australian Standard was prepared by Committee MN-001, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 14 June 2002 and published on 12 July 2002.

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Australian Coal Association
Australian Coal Preparation Society
Australian Institute of Energy
Bureau of Steel Manufacturers of Australia
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Higher rank coal—Size analysis

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-001, Coal and Coke, to supersede AS 3881—1991, *Higher rank coal—Size analysis*.

The objective of this Standard is to provide the coal sampling and coal handling industries with a method for determining the size analysis of higher rank coal.

This Standard is identical with and has been reproduced from ISO 1953:1994, *Hard coal—Size analysis by sieving*.

Statements expressed in mandatory terms in notes to text, tables and figures are deemed to be requirements of this Standard.

As this Standard is reproduced from an international Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
1213	Solid mineral fuels—Vocabulary		
1213-1	Part 1: Terms relating to coal preparation	2418	Coal and coke—Glossary of terms
1213-2	Part 2: Terms relating to sampling, testing and analysis	2418	Coal and coke—Glossary of terms
1988	Hard coal—Sampling	4264	Coal and coke—Sampling
		4264.1	Part 1: Higher rank coal—Sampling procedures
3310	Test sieves—Technical requirements and testing		
3310-1	Part 1: Test sieves of metal wire cloth	1152	Specification for test sieves
3310-2	Part 2: Test sieves of perforated metal plate	1152	Specification for test sieves

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

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INTRODUCTION

Size analysis involves the separation of a sample of coal into size fractions having defined limits. In the methods described in this International Standard the results are expressed in terms of the percentage mass of coal remaining on sieves of different aperture sizes. This information can be of use in a number of applications, including the following: assessing the yields of products from run-of-mine coals; providing design data for coal preparation plants; checking that products from screening plants are within the required limits; assessing the performance of coal-crushing plants; and selecting coals for particular processes and equipment.

AUSTRALIAN STANDARD

Higher rank coal— Size analysis

1 Scope

This International Standard specifies reference methods for the size analysis of coal by manual sieving (wet or dry), using test sieves of aperture sizes between 125 mm and 45 μm . A guide to sampling is given in annex A and notes on the use of mechanical sieving are given in annex B.

This International Standard is applicable to all hard coals. It is not applicable to coke or other manufactured fuels.

In the case of pulverized coal which has been ground so that a high proportion passes through the test sieve of smallest aperture size, the methods described in this International Standard will determine only the percentage oversize.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1213-1:1993, *Solid mineral fuels — Vocabulary — Part 1: Terms relating to coal preparation*.

ISO 1213-2:1992, *Solid mineral fuels — Vocabulary — Part 2: Terms relating to sampling, testing and analysis*.

ISO 1988:1975, *Hard coal — Sampling*.

ISO 3310-1:1990, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*.

ISO 3310-2:1990, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1213-1 and ISO 1213-2 apply.

4 Apparatus

4.1 For all methods

4.1.1 Test sieves, exclusively round-hole or exclusively square-hole, complying with ISO 3310-1 or ISO 3310-2, as appropriate.

NOTES

1 The recommended series of test sieves for general purposes is 125 mm, 90 mm, 63 mm, 45 mm, 31,5 mm, 22,4 mm, 16 mm, 11,2 mm, 8 mm, 5,6 mm and 4 mm nominal aperture sizes, square-hole, or the same sizes of round-hole sieves. If this series is inadequate for the sizing of graded coals, sieves from the supplementary sizes 100 mm, 80 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12,5 mm, 10 mm and 6,3 mm may be included. For samples containing pieces having a particle size greater than 125 mm, single-hole gauges of the required dimensions may be used for the larger pieces. Test sieves of nominal aperture size 4 mm and less should be of metal wire cloth; the recommended series of nominal aperture sizes is 4 mm, 2,8 mm, 2 mm, 1,4 mm, 1 mm, 710 μm , 500 μm , 355 μm , 250 μm , 180 μm , 125 μm , 90 μm , 63 μm and 45 μm .

2 When a complete size analysis is required, it is preferable, subject to the range of sieve aperture sizes available, that the mass of coal in any size fraction does not exceed 30 % of the total mass of sample being sieved. The largest aperture size sieve should be that on which not more than