

SS 668 : Part 2 : 2020
(ICS 67.120.10)

SINGAPORE STANDARD

**Cold chain management of chilled and frozen
foods**

– Part 2 : Code of practice for meat

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Jurong Cold Store Pte Ltd
Malaysia Dairy Industries Pte Ltd
Kee Song Bio-Technology Holdings Limited
MyKenzen Nutrition Services Pte Ltd
NTUC Fairprice Co-operative Ltd
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OJJ Foods Pte Ltd
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SMH Food Group of Companies
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Foreword

This Singapore Standard was prepared by the Working Group on Cold Chain Management of Chilled and Frozen Foods – Code of Practice for Meat set up by the Technical Committee on Food Processing, Distribution and Services under the purview of FSC.

The review of the following standards resulted in the development of the SS 668 series of standards on cold chain management of chilled and frozen foods:

- SS 585 : 2013 Cold chain management of vegetables;
- SS 552 : 2016 Code of practice for cold chain management of chilled pork;
- SS 621 : 2016 Code of practice for cold chain management of milk and dairy products;
- TR 49 : 2016 Cold chain management of frozen fish and seafood.

The SS 668 series comprises the following parts under the general title of “Cold chain management of chilled and frozen foods”:

- Part 1 : General requirements
- Part 2 : Code of practice for meat
- Part 3 : Code of practice for vegetables and fruits
- Part 4 : Code of practice for fish
- Part 5 : Code of practice for chilled table eggs

NOTE – Parts 2 to 5 are intended to be used in conjunction with Part 1.

The maintenance of the cold chain is integral to uphold the safety of consumers and the protection of public health while preserving the nutritional and sensory qualities of perishable meat and their products. The cold chain extends their shelf life by slowing down microbial spoilage and/or biological contamination. It also reduces unnecessary food wastage along the chain.

The introduction of new and modern technologies in meat production at the farm, carcass processing, de-boning, and packaging have revolutionised the whole concept of chilled and frozen meat preparation, storage and transportation. These processes have a significant impact on consumers' perception and expectations of food safety and quality. Proper management of every link of the cold chain constitutes an integral part in the production, storage and transportation of wholesome and safe chilled and frozen meat to the consumer.

SS 668 : Part 2 covers the major six links in the cold chain management starting from the farm, abattoir, processing/de-boning plant, transportation, retail and finally to the consumers. Every sector of the chain observes the stringent food safety and hygienic practices in tandem with complete implementation of the cold chain in order to prevent hazards associated with poor processing practices and temperature abuse. Thus activities undertaken and devices utilised for monitoring the time-temperature profile along the entire chain commencing from the abattoir to de-boning plants, refrigerated transport/distribution containers for land and air transportation, warehouses, manufacturing plants and chillers at retail outlets as well as the mode of handling and storage from the retail outlets to consumers were taken into consideration in preparing this standard.

It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore will not be responsible for identifying all of such legal obligations.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature Standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
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Cold chain management of chilled and frozen foods – Part 2 : Code of practice for meat

0 Introduction

Singapore is heavily dependent on imports for its food supply. Many foods such as fresh meat and fish are highly perishable. A cold chain management system is an integrated system in which food is kept cold in the chilled or frozen form in an unbroken link from the initial chilling or freezing of freshly produced food at a farm or processing establishment throughout the stages of transportation, storage, distribution and retailing.

Cold chain management system is important for an organisation involved in chilled and frozen food to maintain the freshness, shelf life, quality (including nutritional value and sensory characteristics) and safety of food products. Cold chain management system effectively controls the growth of spoilage and food poisoning bacteria as well as slowing down quality deterioration.

The potential benefit of a cold chain management system is the ability to consistently provide quality, safe and wholesome food for consumers. Implementation of a cold chain management system is a strategic decision for the organisation to improve its overall performance in providing food products and services.

1 Scope

This code specifies cold chain requirements for an organisation carrying out post-harvest preparation and related activities. It aims to assist organisation to adopt the appropriate guidelines to demonstrate its ability to consistently meet cold chain requirements. This code does not define the manufacturing requirements for processes or repeat the general technical requirements of a cold chain system listed in SS 668 : Part 1.

This code is intended for the application and observance of temperature controls in the cold chain for the production of meat and provides specific cold chain requirements covering meat carcass chilling after slaughtering, cutting, de-boning, offal harvesting, etc., before packing, cold storage, transportation and distribution to ensure their safety, quality and wholesomeness, and safeguard public health.

This code is applicable to beef, mutton, pork, poultry meat and game/wild meat that are not further processed. It covers carcasses, sides, meat parts and offal.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

| | |
|-----------------|--|
| SS 668 : Part 1 | Cold chain management of chilled and frozen foods – Part 1: General requirements |
|-----------------|--|