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METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

Part 20—HARDGROVE GRINDABILITY INDEX OF HARD COAL

1038.20—1992 **Higher rank coal—Hardgrove grindability index**
(*In Professional Package 32*) 6pp CC

Sets out the method for determining the grindability index of higher rank coal, using the Hardgrove machine. Calibration using ASCRM-011 is included.

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STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING INDUSTRIAL, SCIENTIFIC AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

- Australian Coal Association
- Australian Institute of Energy
- Australasian Institute of Mining and Metallurgy
- Bureau of Steel Manufacturers of Australia
- Coal Preparation Societies of N.S.W. and Queensland
- Confederation of Australian Industry
- Department of Minerals and Energy, Victoria
- Department of Mineral Resources, N.S.W.
- Department of National Development
- Electricity Supply Association of Australia
- Institution of Engineers, Australia
- Joint Coal Board
- Queensland Coal Board
- Royal Australian Chemical Institute
- Universities

This standard, prepared under the direction of Committee MN/1, Coal and Coke, was approved on behalf of the Council of the Standards Association of Australia on 24 December 1980, and was published on 1 May 1981.

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AUSTRALIAN STANDARD

METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

Part 20 HARDGROVE GRINDABILITY INDEX OF HARD COAL

AS 1038, Part 20 – 1981

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PREFACE

This standard was prepared by the Association's Committee on Coal and Coke under the direction of the Minerals Standards Committee as a revision of AS K164—1967, which it accordingly supersedes. It is based on ISO 5074—Hard Coal—Determination of Hardgrove Grindability Index.

Grindability is a measure of the ease with which coal can be ground fine enough for use as a pulverized fuel, and is dependent upon the physical properties of the coal and the mechanical characteristics of the test machine.

Hardgrove grindability is determined by grinding a coal sample in a laboratory batch machine, and serves as a means of estimating the capacity of commercial pulverizers to grind different coals.

The standard requires reference to the following standards:

AS 1038	Methods for the Analysis and Testing of Coal and Coke Part 16—Reporting of Results
AS 1152	Test Sieves
AS 1676	Methods for the Sampling of Hard Coal

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

PART 20—HARDGROVE GRINDABILITY INDEX OF HARD COAL

1 SCOPE. This standard sets out the method for determining the grindability index of hard coal using the Hardgrove machine. It also prescribes the procedure for calibration of the test machines and the preparation of standard reference coal samples.

2 PRINCIPLE. A prepared sample of coal of limited size range is ground under defined conditions in a laboratory mill of standardized design. The grindability index is derived from a sieve analysis of the ground product and by reference to a calibration chart prepared from standard reference materials.

3 APPARATUS.

3.1 Balance. A balance capable of weighing up to 100 g to an accuracy of 0.01 g.

3.2 Balance. A balance capable of weighing up to 1500 g to an accuracy of 1 g.

3.3 Sample Divider. A sample divider as specified in Appendix A of AS 1676.

3.4 Crusher. A laboratory plate mill capable of reducing 4.75 mm coal particles to 1.18 mm with the production of a minimum of material finer than 600 μm. The plates shall be serrated and about 100 mm in diameter. The distance between the plates shall be adjustable and the relative frequency of rotation of the plates shall not exceed 200 r/min. Roll or impact crushers shall not be used because the former produces platy particles and the latter produces excessive fines.

3.5 Sieves.

3.5.1 *Wire cloth test sieves.* Wire cloth test sieves complying with AS 1152, of aperture sizes 1.18 mm, 600 μm and 75 μm respectively, and having a cover and receiver of diameter about 200 mm.

3.5.2 *Protective sieve.* A protective sieve capable of nesting in the test sieves, with round or square hole apertures in the range 16 mm to 19 mm.