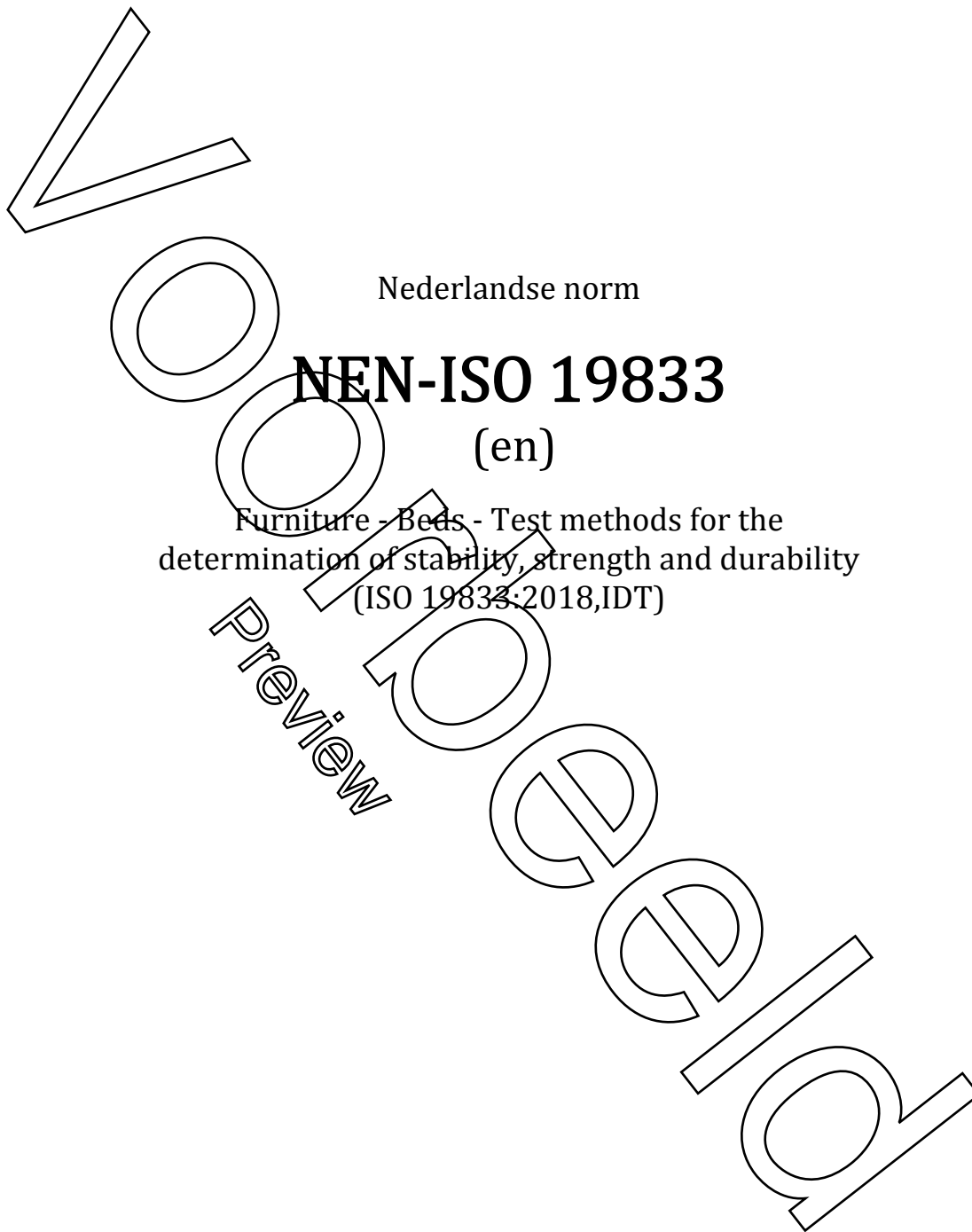


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Nederlandse norm

NEN-ISO 19833

(en)

Furniture - Beds - Test methods for the
determination of stability, strength and durability
(ISO 19833:2018, IDT)

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- ISO 19833:2018, IDT

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**Furniture — Beds — Test methods for
the determination of stability, strength
and durability**

*Ameublement — Couchages — Méthodes d'essai pour la
détermination de la stabilité, de la résistance et de la durabilité*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 136, *Furniture*.

Furniture — Beds — Test methods for the determination of stability, strength and durability

1 Scope

This document specifies test methods for determining the stability, strength and durability of all types of fully assembled beds including bed frames and bed bases.

This document applies to adult beds for domestic and non-domestic use. It does not apply to waterbeds, airbeds, foldaway beds, bunk beds and beds for people with special needs, nor to beds for healthcare and medical purposes.

Test methods for the assessment of ageing, degradation, fire resistance and electrical functions are not included in this document.

Other methods for the strength and durability of storage components, seating surfaces and other features associated with beds are covered by other standards.

Where a bed incorporates additional functions such as storage, electrical adjustability or conversion from a sofa to a bed, additional tests are applicable.

This document does not specify requirements for the choice of loads, cycles or forces. These can be specified in a requirements document. If this is not available, suggested loads and cycles can be found in [Annex A](#) (informative).

The tests are not intended to assess the durability of upholstery, e.g. filling materials and covers.

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.

ISO 2439:2008, *Flexible cellular polymeric materials — Determination of hardness (indentation technique)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 <https://www.iso.org/obp>

3.1

unframed slat base

bed base consisting of separate slats flexibly held together normally by means of textile, rubber or plastic tape

Note 1 to entry: When loading one slat, the load is transferred to the support by that slat only.

ISO 19833:2018(E)**3.2****framed base**

bed base consisting of slats, springs, etc., which are connected to a structural frame system

Note 1 to entry: When loading one component only, e.g. a slat or a spring, the load is distributed by the frame to the support.

4 General test conditions**4.1 Preliminary preparation**

The tests are designed to be applied to a bed that is fully assembled and ready for use. The bed shall be assembled in accordance with instructions supplied by the manufacturer. If the bed can be assembled or combined in different ways, the most adverse combination shall be used for each test. If mounting or assembly instructions are not supplied, the mounting or assembly method shall be recorded in the test report. Fastenings shall be tightened before testing and shall not be re-tightened unless this is specified in the manufacturer's instructions. If the configuration needs to be changed in order to produce the worst-case conditions, this shall be recorded in the test report.

Unless otherwise specified by the manufacturer, the test item shall be stored in indoor ambient conditions for at least 24 h immediately prior to testing.

The tests shall be carried out in indoor ambient conditions at a temperature between 15 °C and 25 °C. If, during a test, the temperature is outside this range, the maximum and/or minimum temperature shall be recorded in the test report.

Before beginning the test, visually inspect the bed thoroughly. Record any defects so that they are not assumed to have been caused by the tests.

4.2 Application of forces

The test forces in the static load tests shall be applied slowly enough to ensure that negligible dynamic force is applied.

Unless otherwise indicated, each force shall be maintained for (10 ± 2) s. Forces shall be as specified in the requirements document or should be as suggested in [Annex A](#).

The test forces in durability tests shall be applied at a rate such that excessive heating does not occur. Unless otherwise specified, each test force shall be maintained for (2 ± 1) s.

The forces may be replaced by masses. The relationship $10 \text{ N} = 1 \text{ kg}$ shall be used.

4.3 Tolerances

Unless otherwise stated, the following tolerances are applicable:

- forces: ± 5 % of the nominal force;
- masses: ± 1 % of the nominal mass;
- dimensions: all dimensions less than 200 mm shall have an accuracy of ± 1 mm of the nominal dimension; the other dimensions shall have an accuracy of $\pm 0,5$ %; the dimension of the spherical curvature of 300 mm radius on the loading pad (5.3) shall have an accuracy of ± 5 mm.

The accuracy for the position of loading pads and impactor shall be ± 5 mm.

NOTE For the purposes of uncertainty measurement, test results are not considered to be adversely affected when the above tolerances are met.

4.4 Sequence of testing

Unless otherwise specified in the requirements document, all applicable tests as shown in [Table 1](#) shall be carried out on the same sample and in the sequence as the clauses are numbered in this document.

4.5 Loading

Unless otherwise specified, all storage components supplied with beds, which are not subject to testing, shall be uniformly loaded with the load(s) as specified in the requirements document or should be loaded with the load(s) as suggested in [Annex A](#).

5 Test apparatus

Unless otherwise specified, the tests may be applied by any suitable device because the results are not dependent upon the apparatus.

The equipment shall not inhibit deformation nor cause unnatural deformation of the unit/component, i.e. it shall be able to move so that it can follow the deformation of the unit/component during testing.

All loading pads shall be capable of pivoting in all directions. The pivot point shall be as close as practically possible to the load surface.

5.1 Floor surface.

The floor surface shall be horizontal, rigid and flat with a smooth surface.

For the test in [6.5.2](#), the surface shall be smooth high-pressure plastic laminate or equivalent.

5.2 Stops.

The stops are devices to prevent the article from sliding but not tilting. They shall not be higher than 12 mm, except where the design of the bed necessitates the use of higher stops, in which case the lowest stop that will prevent the item from moving shall be used. If greater than 12 mm, the height of the stop used shall be recorded in the test report.

5.3 Loading pad.

The loading pad shall be a rigid circular object, 200 mm in diameter, the face of which shall have a convex spherical curvature of 300 mm radius with a 12 mm front edge radius (see [Figure 1](#)).

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