



## **Coal preparation**

### **Part 1.1: Higher rank coal—Float and sink testing**



AS 4156.1.1:2018

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- Coalfield Geology Council of NSW
- CSIRO
- Minerals Council of Australia
- National Association of Testing Authorities Australia
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## Preface

This Standard was prepared by the Standards Australia Committee MN-001, Coal and Coke, to supersede AS 4156.1, *Coal preparation, Part 1: Higher rank coal — Float and sink testing*.

The objective of this Standard is to describe the approach for determining the float and sink characteristics of higher rank coal and provide methods suitable for coarse coal (indicative size range 125 mm to 0.5 mm) and fine coal (indicative size range less than 0.5 mm).

Float and sink testing is the standard laboratory method for determining, with respect to relative density, the washability characteristics of a wide range of coal samples, from bore core to mine production and coal preparation plant products. Data are derived for a number of different purposes and forms the basis on which to —

- (a) establish limits theoretically attainable by density separations, often used as a reference base and an initial assessment of resource potential during exploration of coal deposits;
- (b) predict and compare results of simulated plant operations for various types and combinations of processing equipment, facilitating selection of optimum process arrangement;
- (c) design commercial coal preparation plant (in conjunction with appropriate non-density-based washability data); and
- (d) examine products from operating plant for routine control purposes, or to assess separation performance critically against established criteria.

In commercial practice, coal cleaning is conducted largely by processes that take advantage of a relationship between particle ash percentage and particle relative density. However, coal particles contain mineral matter not ash (ash being the residue remaining after combustion of coal), and the general relationship between ash percentage and particle relative density is therefore only an approximation.

A list of all parts in the AS 4156 series can be found in the Standards Australia online catalogue.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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