

Australian Standard<sup>®</sup>

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**Heavy mineral sand concentrates—  
Sampling**

**Part 2: Sampling from stationary  
situations**

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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.

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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

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## 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

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## 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 increase 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.