TC 6

INTERNATIONAL STANDARD 4119

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Pulps — Determination of stock concentration (Rapid method)

Pâtes — Détermination de la concentration en pâte (Méthode rapide)

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FOREWORD

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4119 was developed by Technical Committee ISO/TC 6, *Paper, board and pulps*, and was circulated to the member bodies in October 1977.

It has been approved by the member bodies of the following countries :

Australia	India	Poland
Austria	Iran	Romania
Belgium	Israel	South Africa, Rep. of
Canada	Italy	Spain
Czechoslovakia	Kenya	Sweden
Egypt, Arab Rep. of	Korea, Rep. of	Switzerland
Finland	Mexico	Turkey
France	Netherlands	United Kingdom
Germany, F.R.	New Zealand	U.S.A.
Hungary	Norway	U.S.S.R.

The member body of the following country expressed disapproval of the document on technical grounds :

Chile

Printed in Switzerland

Pulps — Determination of stock concentration (Rapid method)

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a rapid method for the determination of the stock concentration of aqueous pulp suspensions.

In principle, this method is applicable to all kinds of aqueous pulp suspensions.

NOTE — Experiments have shown that the drying and weighing technique described in this method results in stock concentrations approximately 0,4 % lower than those obtained by the technique described in ISO 638, *Pulps — Determination of dry matter content.*

2 DEFINITIONS

For the purpose of this International Standard, the following definitions apply.

2.1 stock : An aqueous suspension of one or more pulps, which may contain fillers and additives.

2.2 stock concentration : The ratio of the oven-dry mass of the material that can be filtered from a stock sample, to the mass of the unfiltered sample. The stock concentration is expressed as a percentage by mass.

3 APPARATUS

Ordinary laboratory apparatus, including :

3.1 Measuring cylinders, so graduated that the volume can be measured with an error of less than 0,5 %.

3.2 Balance(s), capable of weighing a mass of 100 to 500 g with an error of less than 0,1 g.

3.3 Filtering device, such as a Buchner funnel, of diameter 90 to 150 mm, a large suction flask, and circular filter paper to fit the funnel; the paper shall be such that all visible fibre will be retained for each stock.

3.4 Suitable means for drying the sample at a temperature between 105 and 150 °C, for example drying oven or hot-plate.

3.5 Balance, capable of weighing the dried mat of fibres with an error of less than 0,01 g.

4 PREPARATION OF SAMPLE

4.1 General

Mix the stock thoroughly, and stir it while the sample is being taken. Samples shall be removed with a suitable vessel by a quick scooping action, to minimize the separation of fibre from the water. The entire sample may be obtained in one dipping action, or several smaller samples may be combined, but all of the stock removed shall be included in the sample to be weighed. Incorrect sampling techniques can introduce significant errors at higher consistencies.

4.2 Stock concentration less than 0,3 % (*m/m*)

Take a sample of at least 500 ml, and sufficient to ensure an oven-dry mass of approximately 1 to 5 g. Pour this into a measuring cylinder (3.1), and determine the volume with an error of less than 0,5 %.

NOTE — The density of all suspensions of a stock concentration less than 0,3 % (*m/m*) shall be considered as 1 g/ml.

4.3 Stock concentration between 0,3 and 1 % (*m/m*)

Take a sample of approximately 500 g, pour it into a tared container and determine the net mass with an error of less than 0,5 g, using the balance(s) (3.2).

4.4 Stock concentration more than 1 % (*m/m*)

Take a sample of approximately 100 g, pour it into a tared container and determine the net mass with an error of less than 0,1 g, using the balance (3.2).

5 PROCEDURE

Dry a filter paper (see 3.3) in a drying oven or on a hot-plate (see 3.4) at a temperature between 105 and 150 °C, to constant mass. Weigh it immediately. Carry out all weighings to the nearest 0,01 g. The filter paper is considered as having reached constant mass when two consecutive weighings do not differ by more than 0,01 g. In all cases the drying period between two consecutive weighings shall be at least one-fourth of the total drying time previously applied. To minimize the influence of buoyancy caused by hot air, weigh the filter paper in a vertical position, for example suspended from a spring clip.