



ISO 8611-1

**Pallets for materials handling —
Flat pallets —**

**Part 1:
Test methods**

*Palettes pour la manutention — Palettes plates —
Partie 1: Méthodes d'essai*

**Fourth edition
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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This document was prepared by Technical Committee ISO/TC 51, *Pallets for unit load method of materials handling*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 261, *Packaging*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 8611-1:2021), which has been technically revised.

The main changes are as follows:

- the requirement for a specific bending angle in Test 2 was removed, so the angle in [Figure 2](#) was adjusted accordingly;
- keys in [Figure 2](#) was corrected because there was an error in the symbols displayed on the Key of [Figure 2](#).

A list of all parts in the ISO 8611 series can be found on the ISO website.

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The forces to which pallets are exposed during use vary significantly. The test procedures described in this document are approximate simulations of pallet use. These tests help the pallet designer to establish an initial acceptable balance between the cost and the performance of a pallet design. It is intended that all results of tests performed using this protocol be confirmed and verified using field trials before publication of performance or the commercial implementation of a new pallet design.

The nominal load, determined according to this test protocol, does not represent a payload and cannot be verified using field trials. The nominal load is a minimum payload level for use in determining maximum working load according to the procedures in ISO 8611-3. The maximum working load can be verified for a specified payload and intended use, using field trials. It is intended that the publication of the maximum working load include a description of the payload and the intended modes of use of the pallet.

It is essential to exercise care when comparing the results of tests with historic experience using existing pallet designs. User expectations of pallet performance vary. Some require greater and some accept lower levels of performance. Users are accepting different levels of risk when using pallets. Because of the varied performance expectations of pallet users, it is possible that the results of tests do not always reflect the user's perception of pallet performance in use.

It is possible that the nominal load does not reflect users' perception of pallet performance because the nominal load does not represent a payload. It is intended that maximum working loads be used to compare with the historic performance of existing pallet designs.

Regarding the use of the ISO 8611 series:

- this document describes the test methods;
- ISO 8611-2 describes the performance requirements and selection of tests;
- ISO 8611-3 describes tests for determining maximum working loads for known payloads.

This document and ISO 8611-2 are recommended to be used in determining nominal load. The nominal load is the lowest safe load value for the specified support conditions, independent of the type of load (excluding concentrated loads).

This document, ISO 8611-2 and ISO 8611-3 are recommended to be used in determining maximum working loads for known payloads.

The nominal load for the intended use is established by the selection of tests in this document; and the performance requirement is established from criteria in ISO 8611-2.

The following three types of intended use with specified support conditions are defined:

- handling of loaded pallets with racking and stacking;
- handling of loaded pallets without racking;
- handling of loaded pallets without racking or stacking.

To determine the maximum working load through testing given in ISO 8611-3, the deflection under the known payload cannot exceed the limiting deflection (see ISO 8611-3:2011, 4.2, 4.3 and 4.4) established in this document and ISO 8611-2. The maximum working load is the greatest payload that a pallet can be permitted to carry in a specific loading and support condition.

Guidance is given in ISO 8611-3:2011, Annex A as to the general effect on performance of different load types and stabilization methods. These can only give guidance as to the likely result from tests with the known payload.

Other tests for durability evaluation are specified in this document.