

Australian Standard[®]

**HEAVY MINERAL SAND
CONCENTRATES—
SAMPLING**

**Part 3—PREPARATION OF
SAMPLES**

This Australian standard was prepared by Committee MN/4, Heavy Mineral Sands. It was approved on behalf of the Council of the Standards Association of Australia on 9 April 1986 and published on 7 July 1986.

The following interests are represented on Committee MN/4:

Australian Foundry Institute
Chamber of Mines of W.A. (Incorporated)
CSIRO, Division of Mineral Chemistry
CSIRO, Division of Mineralogy
N.S.W. Chamber of Mines and Extractive Industries
Oil and Colour Chemists Association Australia

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This standard was issued in draft form for comment as Dr 84170.

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First published 1986

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 4218 7

PREFACE

This standard was prepared by the Association's Committee on Heavy Mineral Sands under the direction of the Minerals Standards Board as one of a series of standards for the sampling of heavy mineral sand concentrates. The other standards in this series are as follows:

AS 2884.1— Sampling from Moving Streams

AS 2884.2— Sampling from Stationary Situations

AS 2884.4— Determination of Precision and Bias.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

HEAVY MINERAL SAND CONCENTRATES—SAMPLING

PART 3—PREPARATION OF SAMPLES

1 SCOPE. This standard sets out the methods for the preparation of representative samples of heavy mineral sand concentrates collected in accordance with the procedures specified in AS 2884.1 and AS 2884.2.

AS 2884.1 deals with the sampling of concentrates from moving streams, and some sampling systems perform part of the sample preparation on-line. Aspects of on-line sample preparation are therefore covered in AS 2884.1.

NOTE: Samples containing more than about 1 percent moisture are unlikely to be free flowing and sample division should be carried out by the increment division method (see Clause 5.3.3).

2 APPLICATION. The object of sample preparation is to produce a small sample representative of the original sample. This standard describes methods for the preparation of samples for the following procedures:

- (a) Determination of moisture.
- (b) Chemical analysis where a sample prepared to a nominal top size of 75 μm is suitable. The mass of the chemical analysis sample depends upon the analysis required. A minimum mass of 10 g is recommended.
- (c) Physical testing.

Table 1 lists the mass and nominal top size requirements for tests carried out on heavy mineral sand concentrates.

3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1152	Test Sieves
AS 2489	Methods for the Analysis of Zircon Sand Concentrates
AS 2715	Heavy Mineral Sand Concentrates—Determination of pH Value
AS 2716	Heavy Mineral Sand Concentrates—Determination of Light Minerals—Heavy Liquid Separation Method
AS 2757	Heavy Mineral Sand Concentrates—Determination of the American Foundrymen's Society Grain Fineness Number (AFS Number)
AS 2884.1	Heavy Mineral Sand Concentrates—Sampling Part 1— Sampling from Moving Streams
AS 2884.2	Heavy Mineral Sand Concentrates—Sampling Part 2— Sampling from Stationary Situations
AS 2884.4	Heavy Mineral Sand Concentrates—Sampling Part 4— Determination of Precision and Bias
AS YYYY	Heavy Mineral Sand Concentrates—Determination of Moisture in the Shipment Sample—Gravimetric Method
AS ZZZZ	Methods for the Analysis of Rutile and Ilmenite.

TABLE 1
MASS AND NOMINAL TOP SIZE REQUIREMENTS

Test	Standard reference	Mass required per test (g)	Nominal top size
AFS number	AS 2757	2 \times 100	No size reduction before test
Acid demand value	AS 2489.11	2 \times 100	No size reduction before test
Light minerals	AS 2716	2 \times 35	No size reduction before test
pH value	AS 2715	2 \times 50	No size reduction before test
Moisture in shipment	AS YYYY*	3 \times 80	No size reduction before test
Chemical analysis	AS ZZZZ* AS 2489	Variable	75 μm

* In course of preparation