
International Standard



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Pulps — Sampling for testing

Pâtes — Échantillonnage pour essais

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Descriptors : paper pulps, sampling.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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 7213 was developed by Technical Committee ISO/TC 6, *Paper, board and pulps*, and was circulated to the member bodies in November 1980.

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

ISO 7213:1981

Australia	Finland	New Zealand
Austria	France	Norway
Belgium	Germany, F. R.	Poland
Brazil	Hungary	Romania
Bulgaria	India	South Africa, Rep. of
Canada	Iraq	Sweden
Chile	Italy	Switzerland
China	Kenya	Turkey
Czechoslovakia	Korea, Rep. of	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA

No member body expressed disapproval of the document..

Pulps — Sampling for testing

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1 Scope and field of application

This International Standard specifies a method of obtaining, for test purposes, a gross sample representative of a certain lot of pulp. This International Standard applies to all kinds of pulp delivered in bales or rolls. It is recommended for use when sampling for all kinds of testing purposes except for the determination of saleable mass, in which case other International Standards should be applied, such as ISO 801/1 or ISO 801/2.

If, however, the pulp is to be tested for saleable mass in addition to other properties, the gross sample obtained according to the appropriate International Standard for sampling saleable mass may also be used for the other pulp property tests.

2 References

ISO 801, *Pulps — Determination of saleable mass, in lots —*

Part 1 : Pulp baled in sheet form.

Part 2 : Pulps (such as flash-dried pulp) baled in slabs.

3 Definitions

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

3.1 lot : A quantity of pulp of a single kind or grade, about which it is desired to make a judgement (usually to conform to agreed quality criteria).

The number of bales or rolls comprising a lot may be indicated by the invoice or agreed upon by the contracting parties.

3.2 sample bale (or roll) : A bale or roll that is selected for taking a specimen.

3.3 specimen : A quantity of pulp taken from a sample bale or roll.

3.4 gross sample : The combined specimens taken from a particular lot.

4 Principle

Specimens of equal size are taken from a number of bales or rolls selected at random from the lot, and combined to form a gross sample.

NOTE — The minimum number of bales to be sampled depends on the size of the lot.

5 Sample bales (or rolls)

All the sample bales or rolls shall be selected at random to be representative of the lot. The sample bales shall be intact and as little damaged as possible.

To obtain a truly representative sample, the whole lot should be available for sampling. The minimum number of sample bales or rolls to be taken, n , is given in the table below. Where a whole lot is not available, the number of bales selected for sampling should be agreed upon between the interested parties. In the absence of any other agreement, the quantity of pulp available at the time of sampling shall be not less than half of the complete lot.

If the bales or rolls have identification numbers relating to several series, the sample bales or rolls shall be selected at random in proportion to the number of bales or rolls in each of these series, using the principle given in the following table.

NOTE — The identification marks and numbers should be reported for future reference, if necessary.

Table — Number of sample bales (or rolls) to be taken

Total number of bales (or rolls) in the lot N	Minimum number of sample bales (or rolls) n
Up to 100	10
101 to 200	15
201 to 300	18
301 to 400	20
401 to 500	23
501 to 600	25
601 to 700	27
701 to 800	29
801 to 900	30
901 to 1 000	32
over 1 000	32

NOTE — The table is based on the principle that n should not be less than the square root of N . However, this International Standard does not require more than 32 bales (or rolls) to be sampled irrespective of the size of the lot.

To avoid opening bales, one of the following alternative methods may be used :

- The disc sampling procedure specified in ISO 801/2. Each specimen then consists of an equal number of test discs.
- Cut a rectangular area into the bale between the baling wires to a sufficient depth to obtain the appropriate size of specimen allowing for discarding the three outer sheets and for tearing off the cut edges.

6.2 Pulps (such as flash-dried pulps baled in slabs)

The specimen may consist of test discs cut, for example, as specified in ISO 801/2 or by pieces of pulp, broken out from the inside of a corner of a slab. The outer, exposed, portions of this material shall not be included.

6.3 Pulps in rolls

Remove the three outer layers from the roll and cut or tear a specimen of appropriate size, but excluding the edges of the roll.

6.4 Pulp bales combined in units

If a lot is delivered in combined units, consisting of a number of individual bales, the appropriate number of sample bales may be selected from the top and bottom bales in the units, to allow sampling by one of the alternative methods specified in 6.1, without the need to dismantle units.

6 Procedure

From each sample bale or roll take one specimen. Record the identification numbers of all the bales or rolls sampled. All the specimens should contain about the same amount of dry fibre. This amount depends on which tests are to be performed. Normally 100 g per specimen is sufficient.

Combine the specimens to form the gross sample. Wrap it, to protect it from contamination. Keep it away from sunlight, heat and moisture.

Obtain the specimens as suggested in 6.1, 6.2, 6.3 or 6.4 as appropriate. If the pulp is to be tested for trace metals, do not use metallic tools and discard any cut edges of pulp where metallic contamination may have occurred.

6.1 Pulps baled in sheet form

Open the sample bales, and randomly select one sheet from each bale. Do not select from the five top or bottom sheets, and avoid taking material which is within 7 to 8 cm of the edge of the sheet. From each sheet selected, tear a specimen of appropriate size, and discard the rest.

7 Sampling report

If a sample report is prepared it shall include the following particulars :

- all the information necessary for complete identification of the lot;
- reference to this International Standard;
- the date and place of sampling;
- the total quantity of the lot, number of bales if possible;
- the amount of pulp available for sampling;
- the number and identification (if it exists) of sample bales (or rolls);
- any unusual feature observed in the course of the sampling;
- any operations not specified in this International Standard, or regarded as optional, which might have affected the sampling.