



SLOVENSKI STANDARD

SIST EN 12131:2018

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Nadomešča:
SIST EN 12131:2000

**Perje in puh - Preskusne metode - Določanje količinske sestave perja in puha
(ročna metoda)**

Feather and down - Test methods - Determination of the quantitative composition of
feather and down (manual method)

Federn und Daunen - Prüfverfahren - Bestimmung der quantitativen Zusammensetzung
von Federn und Daunen (manuelles Verfahren)

Plumes et duvets - Méthodes d'essai - Détermination de la composition quantitative des
plumes et duvets (méthode manuelle)

Ta slovenski standard je istoveten z: EN 12131:2018

ICS:

59.040 Pomožni materiali za tekstilije Textile auxiliary materials

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EUROPEAN STANDARD

EN 12131

NORME EUROPÉENNE

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August 2018

ICS 59.040

Supersedes EN 12131:1998

English Version

Feather and down - Test methods - Determination of the quantitative composition of feather and down (manual method)

Plumes et duvets - Méthodes d'essai - Détermination de la composition quantitative des plumes et duvets (méthode manuelle)

Federn und Daunen - Prüfverfahren - Bestimmung der quantitativen Zusammensetzung von Federn und Daunen (manuelles Verfahren)

This European Standard was approved by CEN on 7 May 2018.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 12131:2018) has been prepared by Technical Committee CEN/TC 443 “Project Committee - Feather and down”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2019, and conflicting national standards shall be withdrawn at the latest by February 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12131:1998.

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EN 12131:2018 (E)**1 Scope**

This European Standard specifies a method for the determination of the composition of feather and/or down fit for or constituting filled manufactured articles in order to label and/or mark it or to verify the denominations reported on the label.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1883, *Feather and down - Sampling in view of tests*

EN 1885, *Feather and down - Terms and definitions*

EN ISO 139, *Textiles - Standard atmospheres for conditioning and testing (ISO 139)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1885 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Principle

A known quantity of the filling material, sampled according to EN 1883, is separated by hand into its elements. The elements are collected into separate containers, which are suitably marked.

The content of each container is weighed in order to determine the mass of the element concerned and therefore to calculate the relative percentages.

5 Apparatus

5.1 Box for the manual separation (separation box), usually consisting of the following parts:

- black and smooth base about 450 mm in length and about 300 mm in width, having a suitable fixture or area to insert the containers into;
- front part about 150 mm high open or provided with two openings wide enough to permit the operators' hands to enter the box;
- back part about 300 mm high;
- two side parts fit for front and back parts;
- cover, to avoid air draughts during the execution of the test, made of glass or other transparent material to permit the separation of the elements;
- lamp to allow the illumination of the box.

5.2 Weighing containers with cover, made of aluminium or other light antistatic material fit to contain and weigh the different elements of the filling, with a capacity up to 300 ml.

5.3 Tweezers, fit to pick the single elements.

5.4 Analytical balance, with an accuracy of 0,1 mg.

5.5 Mixing container with base dimensions of 300 mm × 300 mm and 150 mm high.

6 Sampling, conditioning and preparation of the test specimens

6.1 Sampling is carried out according to EN 1883.

6.2 Conditioning of the samples is carried out according to EN ISO 139.

6.3 Draw a sample of no less than 30 g from the conditioned laboratory global sample. Put the sample into the mixing container (5.5) and mix carefully by hand to make it as homogeneous as possible. From different places of this sample, draw at least three test specimens, each of them having a mass of about 5 g, weighed with an accuracy of 1 mg, of about 5 g for fillings with an expected down content less than 60 % and of about 3 g for fillings with an expected down content of 60 % or more.

Each specimen is placed in a separate container.

NOTE For setting the final result it is necessary to have validated analysis of at least two test specimens while sometimes replacement or additional specimens are to be used. Therefore, a preparation of spares over the three specimens is suggested.

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7 Procedure

7.1 General

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The separation procedure shall be carried out in a conditioned room in accordance with EN ISO 139.

7.2 First separation

7.2.1 Mark the weighing containers (5.2) with the indication A, B, C, D, E and Q; weigh them with their cover, with an accuracy of 0,1 mg.

Put one of the weighed test specimens (6.3) into the separation box (5.1).

With tweezers, remove initially all feathers from the plumage; brush the feathers *gently* between thumb and index finger of one hand to remove any down fibre or residual matter caught therein.

Identify the single elements which are extracted from the test specimen and put them in the suitable weighing containers, as indicated in Table 1.

Table 1 — First separation of elements and denomination of the corresponding containers

| Denomination of containers | Elements |
|----------------------------|--|
| A | whole and fractured waterfowl feather |
| B | whole and fractured landfowl feather |
| C ₁ | broken waterfowl feather |
| C ₂ | broken landfowl feather |
| D | down, plumules, nestling down, down fibres, feather fibres |
| E | quill feathers |
| Q | residual matter |

Weigh the contents of the weighing containers, indicating the mass in grams with an accuracy of 0,1 mg.

7.2.2 Calculate the percentage of mass lost (m_{V1}) during the first separation by the following formula:

$$m_{V1} = \frac{m_{Ew1} - m_{Rw1}}{m_{Ew1}} \cdot 100 \quad (1)$$

where

m_{V1} is the mass lost after the first separation in percent (%);

m_{Ew1} is the mass of the test specimen analysed in the first separation (weighed portion);

m_{Rw1} is the masses of the contents of the containers A+B+C₁+C₂+D+E+Q after being weighed again subsequent to the analysis (control scale).

If the calculation gives a loss of mass of more than 2% or a mass gain of more than 0,5 % another test specimen shall be analyzed.

To validate the first separation and to continue the process, at least two test specimens shall meet the criteria of mass loss and mass gain above.

For the calculation of the results, see Clause 8.

7.3 Second separation

7.3.1 Place the contents of weighing container D in a clean mixing container (5.5); mix the contents by hand carefully to make it as homogeneous as possible. Take three test specimens, each one is at least 0,1 g.

7.3.2 Mark the weighing containers (5.2) with the indication F, G, H, I,K and L; weigh them with their cover, accuracy 0,1 mg .

During the second separation of the sub-test specimen, down, plumules and nestling down are separated from the non-entwined down fibres and the entwined feather fibres.

First, remove a down, plumule or nestling down with tweezers, and slightly shake it five times from an up position to a down position and up again with a short and fast shaking movements of the wrist.

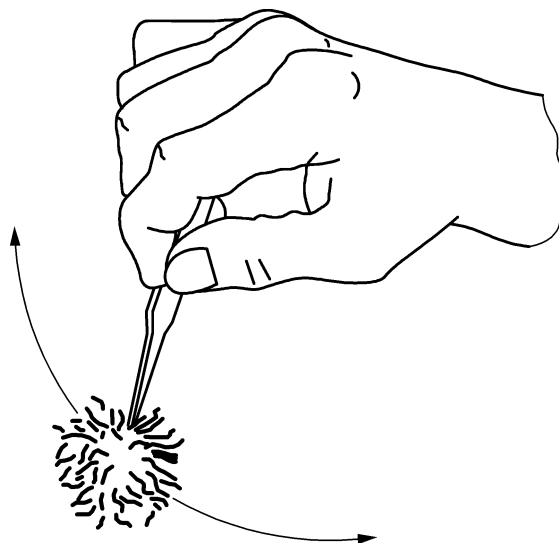


Figure 1 — Shaking of down, plumule or nestling down five times

With the tweezers, carefully take off the entwined feather fibres from the down, plumule or nestling down.

If a down fibre is pulled while removing the feather fibre, the down fibre shall be placed into the container F, which contains down and plumules. The other elements are placed, after being identified as reported in Table 2, in the suitable weighing containers.

If whole and fractured waterfowl feathers are found in the second separation place them in container L.

Table 2 — Second separation of elements and denomination of the corresponding containers

| Denomination of containers | Elements |
|----------------------------|------------------------------|
| F | down plumules, nestling down |
| G | down fibres |
| H | waterfowl feather fibres |
| I | land fowl feather fibres |
| K | residual matter |
| L | feathers |

Weigh the contents of the weighing containers reporting the mass in grams with the accuracy of 0,1 mg.

7.3.3 Calculate the percentage of mass lost during the second separation using the following formula:

$$m_{V2} = \frac{m_{Ew2} - m_{Rw2}}{m_{Ew2}} \cdot 100 \quad (2)$$