Australian Standard®

SAA PACKAGING CODE

Part 16—FLEXIBLE PACKAGING

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The following interests are represented on the committee responsible for this draft Australian standard:

Adhesives and Sealants Manufacturers Association

Agricultural and Veterinary Chemicals Association of Australia

Airline Company

Australian Institute of Packaging

Australian Timber Producers Council

Bureau of Steel Manufacturers of Australia

Canmakers Institute of Australia

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Department of Defence

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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 standard is to provide information on and assistance with the use of flexible packaging, e.g. regenerated cellulose film, plastics films, aluminium foil and flexible laminates. Since flexible packaging has many and varied applications, no detailed guidance can be given as the individual circumstances will dictate the type of flexible packaging. Companies specializing in this field may be relied upon to assist the prospective user of flexible packaging.

Some plastics will permit fumigation of the contents of a bag (i.e. gas penetration) if a number of bags are placed under a gas-proof sheet. Alternatively, some plastics bags are sufficiently impermeable to permit in-situ fumigation of individual bags, e.g. by placing phosphine-generating tablets inside a bag.

The subject of insect penetration needs to be considered as even aluminium foil packages are not resistant to boring insects such as the lesser grain borer (*Rhyzopertha dominica*). Furthermore, the warehouse beetle (*Trogoderma variabile*) is a pest of packaged foods in the USA and now that it is present in Australia, it could behave in a similar manner (see AS 2400, Part 4).

The wording in this draft standard has been kept relatively simple but the use of some technical terms is unavoidable. Where explanation of these terms is needed, reference should be made to AS 2400, Part 1.

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

Part	Title
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* 9.2 Steel Drums
10	Cushioning Materials
11	Cordage
12	Adhesive Closing and Sealing Tapes
13	Tensional Strapping*
14	Adhesives for Packaging*
15	Glass Containers and Closures*
16	Flexible Packaging
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 was taken of material included in BS 1133, Packaging Code, and the assistance obtained from this source is acknowledged.

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* Published.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
SAA PACKAGING CODE

PART 16—FLEXIBLE PACKAGING

1 SCOPE. This standard gives a general description of, and provides information on, nomenclature, availability, properties, end-uses and some methods of test for flexible packaging, e.g. regenerated cellulose film, plastics films and aluminium foil, and gives general guidance on the use of these materials in laminates.

NOTE: Description of some semi-rigid plastics material has been included (to complete the picture) notwithstanding the title of the standard.

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

AS 1145	Method for Determination of tensile properties of plastics materials.
AS 1326	Polyethylene (Polyethene) Film for Packaging and Allied Purposes
AS 1734	Wrought Aluminium and Aluminium Alloy Flat Sheet, Coiled Sheet and Plate for General Engineering Purposes.
AS 2070	Plastics Materials for Food Contact Use.
AS 2400	SAA Packaging Code Part 1— Glossary of Packaging Terms Part 4— Protection Against Spoilage of Packages and their contents by Microorganisms, Insects, Mites and Rodents Part 23— Shrink and Stretch Wrapping
AS 2609	Materials Used for the Packaging of Food and Beverages Methods for the Assessment of Odour and Taint Part 1—Sensory methods Part 2—Instrumental Methods
ASTM D256	Tests for Impact Resistance of Plastics and Electrical Insulating Materials
ASTM D746	Test for Brittleness Temperature of Plastic and Elastomers by Impact
ASTM E-96	Water Vapour Transmission of Materials
ASTM D882	Tests for Tensile Properties of Thin Plastics Sheeting
ASTM D3985	Oxygen Gas Transmission Rate Through Plastic Film & Sheeting Using a Coulometric Sensor
BS 1763	Thin PVC Sheeting (Calendered, Flexible, Unsupported)
BS 2739	Thick PVC Sheeting (Calendered, Flexible, Unsupported)
BS 2782	Methods of Testing Plastics
BS 3177	Method For Determining the Permeability to Water Vapour of Flexible Sheet Materials Used For Packaging
BS 3757	Specification for Rigid PVC Sheet
ISO 2528	Sheet materials—Determination of water vapour transmission rate—Dish method.

3 DEFINITIONS. For the purpose of this standard, the definitions in AS 2400, Part 1, and the following apply:

3.1 Biaxial orientation—the process of heating and stretching a film in both machine and transverse direction. Film may then be heat-set to provide stability at elevated temperatures. Shrinkable grades are not heat-set. Monoaxially oriented films are also available.

3.2 Copolymer—the product of the polymerization of two or more monomer materials (e.g. ethylene and vinyl acetate to yield EVA).

3.3 Corona discharge—chemical and physical modification of the surface of a film by subjecting it to an electrical discharge which normally increases the surface energy of the film, making it more receptive to inks, adhesives, etc.

3.4 Cross-linked—a polymer may be subjected to a chemical reaction or to ionizing radiation which will cause the polymeric chains to chemically link together at many points along the chain.

3.5 Film—

(a) Thin sheeting of arbitrarily limited thickness.

(b) A flat section of plastics material, usually thermoplastic, with a thickness generally less than 500 μ.

3.6 Blown film—film of an extrudable polymer produced by an extrusion-blow method into a continuous tube. The tube is slit in a variety of ways to yield flat film, centrefold film, J-fold film, etc. Gussets may also be formed.

3.7 Cast film—film of an extrudable polymer which is cast in a single continuous sheet onto a chilled roller. Polymer solutions may also be cast into a chemical bath where the polymer is regenerated into a continuous film.

3.8 Coated film—normally a base film which carries a surface coating to provide properties such as sealability, gas barrier, etc.

3.9 Oriented film—film which has been subjected to the process of orientation (see Biaxial orientation).

3.10 Heat set—during the process of orienting a film it may be subjected to a heat treatment while it is held in the stretched form. This treatment relieves the stresses caused by orienting the film and provides heat stability to the film up to the heat-set temperature.