

Australian Standard<sup>®</sup>

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**FREEZER TEST PACKAGES**

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This Australian standard was prepared by Committee ME/8, Frozen Food Retail Cabinets, and ME/23, Household Refrigerators. It was approved on behalf of the Council of the Standards Association of Australia on 25 November 1982 and published on 5 April 1983.

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The following interests are represented on Committees ME/8 and ME/23:

Australian Electrical and Electronic Manufacturers Association Limited  
Australian Federation of Consumer Organizations Incorporated  
Australian Institute of Refrigeration Air Conditioning and Heating (Inc)  
Australian Retailers Association  
Commercial Refrigeration Manufacturers Association of Australia  
Consumer Education Freezing of Foods Council, N.S.W.  
Council of Australian Food Technology Associations Incorporated  
CSIRO, Division of Food Research  
Department of Health, N.S.W.  
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## PREFACE

This standard was prepared jointly by the Association's Committees on Frozen Food Retail Cabinets and Household Refrigerators, to provide for a common need for test packages to be used when testing the performance of any refrigerating appliance which is wholly or partly intended for the keeping of frozen food.

AS 1430—1976\* and the former edition of AS 1731 have independently included specifications for freezer test packages, which are essentially the brine-soaked sawdust packages specified in the equivalent British standards. AS 1731—1975 however, also permitted as an alternative a package which had been specified in ISO/R 825—1968, and ISO 1992/3—1973, basically oxyethylmethyl cellulose solution in salt water. Thus there is the appearance of some degree of diversity, and this standard was commenced as an exercise in rationalization.

ISO/TC 86/SC 5/WG 2 had been working for some years on the development of a test package to fill a similar need, and had adopted as its basis a test package described in ASHRAE Standard 72-74. This package was not unlike the U.K. sawdust/brine type, the main difference being that the salt water was soaked into a cellulose or plastics sponge. This working group had appeared to have settled most of the issues when it became unable to finalize and publish its conclusions, but there was some feeling in Australia that the group's work had reached a usable stage, and that it was the type most likely to become the international standard.

The two SAA committees were thus faced with three competing package designs, the earlier U.K. sawdust type, the unsubmitted but almost complete U.S. based proposal of WG 2, and the partially established but tentative ISO type.

The two committees concluded that the very considerable time spent on this subject, both locally and internationally, may have been due to certain invalid initial assumptions, which had side-tracked discussions into issues that were not in fact particularly relevant. Specifically, the concept that the thermal characteristics of the test package should simulate the characteristics of frozen food, was considered invalid, because the wide variation in the nature of foods that are frozen means that no single test package composition can simulate all foods. Another unrewarding debate concerned the inclusion of salt, the true purposes of which could not be explained in any satisfactory manner.

All these aspects were considered to be irrelevant, because of the method of use of the packages, i.e. they are pre-frozen and their temperature changes little during the test. Their sole purpose is to provide a thermal mass to even out the temperature curve, and experiments have indicated that the results obtained with any of the alternative pack designs do not vary in any measurable degree.

With these considerations in mind this standard was written so as to permit as broad a choice of construction materials as practical. However, the committees were of the view that the 'ISO package' of oxyethylmethyl cellulose is the most suitable in the long term because of a number of practical factors such as general durability, little need for upkeep, little swelling on freezing, and indications of growing acceptance throughout the ISO standards system. Therefore, although this present standard permits alternatives, it is recommended that new and replacement packages be of the ISO type, so that the other types will be gradually phased out.

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\*In course of revision.

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