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Australian Standard 2646.6—1984

SAMPLING OF SOLID MINERAL FUELS

Part 6—HARD COAL—PREPARATION OF SAMPLES

STANDARDS ASSOCIATION OF AUSTRALIA
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Australasian Institute of Mining and Metallurgy

Australian Coal Association

Australian Coal Industry Research Laboratories Ltd

Australian Institute of Energy

Bureau of Steel Manufacturers of Australia

Coal Preparation Societies of New South Wales and Queensland

Confederation of Australian Industry

CSIRO, Division of Fossil Fuels

Department of Mineral Resources, N.S.W.

Department of Mines, Qld

Department of National Development

Electricity Supply Association of Australia

Institution of Engineers, Australia

Joint Coal Board

Queensland Coal Board

Royal Australian Chemical Institute

Standing Committee on Coalfield Geology, N.S.W.

State Chemical Laboratory, Vic.

Universities

Representatives of the following interests also participated in the drafting of this standard:

Australian Iron and Steel Pty Ltd, Port Kembla

The Broken Hill Proprietary Co. Ltd, Central Research Laboratories

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Electricity Commission, N.S.W.

Leveltec Engineering

SGS Australia Pty Ltd

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AUSTRALIAN STANDARD

SAMPLING OF SOLID MINERAL FUELS

Part 6
HARD COAL—PREPARATION OF SAMPLES

AS 2646.6—1984

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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 Board as a replacement for part of AS 1676—1975, Methods for the Sampling of Hard Coal. The revision has been undertaken because of changes in the techniques involved with the preparation of samples of coal for physical testing and chemical analysis.

This standard is a further part of a series of standards for the sampling of solid mineral fuels. The other parts of this standard are as follows:

Part 1—Guide to the Use of Parts 2 to 8
Part 2—Hard Coal—Sampling from Moving Streams
Part 3—Coke—Sampling from Moving Streams*
Part 4—Hard Coal—Sampling from Stationary Situations
Part 5—Coke—Sampling from Stationary Situations*
Part 7—Coke—Preparation of Samples*
Part 8—Determination of Precision and Bias

The standard should be read in conjunction with other parts of the standard.

*In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
SAMPLING OF SOLID MINERAL FUELS

PART 6—HARD COAL—PREPARATION OF SAMPLES

1 SCOPE. This standard sets out the methods for the preparation of samples of hard coal collected in accordance with the procedures specified in AS 2646, Parts 2 and 4.

AS 2646, Part 2 deals with the sampling of coal from moving streams, and some on-line sampling installations perform part of the sample preparation. Aspects of on-line sample preparation are covered in that standard.

2 APPLICATION. The object of sample preparation is to produce a sample suitable for analysis or testing which is representative of the original sample. This standard describes methods for the preparation of samples for the following procedures:

(a) The determination of total moisture.

(b) General analysis where a sample prepared to a nominal top size of 212 μm is suitable. The mass of the general analysis sample depends upon the analyses required. A minimum mass of 30 g is recommended. The maximum mass may be in excess of 150 g if tests relevant to caking properties or determination of the ash constituents or ash fusibility are required.

(c) Special tests for which coal prepared to 212 μm nominal top size is not suitable. A knowledge of the testing to be done is necessary so that adequate sample mass may be retained at a suitable nominal top size at an intermediate stage in the sample preparation.
Table 1 lists those tests for coal samples for which the material prepared to 212 μm nominal top size is not suitable.

(d) The air-drying and subdivision of samples, necessary for the preparation of samples for size analysis and float/sink testing.

3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1038 Methods for the Analysis and Testing of Coal and Coke
- Part 1 —Total Moisture in Hard Coal
- Part 12.3*—Determination of Dilatometer Characteristics
- Part 17* —Size Analysis of Hard Coal
- Part 19* —Determination of Abrasion Index of Coal

*In course of preparation.

TABLE 1
MASS AND PARTICLE SIZE REQUIREMENTS FOR SPECIAL TESTS ON COAL

Test	Standard reference	Mass required	Particle size
Float and sink testing	AS 1661	Mass required is determined by nominal top size	No size reduction before test (see Clause 10.3)
Size analysis	AS 1038.17*	Mass required is determined by nominal top size	No size reduction before test (see Clause 10.2)
Abrasion index	AS 1038.19*	10 kg	Passing 6.7 mm (see Clause 10.4)
Hardgrove grindability index	AS 1038.20	1 kg	4.75 mm nominal top size (see Clause 10.5)
Gieseler plastometer test	AS 2137	4 kg	Passing 4.75 mm (see Clause 10.6)
Total moisture Method A Method B	AS 1038.1	300 g	4.0 mm nominal top size†
Total moisture Method C	AS 1038.1	1 kg	11.2 mm nominal top size†
Pilot coke oven tests	AS 2267	Determined by size of pilot coke oven	Refer to testing laboratory
Petrographic analysis	AS 2061	250 g	1.0 mm nominal top size (see Clause 10.8)
Dilatometer	AS 1038.12.3*	1 kg	425 μm top size

*In course of preparation.
†These are not the particle sizes specified in AS 1038, Part 1. However they correspond to sieves in the principal series which are close to 10.0 mm and 3.0 mm respectively. It is envisaged that these particle sizes will be specified when AS 1038, Part 1 is revised.