Australian Standard®

COMPLETE, FILLED TRANSPORT PACKAGES—GENERAL RULES FOR THE COMPILATION OF PERFORMANCE SCHEDULES

Part 2— QUANTITATIVE DATA

This Australian standard was prepared by Committee PK/12, Physical Testing of Packages and Containers. It was approved on behalf of the Council of the Standards Association of Australia on 27 November 1982 and published on 9 May 1983.

The following interests are represented on Committee PK/12:

Australia Post

Australian Institute of Packaging

Australian and New Zealand Pulp and Paper Industry Technical Association

Confederation of Australian Industry

CSIRO, Division of Chemical Technology

Department of Agriculture, Victoria

Department of Primary Industries, Queensland

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PREFACE

This standard was prepared by the Association's Committee on Physical Testing of Packages and Containers. It is technically identical with International Standard ISO 4180/2, drawn up by Technical Committee ISO/TC 122, Packaging. SAA, as the Australian member body of ISO, approved the ISO standards at the ballot stage.

This standard has been prepared in order to fulfil a need of organizations concerned with the compilation of test schedules for complete, filled transport packages.

Such test schedules can be as diverse as the journeys that packages undergo. Accordingly, this standard is intended to set guidelines for the compilation of appropriate test schedules, rather than to provide a rigid framework or to be specified by regulatory or other authorities.

It is expected that, once compiled, a particular test schedule, including the test methods and intensities to be applied, could be the subject of Australian standards or would become a matter for agreement between the parties concerned, for example the package designer, the manufacturer of the contents, the transport authority, the customer, the statutory regulating body, or any combination of them.

Except for Clause 2 which contains Australia references, the text of the international standard has been accepted as suitable without deviation, but some terms used in the international standards may not be identical with those used in existing Australian standards. In this connection, reference should be made to AS 2906, Part 1, SAA Packaging Code — Glossary of packaging terms.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

COMPLETE, FILLED TRANSPORT PACKAGES—GENERAL RULES FOR THE COMPILATION OF PERFORMANCE SCHEDULES

PART 2—QUANTITATIVE DATA

1 SCOPE. This standard establishes general rules to be used for the compilation of performance test schedules for complete, filled transport packages intended for use within any distribution system, whether transported by road, rail, sea, air or inland waterway, or by a combination of these modes of transport.

AS 2584.1 states the general principles entailed in compiling test schedules. It also gives the factors to be considered in assessing the criteria of acceptance of such packages after they have been subjected to a package performance test schedule.

This standard incorporates all the quantitative data necessary to establish test intensities and other quantitative features of test schedules.

AS 2584.1 and this standard are intended to be read in conjunction with one another.

NOTE: For the distribution trials of packages containing dangerous goods the relevant regulations for the transport of dangerous goods by road, rail, sea and air must be followed, i.e.—

Australian Code for Transport of Dangerous Goods by Road and Rail

International Air Transport Association's Restricted Articles Regulations

International Maritime Dangerous Goods Code.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 2400 SAA Packaging Code
Part 1 — Glossary of Packaging Terms

AS 2582 Complete, Filled Transport Packages—Methods of Test
2582.1 — Identification of parts when testing
2582.2 — Conditioning for testing
2582.3 — Stacking, compression test
2582.4 — Vertical impact test by dropping
2582.5 — Horizontal impact test (Inclined plane test, Pendulum test)
2582.6 — Vibration Test
2582.7 — Low pressure test

AS 2583 Complete, Filled Transport Packages—Distribution Trials—Information to be Recorded

AS 2584 Complete, Filled Transport Packages—General Rules for the Compilation of Performance Schedules
Part 1 — General principles

3 FACTORS REQUIRING QUANTIFICATION IN TEST METHODS. Relevant test methods, and the factors requiring quantification before each test can be used, are given in Table 1.

4 PREFERRED VALUES OF TEST INTENSITIES. Basic test intensities, which are considered to be normal for a common distribution system and which are based upon a package of 'average' mass and size (i.e. of mass 20 kg and dimensions 400 mm × 400 mm × 400 mm) are given in Table 2, for the road, rail, water and air modes of transport and for storage.

Where a test intensity other than the basic value is appropriate (see Clause 4) the value selected should be chosen, as far as is practicable, from the preferred values given in Table 3.

For comparative investigation or research it may be necessary to select a value of test intensity other than those given in Table 3.

5 TEST INTENSITY MODIFYING FACTORS.

5.1 General. Guidelines for modifying basic values of test intensity, due to known features of the distribution system or of the package, are given in Table 4.

The special circumstances introduced by palletization and by the use of freight containers are outlined in Clause 5.2.

5.2 Modification of Test Intensity by Palletization or by the Use of Freight Containers.

5.2.1 *Palletization.* Packages may be grouped into a unit load on a pallet or similar device for the whole or part of their life.

The subsequent handling of the unit load by mechanical means can change the magnitude of the hazards to which the packages are exposed, primarily vertical impact and stacking hazards.

(a) *Vertical impact.* Manual palletization subjects the individual packages to vertical impacts of intensity similar to those sustained in loading the packages on to a road vehicle. Mechanical palletization, however, subjects the packages to a very small, if any, vertical impact hazard.

Mechanical handling of the resultant unit loads, into and out of storage and in the loading and unloading of vehicles, results in the packages being subjected to a smaller vertical impact than that normally associated with the comparable manual operation (see Tables 2 and 4).

Palletization, coupled with a suitable distribution system for handling pallets may therefore justify a reduction in intensity of more than one step in the preferred range of values of drop height (see Tables 2, 3 and 4).

(b) *Storage.* The ability of mechanical equipment to lift unit loads to a greater height than is normal using manual methods can result in packages being stacked to greater heights. In addition, certain