

INTERNATIONAL STANDARD

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Packaging — Complete, filled transport packages — Stability testing of unit loads

*Emballages — Emballages d'expédition complets et pleins — Essai de
stabilité des unités de charge*



Reference number
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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.

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 10531 was prepared by Technical Committee ISO/TC 122, *Packaging*, Sub-Committee SC 3, *Performance requirements and tests for means of packaging, packages and unit loads (as required by ISO/TC 122)*.

Annex A of this International Standard is for information only.

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Packaging — Complete, filled transport packages — Stability testing of unit loads

1 Scope

This International Standard specifies methods of testing for the stability of unit loads. These tests are intended to assess the performance of completely formed unit loads as they are subjected to the hazards of environmental exposure, storage, handling and transportation. These tests may be performed as part of a sequence.

The considered hazards relate to a land environment. Similar hazards may be expected in a marine environment but to a substantially greater degree, and additional hazards not covered by this International Standard may occur in a marine environment. It should not be assumed that unit loads which satisfactorily pass the tests of this International Standard will be stable in a marine environment.

The unit loads covered in this International Standard are not restricted to those incorporating a pallet platform, but may include other devices such as pallet boxes or slipsheets.

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 2234:1985, *Packaging — Complete, filled transport packages — Stacking tests using static load.*

ISO 2244:1985, *Packaging — Complete, filled transport packages — Horizontal impact tests (horizontal or inclined plane test; pendulum test).*

ISO 2247:1985, *Packaging — Complete, filled transport packages — Vibration test at fixed low frequency.*

ISO 2874:1985, *Packaging — Complete, filled transport packages — Stacking test using compression tester.*

ISO 3676:1983, *Packaging — Unit load sizes — Dimensions.*

ISO 4180-1:1980, *Complete, filled transport packages — General rules for the compilation of performance test schedules — Part 1: General principles.*

ISO 4180-2:1980, *Complete, filled transport packages — General rules for the compilation of performance test schedules — Part 2: Quantitative data.*

ISO 8318:1986, *Packaging — Complete, filled transport packages — Vibration tests using a sinusoidal variable frequency.*

3 Definitions

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

3.1 unit load: Load consisting of items or packages held together by one or more means and shaped or fitted for handling, transporting, stacking and storing as a unit. The term is also used to describe a single item adapted for the same purpose.

3.2 clamp handling: Handling method using a special fork-lift clamping attachment for applying sufficient compression to opposite sides of unit loads such that complete loads can be stored, handled and transported.

3.3 push/pull handling: Handling method using a special fork-lift gripper attachment or other suitable means for pushing/pulling loaded slipsheets onto a