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SUPERSEDED BY

AS 2061-1989

Under revision see DR66058

AS 2061-1977

UDC 620.143:662.66

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# Australian Standard 2061—1977

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PREPARATION OF  
HARD COAL SAMPLES FOR  
MICROSCOPICAL  
EXAMINATION BY  
REFLECTED LIGHT

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STANDARDS ASSOCIATION OF AUSTRALIA



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

Associated Chambers of Manufactures of Australia

Australasian Institute of Mining and Metallurgy

Bureau of Steel Manufacturers of Australia

Department of National Resources

Department of Mines, N.S.W.

Electricity Supply Association of Australia

Institution of Engineers, Australia

Joint Coal Board

Mines Department, Queensland

Mines Department, Victoria

Queensland Coal Board

Royal Australian Chemical Institute

Universities

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This standard, prepared by Committee CH/15, Coal and Coke, was approved on behalf of the Council of the Standards Association of Australia on 14 April 1977, and was published on 1 August 1977.

In order to keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.

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*This standard was issued in draft form for public review as DR 75147.*

**AUSTRALIAN STANDARD**

**CODE OF PRACTICE FOR  
PREPARATION OF  
HARD COAL SAMPLES FOR  
MICROSCOPICAL  
EXAMINATION BY  
REFLECTED LIGHT**  
*[Coal Petrography]*

**AS 2061—1977**

First published .....1977

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

**ISBN 0 7262 1254 7**



53 AUG 1977

## PREFACE

This standard was prepared by the Association's Committee on Coal and Coke, under the direction of the Chemical Standards Board. It is one of a series being prepared to develop Australian standards which are self-contained and apply specifically to the requirements of the Australian coal and coke industries.

This standard requires reference to the following Australian standards:

AS 1676 Methods for the Sampling of Hard Coal

AS 1152 Test Sieves.

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# STANDARDS ASSOCIATION OF AUSTRALIA

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## Australian Standard Code of Practice for PREPARATION OF HARD COAL SAMPLES FOR MICROSCOPICAL EXAMINATION BY REFLECTED LIGHT

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**1 SCOPE.** This code describes a recommended procedure for the preparation of hard coal samples (i.e. coals exceeding a gross specific energy of 27.1 MJ/kg on a dry ash-free basis) for microscopical examination by reflected light.

**2 APPLICATION.** The prepared sample may be used for carrying out maceral and/or microlithotype analysis, and/or reflectance (oil reflectivity) measurement of the vitrinite and other macerals as a measurement of coal rank and for seam correlation, and as a guide to the utilization of hard coals, e.g. in coke-making.

**3 PRINCIPLE OF METHOD.** Representative samples, taken as specified in AS 1676\*, and crushed to a specific grain size, depending upon the type of study being undertaken, are mixed with a binder and formed into grain mounts, which should be cut in a plane in the direction of grain sedimentation. The grain mounts are ground and then polished to a substantially flat scratch-free surface, particularly if reflectance measurements are being made.

Large particles oriented in the direction of grain sedimentation may be mounted and polished using the same technique.

**4 APPARATUS.** The following apparatus is required:

- (a) *Size reduction equipment.* A grinder, pulverizer or mill capable of reducing the particle size of the sample to below 1.0 mm, without the production of excessive fines when maceral analysis is to be determined.
- (b) *Sample divider.* A sample divider of the type specified in AS 1676.
- (c) *Sieve.* A sieve of 1.0 mm aperture complying with the requirements of AS 1152†.
- (d) *Moulds.* Moulds large enough to provide a cross-sectional area of not more than 25 mm × 25 mm through a grain mount to be used for maceral analysis.

NOTE: Larger moulds may be used for other petrographic analyses.

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\*AS 1676, Methods for the Sampling of Hard Coal.

†AS 1152, Test Sieves.