BS ISO 10775:2013

BSI Standards Publication

Paper, board and pulps — Determination of cadmium content — Atomic absorption spectrometric method

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National foreword

This British Standard is the UK implementation of ISO 10775:2013. It supersedes BS ISO 10775:1995 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PAI/11, Methods of test for paper, board and pulps.

A list of organizations represented on this committee can be obtained on request to its secretary.

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INTERNATIONAL STANDARD

ISO 10775

Second edition
2013-08-01

Paper, board and pulps — Determination of cadmium content — Atomic absorption spectrometric method

Papier, carton et pâtes — Détermination de la teneur en cadmium — Méthode par spectrométrie d'absorption atomique

Reference number
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Foreword

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 6, *Paper, board and pulps*.

This second edition cancels and replaces the first edition (ISO 10775:1995), of which it constitutes a minor revision.

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INTERNATIONAL STANDARD ISO 10775:2013(E)

Paper, board and pulps — Determination of cadmium content — Atomic absorption spectrometric method

1 Scope

This International Standard specifies a method for the determination of traces of cadmium in all types of paper, board and pulp, including products containing recycled fibre, that can be wet-combusted in nitric acid as specified in this International Standard.

The lower limit of the determination depends on the equipment used and is normally about 10 µg/kg. Cadmium present in pigments and fillers that do not dissolve in nitric acid under the conditions of this test may not be determined quantitatively.

NOTE It has been claimed that the dissolution of cadmium from pigments other than calcium carbonate is incomplete by a few percent.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 186, *Paper and board — Sampling to determine average quality*

ISO 287, *Paper and board — Determination of moisture content of a lot — Oven-drying method*

ISO 638, *Paper, board and pulps — Determination of dry matter content — Oven-drying method*

ISO 7213, *Pulps — Sampling for testing*

3 Principle

The sample is treated with nitric acid in a closed vessel. The resulting solution is diluted and cadmium content determined by atomic absorption spectrometry using the graphite furnace technique.

Wet combustion may be done either in an autoclave or microwave oven.

4 Reagents

All reagents shall be of the highest possible purity. The quality normally designated “pro analysi” or “analytical reagent (AR)” is often not sufficiently pure. Use only freshly distilled and deionized water or water of equivalent purity.

NOTE Commercially available solutions may also be used.

4.1 Concentrated nitric acid, $c(HNO_3)$ = 15 mol/l

Use a quality specially made for use in the determination of trace metals.

4.2 Dilute nitric acid, $c(HNO_3)$ = 0,15 mol/l

Dilute with water 10 ml of concentrated nitric acid (4.1) to one litre.

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