

Methods of test for

Aluminium oxide —

Part 22: Determination of manganese content

[ISO title: Aluminium oxide primarily used for the production of aluminium — Determination of manganese content — Flame atomic absorption method]

NOTE It is recommended that this Part be read in conjunction with the general information given in BS 4140-0 “*General introduction*” which is issued separately and is free on request.

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Contents

	Page
National foreword	ii
1 Scope and field of application	1
2 References	1
3 Principle	1
4 Reagents	1
5 Apparatus	2
6 Procedure	2
7 Expression of results	3
8 Test report	3
Annex A Prior extraction of manganese	4
Annex B ISO publications relating to aluminium oxide primarily used for the production of aluminium	5
Publications referred to	Inside back cover

National foreword

This Part of BS 4140 is identical with ISO 3390, “*Aluminium oxide primarily used for the production of aluminium — Determination of manganese content — Flame atomic absorption method*” published by the International Organization for Standardization (ISO).

Terminology and conventions. The text of the International Standard has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

The comma has been used throughout as a decimal marker. In British Standards, it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

Cross-references. There are no British Standards identical with ISO 802:1976 and ISO 2073:1976 referred to in the text. However, a related British Standard for both ISO 802 and ISO 2073 is BS 4140:1967 “*Methods of test for aluminium oxide*”. The relevant clauses in that standard for the specific clauses referred to in the ISO text are as follows.

ISO 802	BS 4140:1967	Content
3.3	2.3	Preparation and storage of laboratory samples
ISO 2073	BS 4140: Addendum No. 2 (1974)	
Clause 5	13.4	Preparation of sample solution by means of attack with hydrochloric acid under pressure

NOTE Both of the above British Standard methods are to be revised and it is expected that they will be published as separate Parts of BS 4140, identical with ISO 802 and ISO 2073 respectively. The other International Standards listed in Annex B are for information only. Their correspondence with British Standards is summarized in BS 4140-0 “*General information*”.

Additional information

Clause 7. It should be stressed that m_1 and m_2 correspond to the masses of manganese in 1 litre of the test solution and of the blank test solution respectively.

Hydrochloric acid, ρ approximately 1.18 g/ml, about 36 % (m/m) solution, which is the corresponding reagent normally obtainable in the United Kingdom, is suitable for use in place of the approximately 1.19 g/ml solution specified in 4.1.

Nitric acid, ρ approximately 1.42 g/ml, about 70 % (m/m) solution, which is the corresponding reagent normally obtainable in the United Kingdom, is suitable for use in place of the approximately 1.40 g/ml solution specified in 4.2.

Annex A

Chloroform. WARNING. Chloroform, specified in A.2.1, is toxic. Avoid breathing the vapour and avoid contact with eyes.

- a) Because of the toxicity of the chloroform (A.2.1) and of the potassium cyanide (A.2.4), carry out the procedure specified in Annex A in an efficient fume cupboard.
- b) In the event of adding hydrochloric acid solution to the test solution (see A.4, paragraph 2), ensure that this step is carried out slowly, with stirring, so as to avoid local concentrations of acid and possible generation of hydrogen cyanide.

This standard prescribes methods of test only, and should not be used or quoted as a specification defining limits of purity. Reference to the standard should indicate that the methods of test used comply with the requirements of BS 4140.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.