BS ISO 23714:2014

BSI Standards Publication

Pulps — Determination of water retention value (WRV)

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National foreword

This British Standard is the UK implementation of ISO 23714:2014. It supersedes BS ISO 23714:2007 which is withdrawn.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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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.

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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*.

This second edition cancels and replaces the first edition (ISO 23714:2007) which has been revised to add a new precision statement that complies with the requirements of ISO/TR 24498.

Introduction

The water retention value (WRV) is an empirical measure of the capacity of a test pad of fibres to hold water. The WRV increases with increasing beating because of internal fibrillation, a widening of the small internal pores, and delaminations, which has been called "swelling" and which occurs concurrently with the development of external fibrils, which also serve to hold additional water.

This test can be useful for the pulp producer as a guide to the influence of the pulping process on the fibre produced and the papermaking potential of the pulp. It is also useful for the papermaker as a measure of the efficiency of pulping and refining.

Pulps — Determination of water retention value (WRV)

1 Scope

This International Standard specifies a procedure for the determination of the water retention value (WRV) of all kinds of pulp.

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 5263-1, *Pulps — Laboratory wet disintegration — Part 1: Disintegration of chemical pulps*

ISO 5263-2, *Pulps — Laboratory wet disintegration — Part 2: Disintegration of mechanical pulps at 20 °C*

ISO 5263-3, *Pulps — Laboratory wet disintegration — Part 3: Disintegration of mechanical pulps at > 85 °C*

ISO 7213, *Pulps — Sampling for testing*

ISO 14487, *Pulps — Standard water for physical testing*

3 Terms and definitions

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

3.1
water retention value
ratio of the mass of water retained after centrifugation under specified conditions by a wet pulp sample to the oven-dry mass of the same pulp sample

4 Principle

A test pad consisting of pulp fibres is formed by dewatering a pulp suspension on a glass-fibre filter. The test pad is centrifuged under a specified centrifugal force for a specified time, weighed, dried, and weighed again. The WRV is calculated from the wet mass of the centrifuged test pad and the dry mass of the test pad.

NOTE The results obtained from a rewetted pulp will not be the same as those from a corresponding never-dried pulp.

5 Reagents

5.1 Standard water, as specified in ISO 14487.

If any other type of water is used, this shall be reported.