

Australian Standard[®]

SAA PACKAGING CODE

**Part 3—MECHANICAL AIDS IN
PACKAGE HANDLING**

This Australian standard was prepared by Committee PK/25, Packaging Code. It was approved on behalf of the Council of the Standards Association of Australia on 10 January 1984 and published on 6 April 1984.

The following interests are represented on Committee PK/25:

Adhesives and Sealants Manufacturers Association
Agricultural and Veterinary Chemicals Association of Australia
Ansett Airlines of Australia
Australian Institute of Packaging
Australian and New Zealand Pulp and Paper Industry Technical Association
(Appita)
Bureau of Steel Manufacturers of Australia
Canmakers Institute of Australia
Confederation of Australian Industry
Department of Defence
Department of Science and Technology
Glass Packaging Institute of Australia
Packaging Council of Australia
Plastics Institute of Australia Incorporated
Printing and Allied Trades Employers Federation of Australia
Railways of Australia Committee
Victorian Sawmillers Association

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

First published 1984

This standard was issued in draft form for comment as DR 82089.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

PREFACE

This standard was prepared by the Association's Packaging Code Committee under the direction of the Packaging Standards Board.

The purpose of this standard is to provide guidance on the use of mechanical aids in package handling.

The SAA Packaging Code has been divided into parts dealing with specific subjects, as follows:

<i>Part</i>	<i>Title</i>
1	Glossary of Packaging Terms*
2	Basic Principles of Packaging Practice*
3	Mechanical Aids in Package Handling*
4	Protection Against Spoilage of Packages and their Contents by Microorganisms, Insects, Mites and Rodents*
5	Metal Protection
6	Paper and Board, Wrappers and Containers
7	Timber Containers
8	Textile Bags, Sacks and Wrappings
9	Metal Containers
	9.1 Metal Cans and Tubes*
10	Cushioning Materials
11	Cordage
12	Adhesive Closing and Sealing Tapes
13	Tensional Strapping*
14	Adhesives for Packaging
15	Glass Containers
16	Transparent Cellulose Films, Plastics Films, Metal Foils and Flexible Laminates
17	Packaging in Plastics Containers
18	Use of Desiccants in Packaging*
19	Packaging for Airfreight*
20	Handling of Goods in Freight Containers*
21	Packaging of Dangerous Goods
22	Closures
23	Shrink and Stretch Wrapping*

During the preparation of the SAA Packaging Code, account is being taken of material included in BS 1133, Packaging Code, and in 'Basics of Materials Handling' published by The Material Handling Institute Inc (USA). The assistance obtained from these sources is acknowledged.

Australian standards referred to in this standard are listed in Annex 1.

Australian standards for materials handling and related equipment which are currently available and may be found useful in packaging activity are listed in Annex 2.

The drawings in this standard show only the principal features, not the latest version of the equipment available.

* Published.

CONTENTS

	<i>Page</i>
1 SCOPE	4
2 REFERENCED AND RELATED DOCUMENTS	4
3 GENERAL	4
4 MATERIALS HANDLING CHECK LIST	4
5 SELECTION	5
6 EQUIPMENT	7
ANNEX 1. LIST OF REFERENCED DOCUMENTS	29
ANNEX 2. LIST OF AUSTRALIAN STANDARDS IN THE FIELD OF MATERIALS HANDLING	30
INDEX	31

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
SAA PACKAGING CODE

PART 3—MECHANICAL AIDS IN PACKAGE HANDLING

1 SCOPE. This standard describes the main types of mechanical handling equipment suitable for the movement of packages and containers in factories and warehouses. Salient technical and cost factors that need to be considered in the selection and use of equipment are given.

2 REFERENCED AND RELATED DOCUMENTS. A list with titles of standards referred to in this standard is given in Annex 1. A list with titles of Australian standards in the field of materials handling is given in Annex 2.

3 GENERAL. The main object of the SAA Packaging Code is to assist industrial packers. Much of the information contained in this Part may be regarded as elementary to a degree, by those familiar with the design, manufacture or use of mechanical handling equipment, but experience has shown that there is a need for guidance of this type for those with responsibility for a packaging function.

The proper handling of a product is as important as correct packaging and much damage may occur as a result of poor handling techniques during and subsequent to processing. Although packers cannot control the methods of handling of goods between the factory or warehouse and their ultimate destination, they can ensure that goods are moved efficiently and well on the premises and that they are correctly loaded on to vehicles for the first stage of distribution.

Great care needs to be given to the selection of materials handling equipment and in this regard the packer should endeavour to study his problem in some depth before approaching a particular equipment supplier for advice. The material presented in this standard will help to guide the packer in his investigations and give him the background needed to evaluate the supplier's recommendations. Very frequently it has been found that a low cost fairly simple device is the right answer to a materials handling problem—it cannot be assumed that an expensive, sophisticated equipment will necessarily give the best solution. However where the scale of operation justifies, it should be kept in mind that considerable progress is continuing to be made in automating package handling, and computerization is being shown to yield substantial benefits if used properly. Packers should, at least, try to be aware of general developments in these fields, and the advice of unbiased experts sought, particularly when a system review is being considered.

Improvement in productivity derives not only from the speeding of the movement of goods and preventing damage to the goods but also from the reduction of accidents and injury to operators. Back injuries for instance are prevalent in the materials handling field and these can have long term repercussions that cause much human suffering and expense to the community.

Management should always discuss materials handling problems with packaging line operators, not only to take advantage of the practical knowledge of those who are closely involved with the process but also to develop better industrial relations through a more harmonious working environment.

There are statutory requirements relative to the design and operation of many mechanical handling aids and these requirements are not always uniform between the Australian States. Users of equipment should check with the Regulatory Authority in their State for advice. It is important to note that the addition of an attachment may transpose the equipment from one class to another, e.g. a fork truck adapted for use as a crane.

It is impossible in a standard of this kind to describe fully all the equipment available and no attempt has been made to compile a comprehensive catalogue. Brief details are given of the types of equipment most commonly used in packing bays, together with notes on their use, but specialists should be consulted on their application, if possible. Salient technical and other factors that need to be considered in the selection and use of equipment are given.

Whether plant should be obtained on short term hire, leased or purchased outright is a question that may also need consideration but is outside the scope of this standard. Each case should be dealt with in the light of the duration of the handling equipment, the nature of the equipment, corporate financial policy etc.

4 MATERIALS HANDLING CHECK LIST.

4.1 General. The twenty items given below need to be considered in dealing adequately with a materials handling situation. Packers should be guided by these points if sound decisions are to be made:

- (a) *Orientation principle.* Study the system relationships thoroughly prior to preliminary planning in order to identify existing methods and problems, physical and economic constraints, and to establish future requirements and goals.
- (b) *Planning principle.* Establish a plan to include basic requirements, desirable options, and the consideration of contingencies for all material handling and storage activities.
- (c) *Systems principle.* Integrate those handling and storage activities which are economically viable into a coordinated system of operation including receiving, inspection, storage, production, assembly, packaging, warehousing, shipping and transportation.
- (d) *Unit load principle.* Handle product in as large a unit load as practical.
- (e) *Space utilization principle.* Make effective utilization of all cubic space.