

Australian Standard<sup>®</sup>

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**SAA PACKAGING CODE**

**Part 15—GLASS CONTAINERS**

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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 13 April 1984 and published on 3 August 1984.

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The following interests are represented on Committee PK/25:

Agricultural and Veterinary Chemicals Association of Australia  
Adhesives and Sealants Manufacturers Association  
Ansett Airlines of Australia  
Australian Institute of Packaging  
Australian and New Zealand Pulp and Paper Industry Technical Association  
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## PREFACE

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

The purpose of this part is to provide expert information on the use of glass containers, without specifying performance requirements.

The SAA Packaging Code has been divided into different 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 Micro-organisms, 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
23.1	Films for Shrink Wrapping*
23.2	Films for Stretch Wrapping*

During the preparation of the SAA Packaging Code, account is being taken of material included in BS 1133, Packaging Code, and the assistance obtained from this source is acknowledged.

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard**  
**SAA PACKAGING CODE**

**PART 15—GLASS CONTAINERS**

**1 SCOPE.** This standard provides general guidance on the types of glass containers available for packing purposes and describes many factors that should be taken into account when ordering or using them.

As glass containers are used in so many industries, it has not been considered practicable to include detailed specifications for any individual types of containers.

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

- AS 1199 Sampling Procedures and Tables for Inspection by Attributes
- AS 1399 Guide to AS 1199, Sampling Procedures and Tables for Inspection by Attributes
- AS 2348 Guide to the Determination of Optimum Dimensions of Packages for Unit Load Handling
- AS 2400 SAA Packaging Code
  - Part 1—Glossary of Packaging Terms
  - Part 2—Basic Principles of Packaging Practice.

**3 GENERAL.** Glass containers, manufactured in a great diversity of shapes and sizes, are an accepted packaging medium for almost every conceivable solid or liquid. The milk bottle, jam jar and beer bottle are familiar objects in everyday life. The glass container however, is widely used not only for packing foods and drinks, but also for pharmaceuticals, cosmetics, perfumes, oils, detergents and many other household products.

The glass container industry is a branch of the glass industry and is in fact its largest section both by value and quantity of production. The history of glassmaking dates back at least to 3000 BC and it is reasonable to suppose that glass containers were one of the first products made from this material. In its present form however, the glass container industry is essentially a modern industry, transformed from early fundamentally hand working processes by the introduction of mechanized techniques, a development intensified after World War I when many of the manufacturing processes described in Clause 6 were first introduced. The introduction of new melting, forming, inspection and processing techniques is a continuing trend, and the industry is well adapted to meet the new and changing demands made by packers and consumers.

In recent years these developments have led to closer control over the distribution of glass in the walls of the container, which in turn means that bottles and jars can be made lighter in weight, and generally more accurately than before.

The result of the attention paid to design and to the narrowing of tolerances means the packers can enjoy the economies of increased speeds of packaging.

The ultimate object of this work is to produce glass containers of 'right weight', i.e. of adequate mechanical

strength at the minimum possible glass mass. More research will be necessary before the industry is satisfied that the lightest, strongest containers for any particular purpose have yet been produced, but substantial progress has already been made in many fields.

Through careful re-design the lightweight containers have proved stronger in use than their heavier predecessors, breakages have been reduced and savings achieved in handling and freight costs. Where market conditions are appropriate, the principles of lightweighting can be fully exploited by the single-trip non-returnable container.

Development work on the design of glass containers has been paralleled by work in the complementary industry of closure manufacture. Appropriate closures of various types suitable for vacuum, hermetic and pressure retention have been developed to protect the many different substances packed in glass against leakage or contamination and at the same time to provide a seal which permits the container to be easily opened and where necessary, conveniently resealed many times.

Many of these advances are the result of close cooperation between the glass container industry, its customers as well as the manufacturers of closures, processing and packaging equipment.

The satisfactory performance of a glass container depends on the careful coordination of bottle or jar and closure design in the light of the nature of the product, its method of distribution, and the filling, labelling, capping and other processes which may be employed. The efficiency of the container will be determined by proper consultation, at an early stage, between customer and manufacturer. The main factors to be discussed are as follows:

- Type, size and capacity of the container
- One trip or returnable container
- Compatibility with the packed product
- Type of closure
- Method of filling (hot or cold fill)
- Speed of bottling line
- Mechanical strength of the container
- Labelling

The glass container manufacturer will be able to give guidance on these points, but specialist advice on closures and machinery should be obtained from the appropriate sources.

**4 DEFINITIONS.** For the purpose of this standard, the definitions given in AS 2400, Part 1 and the following specialized terms of the glass industry apply:

**4.1 Applied ceramic label (ACL)**—a fused durable ceramic enamel label generally applied by silkscreen.

**4.2 Baffle mark**—a line or seam on a glass container resulting from a mould joint between the parison mould and the baffle plate (base of blank mould).

**4.3 Blank mould**—equipment used in forming parison.