TC 6

INTERNATIONAL STANDARD

ISO 5350-2

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Pulps — Estimation of dirt and shives —

Part 2:
Bleached pulp

Pâtes — Estimation des impuretés et bûchettes —

Partie 2: Pâtes blanchies

Reference number
ISO 5350-2:1990(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 5350-2 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

ISO 5350 consists of the following parts, under the general title *Pulps — Estimation of dirt and shives*:

— *Part 1: Unbleached chemical pulps*

— *Part 2: Bleached pulp*

Annex A forms an integral part of this part of ISO 5350.

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Pulps — Estimation of dirt and shives —

Part 2:
Bleached pulp

1 Scope

This part of ISO 5350 specifies a method for the estimation of the visible dirt and shives in bleached pulp. It does not apply to flash-dried pulp, mechanical pulp or unbleached pulp. Nor is it applicable to sheets of grammage exceeding 1 400 g/m^2.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5350. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5350 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5350-1:1982, *Pulps — Estimation of dirt and shives — Part 1: Unbleached chemical pulps.*

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

3 Definitions

For the purposes of this part of ISO 5350, the following definitions apply.

3.1 shive: Sliver of wood, or fibre bundle which appears to be almost opaque, or which has a colour in contrast with the rest of the sheet.

3.2 dirt: Any other material including bark which is embedded in the sheet, and which has a markedly contrasting opacity or colour with respect to the rest of the sheet.

4 Principle

The test pieces to be investigated are inspected in transmitted light, and specks (dirt and shives) larger than 0,04 mm^2 are counted in groups classified according to area. The number of specks in each group is expressed as number per kilogram of oven-dry pulp.

5 Apparatus

Ordinary laboratory apparatus, and

5.1 Viewing table, with an illuminated area which will be completely covered by the test piece (the sample sheet on which areas of inspection are marked — see 6.2). The illumination device should be suitable for inspecting the test pieces in transmitted artificial daylight provided, for example, by several daylight fluorescent tubes, each about 20 W, under an opalescent acrylic plate. The light should be even and the density as measured on the upper surface of the plate should be 2 000 cd/m^2 to 3 000 cd/m^2.

NOTE 1 The area of the test piece to be inspected should be marked or can be defined by suitable templates of known areas.

5.2 Standard comparison chart, with a series of spots of different shapes and areas on a transparent film included in this International Standard (see annex A).

Do not use the illustration in annex A (or any copy thereof) because reproduction may change the size of the specks.

6 Preparation of sample

6.1 Sampling

The sample to be used shall be taken in accordance with ISO 7213. The total area of pulp sheet samples for the test shall be at least 1 m^2.

6.2 Selection of areas for inspection

Mark a number of areas of known size, evenly distributed over the different parts of the sample, so that the total area to be inspected is at least 0,5 m^2.

6.3 Determination of dry matter content of the pulp

Cut a piece of known area, for example 0,04 m^2, for the determination of dry matter per area. Tear it into pieces, dry it in an oven at 105 °C ± 2 °C for at least 1 h and weigh it.

7 Procedure

Examine the pulp from both sides of the sheet. Count the specks and classify them according to their area as indicated in table 1, using the transparent film comparison chart (5.2). Circle each speck when counted from one side to ensure that it is not counted again from the other side. Combine the counts from both sides to give the count for the whole area. Disregard specks smaller than 0,04 mm^2.

NOTE 2 The dirt and shives may be counted separately if required.

Table 1 — Classification of specks

Group	Area mm^2
1	⩾ 5,00
2	1,00 to 4,99
3	0,40 to 0,99
4	0,15 to 0,39
5[1)]	0,04 to 0,14

1) Specks belonging to group 5 are counted only if required.

8 Expression of results

Calculate the number of specks for every group separately using the equations

$$X = \frac{a}{m_1}$$

and

$$m_1 = \frac{m_2 \cdot A_1}{A_2}$$

or

$$X = \frac{a \cdot A_2}{m_2 \cdot A_1}$$

where

X is the dirt and shives content in the group concerned, expressed in number per kilogram of oven-dry pulp;

a is the observed number of dirt and shives in each group;

m_1 is the dry mass, in kilograms, of the pulp from which the dirt and shives have been counted;

m_2 is the mass, in kilograms, of the sample cut for the determination of dry matter content (6.3), after drying;

A_1 is the examined pulp area, in square metres;

A_2 is the area, in square metres, of the sample cut for the determination of dry matter content (6.3).

Report the total number of dirt and shives as well as the number in the different groups in accordance with clause 7 and to the nearest 1 unit.

9 Test report

The test report shall give the following particulars:

a) all the information necessary for complete identification of the sample;
b) reference to this part of ISO 5350;
c) the results, total as well as separately for each group, expressed in number of specks per kilogram of pulp;
d) the grammage of the pulp sheet;
e) any particular points observed in the course of the test;
f) any departure from this part of ISO 5350, or any circumstances or influences regarded as optional that may have affected the results.

Annex A
(normative)

Dirt comparison chart (5.2)

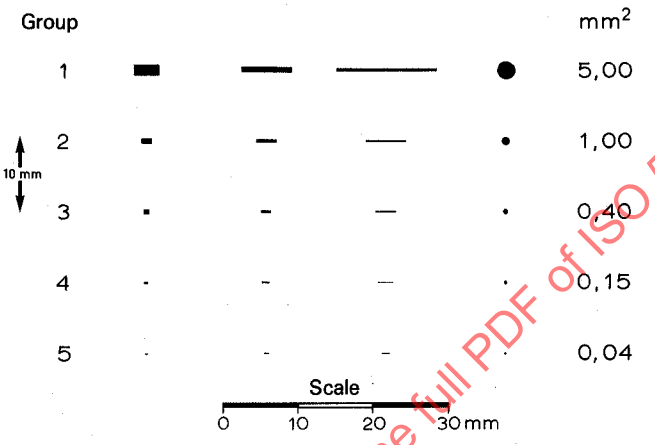

Figure A.1