

Australian Standard[®]

**Heavy mineral sand concentrates—
Sampling**

**Part 2: Sampling from stationary
situations**

This Australian Standard was prepared by Committee MN/4, Heavy Mineral Sands. It was approved on behalf of the Council of Standards Australia on 3 May 1993 and published on 26 July 1993.

The following interests are represented on Committee MN/4:

Chamber of Mines of Western Australia
Chemistry Centre, W.A.
CSIRO

Additional interests participating in preparation of Standard:

CSIRO, Division of Mathematics and Statistics
CSIRO, Division of Minerals and Process Engineering
Mineral sands producer organizations
Superintending companies

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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 91255.

Australian Standard[®]

**Heavy mineral sand concentrates—
Sampling**

**Part 2: Sampling from stationary
situations**

First published as AS 2884.2—1993.

PREFACE

This Standard was prepared by the Standards Australia Committee on Heavy Mineral Sands, under the direction of the Multitechnics Standards Policy Board, as Part 2 of a series of Standards for the sampling of heavy mineral sand concentrates. The other parts of this series are as follows:

Part 1: Sampling from moving streams

Part 3: Preparation of samples

Part 4: Determination of precision and bias

CONTENTS

	<i>Page</i>
1 SCOPE	3
2 REFERENCED DOCUMENTS	3
3 DEFINITIONS	3
4 PRINCIPLES OF SAMPLING	4
5 ESTABLISHING A SAMPLING SCHEME	9
6 MASS OF INCREMENT	10
7 NUMBER OF INCREMENTS AND SAMPLING UNITS	11
8 MASS OF GROSS SAMPLES AND PARTIAL SAMPLES	13
9 SAMPLING LARGE QUANTITIES OF CONCENTRATE	14
10 SAMPLING CONCENTRATES IN PACKED FORM	16
11 STOPPED-BELT SAMPLING	17
12 PACKING AND MARKING OF SAMPLE	18
APPENDIX A SAMPLING IMPLEMENTS	19

© 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.

STANDARDS AUSTRALIA

Australian Standard

Heavy mineral sand concentrates—Sampling

Part 2: Sampling from stationary situations

1 SCOPE This Standard sets out methods for the sampling of heavy mineral sands from stationary situations to provide samples for chemical analysis, physical testing and determination of moisture. Stopped-belt sampling is specifically included.

The methods of sampling outlined in this Standard should be considered only where the preferred method of sampling from a moving stream is not possible.

The preparation of samples taken by methods outlined in this Standard is covered in AS 2884.3.

Clauses 4 to 8 provide general sampling theory that may not be relevant to sampling from stationary situations.

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

AS

1152 Test sieves

2884 Heavy mineral sand concentrates—Sampling

2884.3 Part 3: Preparation of samples

3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

3.1 Bias—the tendency to obtain a value that is either persistently higher or persistently lower than the reference value. In practice, it is the difference between the reference value and the average result obtained from a large number of determinations using a biased method.

3.2 Coefficient of variation—the ratio of the standard deviation to the mean value, expressed as a percentage.

3.3 Constant-mass division—the method of sample division in which the retained portion is of uniform mass.

3.4 Divided increment—the quantity of concentrate obtained by division of the increment to decrease its mass.

3.5 Division—the process of decreasing the sample mass (without modification of the particle size of the constituent pieces) whereby one or more representative parts of the sample are retained.

3.6 Duplicate sampling—a particular case of replicate sampling (involving only two replicate samples), for the purpose of estimating the average precision of sampling from a number of lots or sampling units.

3.7 Fixed-rate division—the method of sample division in which the retained portion from individual increments is a constant proportion of the original mass.