

Australian Standard™

Alumina

**Part 2: Determination of particles
passing a 20 µm aperture sieve**

This Australian Standard was prepared by Committee. MN-009, Alumina and Materials used in Aluminium Production. It was approved on behalf of the Council of Standards Australia on 11 November 2003 and published on 29 December 2003.

The following are represented on Committee MN-009:

Australasian Institute of Mining and Metallurgy

Australian Aluminium Council

Minerals Council of Australia

The Royal Australian Chemical Institute

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Originated as AS 2879.2—1991.
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PREFACE

This Standard was prepared by the Standards Australia Committee MN-009, Alumina and Materials used in Aluminium Production, as one of a series of Standards for the testing of alumina. This Standard supersedes AS 2879.2—1991.

The objective of this Standard is to provide a standardized method for determining the quantity of particles in a sample of alumina that passes through a 20 μm sieve.

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.

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STANDARDS AUSTRALIA**Australian Standard
Alumina****Part 2: Determination of particles passing a 20 µm aperture sieve****1 SCOPE**

This Standard sets out a wet-sieving procedure for the determination of the percentage by mass of particles of smelter-grade alumina passing a 20 µm aperture sieve.

This procedure is applicable for aluminas with a $-20\ \mu\text{m}$ content up to 4%.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

2243 Safety in laboratories (series)

2850 Chemical analysis—Interlaboratory test programs—For determining precision of analytical method(s)—Guide to the planning and conduct

2879 Alumina

2879.1 Part 1: Determination of loss of mass at 300°C and 1000°C

4538 Guide to the sampling of alumina

4538.2 Part 2: Preparation of samples

ISO

3310 Test sieves—Technical requirements and testing

3310-3 Part 3: Test sieves of electroformed sheets

3 PRINCIPLE

A test sample of alumina is sieved on a 20 µm electroformed sieve, using acetone, and the retained material is determined gravimetrically after drying at 300°C.

4 SAFETY

For information on laboratory safety, reference should be made to the relevant parts of AS 2243.

Chemicals used may be hazardous or toxic and reference should be made to the appropriate Material Safety Data Sheets.

CAUTION: ACETONE PRESENTS A FLAMMABILITY RISK AND SHOULD BE USED IN A SUITABLE EXTRACTION HOOD.

5 REAGENTS**5.1 A.R. grade acetone****5.2 Desiccant**

Phosphorous pentoxide, activated alumina and molecular sieves have been found to be suitable. Silica gel is not a suitable desiccant.