

Australian Standard™

Coal preparation

**Part 7: Coal size classifying
equipment—
Performance evaluation**

This Australian Standard was prepared by Committee MN/1, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 29 January 1999 and published on 5 April 1999.

The following interests are represented on Committee MN/1:

Australasian Institute of Mining and Metallurgy
Australian Coal Association
Australian Coal Preparation Society
Australian Institute of Energy
Bureau of Steel Manufacturers of Australia
Coalfield Geology Council of New South Wales
CSIRO, Division of Energy Technology
Department of Mines and Energy, Queensland
Electricity Supply Association of Australia
Institution of Engineers, Australia
Minerals Council of Australia
Royal Australian Chemical Institute
University of Newcastle
University of New South Wales
University of Queensland

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 97290.

Australian Standard™

Coal preparation

**Part 7: Coal size classifying
equipment—
Performance evaluation**

Originated as AS 1634—1974.
Revised and redesignated AS 4156.7—1999.

PREFACE

This Standard was prepared by the Standards Australia Committee MN/1, Coal and Coke to supersede of AS 1634—1974, *Recommended procedures for expression and presentation of results of tests of coal size classifying equipment*.

This Standard is based on, but not equivalent to, ISO 10752:1994, *Coal sizing equipment—Performance evaluation*. It includes an additional Australian Appendix which provides a worked example for sieve bend.

The objective of this Standard is to provide users of coal sizing equipment with a standard expression of performance which is required to define the accuracy of separation of a particular item and to assist in the comparison of the performance of different items of coal sizing equipment and in the prediction of separation results.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
1 SCOPE	4
2 REFERENCED DOCUMENTS	4
3 DEFINITIONS	4
4 PERFORMANCE CRITERIA	5
5 PERFORMANCE PARAMETERS	5
6 PERFORMANCE TEST PROCEDURES	6
7 ANALYTICAL PROCEDURES	7
8 EVALUATION AND PRESENTATION OF PERFORMANCE CHARACTERISTICS	7
9 TABULAR AND GRAPHIC PRESENTATION	10
 APPENDICES	
A CALCULATION OF THE YIELD OF EACH PRODUCT OF A SIZE SEPARATION FROM SIZE ANALYSES OF FEED AND PRODUCT MATERIALS	17
B WORKED EXAMPLE—VIBRATING SCREEN	19
C WORKED EXAMPLE—CYCLONE	26
D WORKED EXAMPLE—DEDUSTER	33
E WORKED EXAMPLE—SIEVE BEND	40

STANDARDS AUSTRALIA

Australian Standard**Coal preparation****Part 7: Coal size classifying equipment—Performance evaluation**

1 SCOPE This Standard sets out the principles and methods for the expression of results of performance tests on sizing equipment used in coal preparation, and includes methods for the evaluation of performance parameters. Performance test procedures and size measurement techniques are recommended.

This Standard applies to all types of sizing equipment, categorized as follows:

- (a) Screens.
- (b) Classifiers.
- (c) Others.

The procedure described in this Standard applies to two-product separations. Performance assessment of multiproduct separations can be achieved by consideration of a series of two-product separations.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- 1038 Coal and coke—Analysis and testing
- 1038.16 Part 16: Acceptance and reporting of results
- 2418 Coal and coke—Glossary of terms
- 3881 Higher rank coal—Size analysis
- 4264 Coal and coke—Sampling (series)

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 2418 and those below apply.

3.1 General

3.1.1 Actual feed (F)—material fed to the sizing equipment during the test period and including any recirculated material.

3.1.2 Reference size—the separation size, designated particle size or control size used to define size analysis of the products of a sizing operation.

3.1.2.1 Coarser material—material that is coarser than the reference size.

3.1.2.2 Finer material—material that is finer than the reference size.

3.1.2.3 Designated size—the particle size at which a feed is to be separated by a sizing operation.

3.1.2.4 Equal errors size—the separation size at which equal portions of the feed material are wrongly placed in each of two products of a size separation.

3.1.3 Product—material discharged from the sizing equipment prior to any further treatment or recirculation.