SLOVENSKI STANDARD
SIST EN ISO 5080:1999

01-november-1999

Poljedelske povezne vrvice iz sisala (ISO 5080:1994)

Sisal agricultural twines (ISO 5080:1994)

Sisal-Erntegarne (ISO 5080:1994)

Ficelles agricoles en sisal (ISO 5080:1994)

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Sisal agricultural twines (ISO 5080:1994)

Ficelles agricoles en sisal (ISO 5080:1994)

Sisal-Erntegarne (ISO 5080:1994)

This European Standard was approved by CEN on 18 April 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

The text of the International Standard from Technical Committee ISO/TC 38 "Textiles" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

This European Standard replaces EN 25080:1994.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2000, and conflicting national standards shall be withdrawn at the latest by January 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 5080:1994 has been approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 5080

Second edition
1994-11-15

Sisal agricultural twines

Ficelles agricoles en sisal

Reference number
ISO 5080:1994(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 5080 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 5080:1977), clause 10 of which has been technically revised.

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Sisal agricultural twines

1 Scope

This International Standard establishes the principal properties of sisal agricultural twines, prescribes methods of test permitting their verification and specifies the form of commercial presentation for the twines.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 2:1973, *Textiles — Designation of the direction of twist in yarns and related products.*

ISO 1968:1973, *Ropes and cordage — Vocabulary.*

ISO 3534-1:1993, *Statistics — Vocabulary and symbols — Part 1: Probability and general statistical terms.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1968 and ISO 3534-1 and the following definitions apply.

3.1 agricultural twine: Monofilament twine intended for use in agriculture, notably for binding the bundles on automatic pick-up balers or the sheaves on reaping and binding machines or on similar machines.

3.2 batch: Definite quantity of twine produced under conditions which are presumed uniform.

3.3 laboratory sample: Total selection of samples from a batch intended for the laboratory for testing.

3.4 specimen: Quantity of twine on which a test in accordance with this International Standard is carried out.

4 Designation

A twine conforming to this International Standard is designated by the term "sisal agricultural twine", followed by its code number.

EXAMPLE

A sisal agricultural twine having a length of 300 m per kilogram of mass is designated as follows:

Sisal agricultural twine No. 300

5 Manufacture

The fibre used for the manufacture of the twine shall consist of new genuine fibre of long staple; it shall be unadulterated, free from defects and true to form as sisal *(Agave sisalana)*.

Each spool of twine shall be capable of working with continuity throughout its length.

The twine shall have a Z twist, as defined in ISO 2.

For the purpose of dressing the fibre, a lubricant shall be added.

6 Technical properties

The technical properties of the twines and the methods to be used for their measurement are indicated in table 1, which also indicates the application of the twines.

When the indicated values are neither maxima nor minima, the tolerances indicated in table 1 apply.

7 Sampling

7.1 Number of spools in a laboratory sample

Each 100 t or part thereof in a consignment of twine of the same code number shall represent a batch for testing, to which the following sampling formula applies:

$$S = 0{,}25\sqrt{N}$$

where

S is the number of spools sampled (when S as calculated is not a whole number, round off the value obtained to give a whole number);

N is the number of spools in a batch of 100 t or less.

7.2 Selection of sample

For each batch, the laboratory sample is made up as follows.

Select at random the required number of spools, each taken from a different bale of the batch.

Table 1 — Technical properties of sisal agricultural twines

Relevant property	Units	Designation of the twine[1]			Test method given in
		No. 150	No. 200	No. 300	
		Values for the properties			
Runnage	m/kg	150 ± 12	200 ± 16	300 ± 24	8.1
Equivalent linear density	tex	6 667 $^{+579}_{-494}$	5 000 $^{+435}_{-370}$	3 333 $^{+290}_{-247}$	
Minimum breaking force	daN[2]	98	69	40	8.2
Minimum extractable lubricant	% (*m/m*)	13	13	13	8.3
Application	—	High- and medium-density baling		Low-density baling and binding	—

1) Although other sizes of twine are not recommended, any country which, for internal reasons, would have to include other twines in its national standard must record in its standard that these twines are not included in the International Standard. In order to make sure that these twines have the same quality level as that of the twines in this International Standard, their specifications shall be calculated, as far as the minimum breaking force requirement is concerned, by means of the following equation:

$$R = \frac{17\,400}{n} - 18$$

where

R is the breaking force, in decanewtons;

n is the runnage of twine, in metres per kilogram.

2) The SI unit of force is the newton. A force of 1 decanewton (daN) ≈ 1,02 kgf.

8 Test methods

8.1 Determination of linear density and runnage

8.1.1 Principle

Weighing, under specified conditions, specimens of specified length, then calculation of the linear density and the runnage (or length in metres per kilogram).

8.1.2 Apparatus

8.1.2.1 Balance, accurate to 0,5 g.

8.1.2.2 Wrap-reel, of known perimeter.

8.1.3 Specimens

8.1.3.1 Selection

Select 30 m of twine from each spool as follows.

Directly from the centre of each spool, in an anti-clockwise direction, draw the first 10 m of twine and discard them. Then draw 30 m of twine and wind them as adjacent turns (without overlapping) on the wrap-reel (8.1.2.2), exercising just sufficient tension on the twine to maintain straightness.

Remove the twine from the wrap-reel.

Each specimen of 30 m thus obtained constitutes a test piece.

8.1.3.2 Conditioning

The tests shall be carried out in an ambient atmosphere provided that the twine has been kept in conditions which do not damage its original properties.

In case of dispute, leave the specimens for 48 h in a standard atmosphere for testing [temperature 20 °C ± 2 °C, relative humidity (65 ± 2) %], before continuing with the tests.

8.1.4 Procedure

Determine the mass m_1, in grams, of each specimen by weighing on the balance (8.1.2.1) to the nearest 0,5 g.

8.1.5 Expression of results

8.1.5.1 Calculation of linear density

For each specimen, calculate the linear density T, in tex, using the equation

$$T = \frac{1\ 000\ m_1}{30}$$

where m_1 is the mass, in grams, of the specimen.

8.1.5.2 Calculation of runnage

Calculate the runnage L, in metres per kilogram of twine, using the following formula:

$$L = \frac{10^6}{T}$$

where T is the linear density, in tex.

8.1.5.3 Check test

If a specimen is outside the tolerance given in table 1, a check test shall be carried out on another spool.

If the result of the check test is found to be within the limits of the permitted tolerances (see table 1), the result of the check test is adopted for the value of the linear density.

8.2 Determination of breaking force

8.2.1 Principle

Measurement of the force (expressed in decanewtons) necessary to break, under known conditions, a specimen of specified length.

8.2.2 Apparatus

8.2.2.1 Tensile testing machine, having a constant rate of traverse, with a mobile grip. This testing machine should comprise:

8.2.2.1.1 Two devices for gripping the ends of the test piece.

8.2.2.1.2 Device for maintaining the rate of traverse constant at 500 mm/min ± 50 mm/min.