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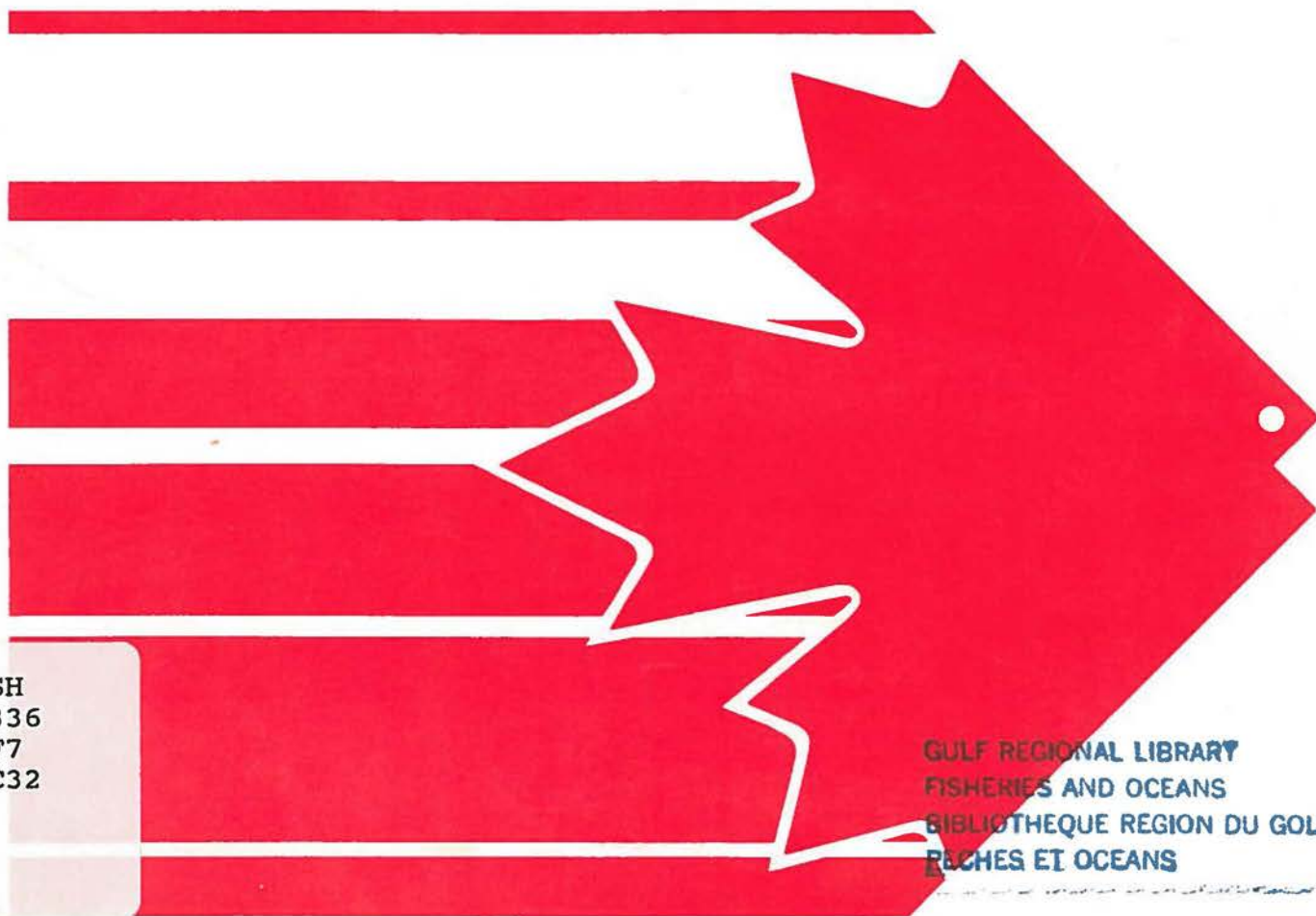
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THE CANADIAN CODE

OF RECOMMENDED HANDLING PRACTICES

FOR FROZEN FOODS

PREPARED BY: THE CANADIAN FROZEN FOODS ASSOCIATION



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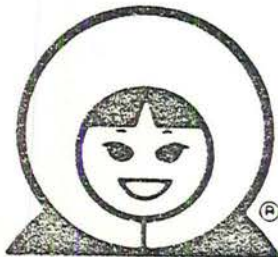
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The Canadian Code of Recommended Handling Practices for FROZEN FOOD



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SECTION ONE

Statement of Purposes

THE CANADIAN FROZEN FOOD ASSOCIATION, on behalf of its membership, hereby establishes a Canadian Code of Recommended Handling Practices for Frozen Foods to assist in the production and handling of frozen foods in order to maintain quality up to the time of final sale.

The subjects covered by these recommended practices apply to frozen foods that have been processed quickly to a maximum temperature of minus eighteen degrees C (0°F) or lower, and to fish and fishery products that have been frozen to a temperature of minus twenty-one degrees C (-5°F) or lower, and are intended for human consumption. The members of the Canadian Frozen Food Association subscribe to these recommended voluntary operating practices in an effort to update good practices for the care and handling of frozen foods. They have taken this action in recognition of their mutual responsibilities to the consuming public and pledge in good faith their best effort to obtain voluntary compliance with these recommendations.

In the opinion of the members of the Canadian Frozen Food Association, the recommendations herewith stated are sound and practical for application to those food products intended to be sold in a frozen state. It is important for all handlers of frozen food products to know how the perishability and quality is affected by temperature and the relation these have to the length of shelf life.

In the context of the industry's program of progressive self-improvement, these practices are endorsed by the undersigned organizations, but they do not replace in any instance more demanding company or industry practices which may be in effect. The industry's goal is to maintain reasonably uniform frozen food product temperatures of minus eighteen degrees C (0°F) or lower and to insure the proper care, from processor to consumer.

These recommendations are designed to insure this and will be re-evaluated periodically to keep them in accord with new developments within the industry.

SECTION TWO

Packers, Manufacturers, Processors

1. Raw products should be harvested at prime condition, then delivered promptly to the plant where they should be prepared for freezing, frozen and packaged (or placed in proper bulk storage) with all reasonable speed. Similarly, frozen products to be used as ingredients in prepared frozen foods should be of best quality for the intended purpose, handled at temperatures of minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products at a temperature of minus twenty-six degrees C (-15°F) or lower at all points and only permitted to thaw for the time and to the extent necessary for their incorporation into the end product. Fresh fish should be held in ice prior to and during delivery to the freezing plant.
2. Precooked foods should be held at sixty degrees C (140°F) or higher or at four degrees C (40°F) or lower until frozen.
3. The same holding temperatures should be used by processors who do not have freezing facilities when moving prepared or packaged products to refrigerated warehouses for freezing.
4. Where a processor has his own freezer and warehouse, product should leave the warehouse at minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products at minus twenty-six degrees C (-15°F) or lower.
5. In movement from processing facility to freezing facility, the unfrozen product should be held at a temperature of four degrees C (40°F) or lower (being moved without delay), and frozen products should be held at a temperature of minus eighteen degrees C (0°F) or lower, and in the case of fish or fishery products at a temperature of twenty-one degrees C (-5°F) or lower.
6. Product temperatures should be reduced to minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products to minus twenty-six degrees C (-15°F) or lower, promptly upon reaching the primary warehouse.
7. Processors must not allow their frozen food products to be shipped on non-refrigerated vehicles.
8. Processors must attempt at all times to provide the most *efficient* master packaging, possessing desired stacking qualities.
9. Processors must attempt at all times to produce code labelling for identification on master package.

SECTION THREE

Public or Distributor Warehousing Equipment

EQUIPMENT

1. Each warehouse should be of adequate capacity and should be equipped with suitable mechanical refrigeration to provide, under normal conditions of outside temperature and peak load conditions, sufficient refrigeration to maintain a product temperature of minus eighteen degrees C (0°F) or lower, and in the case of fish or fishery products of minus twenty-six degrees C (-15°F) or lower, in all rooms in which frozen foods are stored.
2. Each storage room shall be equipped with an easily readable accurate thermometer so installed as to reflect correctly the average air temperature of the room. Each day the warehouse is open, temperature of each room should be recorded, dated and a file of such temperatures maintained for a period of time not less than twelve months.

HANDLING PRACTICES

1. The warehouse operator should on receipt record product temperatures of each shipment of frozen foods received.
2. Whenever frozen foods are received with the product temperature of minus ten degrees C (14°F) or higher, the warehouse should immediately notify the owner or consignee and request instructions for special handling. These procedures may consist of any available method for effectively lowering temperatures such as blast freezing, low temperature rooms with air circulation and proper use of dunnage or separators in stacking.
3. Frozen foods should be moved over dock areas promptly to minimize exposure to elevated temperatures, rainfall or other adverse weather conditions. Whenever possible all dock areas should be enclosed.
4. During defrosting of overhead coils in storage rooms, stacks of frozen food should be effectively protected by tarpaulins or other protective covering, or by removal from beneath the coils.
5. When frozen foods are purchased for resale to foodservice or retail customers the first-in, first-out method of inventory control should be practiced and all other aspects of the code implemented, during the period the purchaser has complete control over the handling of storage conditions. (This shall be the case regardless of whether such premises are owned or leased from public or other warehouses).
6. Frozen foods going into a separate order assembly area for order assembly must be moved out promptly unless break-up room is maintained uniformly at minus eighteen degrees C (0°F) or lower.
7. All warehousemen will strictly adhere to packer (or his agent) requirement to proper handling, shipping, etc.
8. All warehousemen will maintain an acceptable high standard of sanitation and housekeeping within their warehouse.
9. Excessive product temperature fluctuations either in range or frequency are undesirable. They may lead to serious dehydration. Although temperature fluctuations are generally less harmful at lower storage temperatures, variations greater than three centigrade degrees (5°F) in the air temperature should be avoided.
10. The product should be stacked in the freezer storage so that there is always a space for cold air to circulate along the walls and floor, recommended clearance, minimum 10 c.m. (4 inches) for a short period. However, if storage is prolonged (several months) a clearance of 30 c.m. would be preferable to allow space for inspection and cleaning. No product should be block-stacked to restrict air flow around cartons.

SECTION FOUR

All Forms of Distribution Transportation Equipment

1. All vehicles used to transport frozen foods — railway cars, motor trucks, trailers or containers, ships and aircraft should be:
 - a) so constructed and properly insulated that, when equipped with appropriate refrigeration units, they will be capable of maintaining product temperature of minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products of twenty-one degrees C (-5°F) or lower, throughout the load in all movement.
 - b) equipped with an appropriate temperature measurement and recording device to indicate accurately air temperature inside the vehicle. The dial or reading element of the device should be mounted in a readily visible position outside the vehicle;
 - c) equipped with tight fitting doors and suitable closures for drain holes to prevent air leakage;
 - d) entirely free from dirt of any kind, debris, offensive odours, or any other sources of chemical or biological materials that could contaminate the foods.
 - (e) pre-chilled prior to loading frozen foods.

2. All carriers for hire must carry adequate cargo insurance for transport of frozen foods.
3. Frozen food shall be loaded within a vehicle of transportation to provide for free circulation of refrigerated air at the front, rear, top, bottom, and both sides of the load, except for vehicles of envelope type construction wherein refrigerated air circulates within walls of said vehicles.
4. After loading has been completed and the vehicle doors closed, the equipment should be checked prior to departure to insure that the refrigeration system is in proper working order. Any lengthy disruption of the vehicle loading operation will necessitate the closing of the doors to retain temperature.

Handling Practices for Line-Haul or Over-the-Road Transportation

1. All vehicles and containers should be pre-cooled.
2. Product temperature should be at minus eighteen degrees C (0°F) or lower, and for fish and fishery products at minus twenty-one degrees C (-5°F) or lower, when loaded and during transportation.
3. No product should be loaded in such a manner in any vehicle that it will interfere with the free flow of air into or out of the refrigeration unit, nor with the free flow of air around the load in vehicles or containers.
4. When unattended during an extended period of waiting for loading assembly the vehicle's refrigeration unit should be turned on and the doors kept closed.
5. The warehouse operator should record product temperature of each shipment of frozen foods received.
6. The transporter should record the temperature of the product at the time of loading.
7. The transport vehicle should be equipped with a temperature recording device.

Distribution Route Delivery for Frozen Foods

1. Applicable sections under the part on over-the-road haul transportation on this page should be followed in the case of route delivery, with the exception of mixed load (refer section below).
2. Doors of route delivery trucks should be kept closed during any period when loading or unloading operations cease, in order to keep product temperature fluctuations to a minimum.
3. When and if possible only one door of the refrigerated section of the vehicle should be opened when making a delivery.
4. Reefer unit should be shut down when vehicle door(s) is open, but started again when the door is closed, unless the unit has been completely emptied of food.

Distribution Route Delivery for Mixed Loads

1. All applicable sections under the section on over-the-road haul transportation should be followed in the case of route delivery.
2. Frozen foods carried on route delivery transportation where non-frozen or refrigerated products are part of the load be maintained at minus eighteen degrees C (0°F).
3. Doors of route delivery trucks should be kept closed during any period when loading or unloading operations cease in order to keep product temperature fluctuation to a minimum.
4. Dry ice or bulk head divider, or insulated containers, should be used to maintain the food in the frozen state.

SECTION FIVE

Storage Facilities for Foodservice Installation

1. Frozen food storage facilities should maintain the product temperature at minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products at minus twenty-six degrees C (-15°F) or lower.
2. Total storage facilities should be of sufficient cubic capacity to easily accommodate frozen foods in quantities anticipated for operation of the foodservice establishment, taking into account the frequency of deliveries, probable peak requirements, ordering practices and related factors.
3. Cabinet type frozen food storage facilities should be equipped with an accurate thermometer indicating a representative air temperature, and should be defrosted as frequently as necessary to maintain refrigeration efficiency.

4. Walk-in type storage facilities should have provision for circulation of refrigerated air and should be defrosted as frequently as necessary to maintain refrigeration efficiency. Such facilities should be equipped with an accurate thermometer, the sensing element of which should be located in the upper third of the distance between the floor and ceiling, and away from the entrance door or direct air blast from cooling unit.
5. Each outlet should be equipped with frozen food storage facilities of sufficient cubic capacity to accommodate those frozen foods that are not placed directly in display case at time of delivery. (Except those to be sold in thawed or semi-thawed condition and are appropriately identified).

Foodservice Installation Handling Practices

1. Frozen foods should be delivered at minus eighteen degrees C (0°F) or lower, and in the case of fish and fishery products at minus twenty-one degrees C (-5°F) or lower, and should be refused if the product temperature exceeds minus ten degrees C (14°F). The foodservice manager or his designee should approve rejection.
2. All frozen foods received at a foodservice installation should be placed promptly in storage facilities which comply with the aforementioned characteristics. Product should be removed from storage in quantities only sufficient for immediate use.
3. Foodservice installations should rotate frozen food inventories on a first-in, first-out basis.

SECTION SIX

Retailer Handling Practices

1. Frozen foods which are obviously soft or in a semi-thawed state should be refused. Department or store manager should approve product rejections.
2. Frozen foods must be kept frozen at all times and should be moved quickly from transport to freezer and from freezer to freezer displays. Do not permit frozen products to remain in unrefrigerated areas such as docks, backrooms or aisles for more than twenty (20) minutes.
3. Retailers should not place frozen foods outside the designated load limit lines.
4. Retailers should observe manufacturers' guidelines for the correct operations and maintenance of frozen food display cabinets. Employees should be knowledgeable in these and emergency practices and should have ready access to expert (mechanic) help in the event of cabinet or power failures.
5. Retailers should rotate frozen food inventories on a first-in, first-out basis.

Storage Facilities for Retail Stores

1. Frozen food storage facilities should be capable of maintaining a product temperature of minus eighteen degrees (0°F) or lower.
2. Cabinet type frozen food storage facilities should be equipped with an accurate thermometer indicating a representative air temperature and should be defrosted as frequently as necessary to maintain refrigeration efficiency.
3. Frozen food storage facilities should have provision for circulation of refrigerated air and should be defrosted as frequently as necessary to maintain refrigeration efficiency. Such facilities should be equipped with an accurate thermometer, the sensing element of which should be located within the upper third of the distance between the floor and ceiling, but not placed in a direct blast of air from the cooling unit, cooling coils, heat exchange or near the entrance door.
4. Retailers should rotate frozen food inventories on a first-in, first-out basis.

Retail Display Cases

1. Display cases should be capable of maintaining a product temperature of minus eighteen degrees C (0°F) or lower.
2. Frost on the refrigerated coils and in air passages of the display cases should be removed as recommended in manufacturers' specifications. This should be done as often as is necessary to maintain refrigeration capacity.
3. Each display case should be equipped with an accurate thermometer, the sensing element of which is located within the path of refrigerated air being returned to the evaporator coils.
4. The manufacturer of display refrigerators shall clearly mark on the walls of each refrigerator, the proper food product load levels.
5. Retailers should rotate frozen food inventories in a first-in, first-out basis.

**CANADIAN CODE OF RECOMMENDED HANDLING PRACTICES
FOR FROZEN FOOD**

Endorsements

FEDERAL GOVERNMENT DEPARTMENTS

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