

BS ISO 8784-1:2014



BSI Standards Publication

# Pulp, paper and board — Microbiological examination

Part 1: Enumeration of bacteria and  
bacterial spores based on disintegration

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**National foreword**

This British Standard is the UK implementation of ISO 8784-1:2014. It supersedes BS ISO 8784-1:2005 which is withdrawn.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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Pulp, paper and board —  
Microbiological examination —**

Part 1:  
**Enumeration of bacteria and bacterial  
spores based on disintegration**

*Pâtes, papiers et cartons — Analyse microbienne —*

*Partie 1: Dénombrement des bactéries et des spores bactériennes basé  
sur la désintégration*



Reference number  
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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This third edition cancels and replaces the second edition (ISO 8784-1:2005), which has been technically revised.

The second edition was applicable to yeast and mould, as well as bacteria. The following main changes have been made with respect to the previous edition:

- This third edition is only applicable to bacteria and bacterial spores, and no longer applicable to yeast and mould;
- incubation temperature changed from (37 °C ± 1 °C) to (32 °C ± 2 °C) ([9.4](#));
- 2 parallel determinations are to be made ([Clause 8](#) and [Clause 9](#));
- the result can be reported “as received” in addition to reporting on a dry-mass basis ([8.2](#), [11.1](#), and [Clause 12](#)).

ISO 8784 consists of the following parts, under the general title *Pulp, paper and board — Microbiological examination*:

- *Part 1: Enumeration of bacteria and bacterial spores based on disintegration*

## Introduction

This part of ISO 8784, which deals with the microbiological examination of dry market pulp, paper, and paperboard, is broadly based on ISO 4833[1] although the conditions are not identical. However, it provides specific amplification where necessary. It is intended for the estimation of colony-forming units, CFU, aerobic bacteria, and bacterial spores.

Because of the exacting techniques required in aseptic procedures, reproducible good quality results can only be ensured by skilled microbiological technicians.





# Pulp, paper and board — Microbiological examination —

## Part 1:

# Enumeration of bacteria and bacterial spores based on disintegration

## 1 Scope

This part of ISO 8784 specifies a method for determining the total number of colony-forming units of bacteria and bacterial spores in dry market pulp, paper, and paperboard after disintegration. The enumeration relates to specific media.

## 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 186:2002, *Paper and board — Sampling to determine average quality*

ISO 7213:1981, *Pulps — Sampling for testing*

ISO 638:2008, *Paper, board and pulps — Determination of dry matter content — Oven-drying method*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **bacteria**

microscopic, single-celled organisms that possess a prokaryotic type of cell structure, which reproduce by fission and are able to grow under the test conditions specified in this part of ISO 8784

### 3.2

#### **bacterial spores**

highly resistant, dormant structures

EXAMPLE Endospores from certain genera of bacteria.

### 3.3

#### **total bacterial count**

number of colony-forming units (CFU) of bacteria and bacterial spores formed after incubation in a standard culture medium, under the test conditions specified in this part of ISO 8784

### 3.4

#### **spore count**

number of colony-forming units (CFU) of bacterial spores formed after incubation in a standard culture medium, under the test conditions specified in this part of ISO 8784