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AS 4156.8—2007

Australian Standard®

Coal preparation

Part 8: Sample pre-treatment—Drop-shatter

This Australian Standard® was prepared by Committee MN-001, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 2 February 2007.
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The following are represented on Committee MN-001:

- Australasian Institute of Mining and Metallurgy
- Australian Building Codes Board
- Australian Coal Association
- Australian Coal Preparation Society
- Australian Institute of Energy
- Coalfield Geology Council of NSW
- CSIRO Energy Technology
- Department of Mines and Energy (Qld)
- National Generators Forum
- Minerals Council of Australia
- University of Newcastle
- University of New South Wales
- University of Queensland

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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 4156.8—2007
Coal preparation
Part 8: Sample pre-treatment—Drop-shatter

RECONFIRMATION NOTICE

Technical Committee MN-001 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-001, Coal and Coke, as a new Standard in the AS 4156, *Coal preparation*, series.

The objective of this Standard is to provide operators of coal preparation plants and material handling systems with a method for predicting the size distribution of coals by a drop-shatter treatment.

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

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1 SCOPE

This Standard specifies a method for adjusting the size distribution of coal sample to simulate the size distribution after the coal has gone through materials handling system.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
3881 Higher rank coal—Size analysis

3 PRINCIPLE

As coal is processed through materials handling systems from mining to preparation plants, the size distribution will change as a result of breakage of coal particles. The breakage is considered to be random. This method describes a procedure to simulate the breakage and produce sample that has a similar size distribution to coal after it has passed through a materials handling system. In the case of raw coal reporting to a coal preparation plant, the size distribution may simulate the plant feed size distribution, and the resultant sample is able to be treated by the wet-pretreatment method to simulate further breakdown of coal during processing and provide the sample for float and sink testing. This method in conjunction with the wet-pretreatment procedure aims to provide accurate size and washability information for coal preparation process design, and prediction of yields and quality of products made from the raw coal.

The method may also be used to estimate changes in size distribution of product coal caused by handling processes.

4 APPARATUS

4.1 Drop shatter apparatus

A suitable apparatus is shown in Figure 1 and is composed of a steel box (drop shatter box) that is raised off ground level, with a solid base impact plate of 12 mm thick steel. The box is supported by steel legs of sufficient strength to withstand the effects of multiple impacts of 50 kg of coal falling from heights of up to three metres, inside the box.

A second box (sample container) is fitted inside the drop shatter box. This sample container is designed to hold 50 kg of coal sample, and has a drop bottom arrangement that is activated when the sample container is raised to the specified height within the drop-shatter box, dropping the coal sample onto the impact plate.

The sample container is raised with the aid of a pulley system. The base of the container is opened by a trigger device when the container reaches the specified height.

4.2 Balance

Able to weigh at least 60 kg to the nearest 100 g.

