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ASSOCIATION

C827-10

Energy performance of food service refrigerators and freezers



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***Energy performance of food service
refrigerators and freezers***



**CANADIAN STANDARDS
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Contents

Technical Committee on Heating, Ventilation, Air Conditioning, and Refrigeration iv

Subcommittee on Food Service Refrigerators vi

Preface vii

1 Scope 1

2 Reference publications 2

3 Definitions 3

4 Classification 4

4.1 General 4

4.2 Cabinet classifications 4

5 Requirements 4

5.1 General 4

5.2 Rating 5

5.2.1 Standard ratings 5

5.2.2 Published ratings 5

5.3 Performance 5

5.4 High efficiency 5

6 Marking 5

7 Tests 6

7.1 General 6

7.2 Control settings 6

7.3 Volume measurement 6

7.4 Start of test 6

7.4.1 Auto defrost units 6

7.4.2 Manual and semi-automatic defrost units 6

7.5 Test period 6

7.6 Defrost cycle 6

7.6.1 Auto defrost units 6

7.6.2 Semi-automatic and manual defrost units 6

Tables

1 — Maximum daily energy consumption (MDEC) — Standard efficiency, kWh/day 7

2 — Maximum daily energy consumption (MDEC) — High efficiency, kWh/day 7

3 — Initial product test temperatures 8

Annexes

1 — Food service refrigerators and freezers 9

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Preface

This is the second edition of CSA C827, *Energy performance of food service refrigerators and freezers*. It supersedes the first edition, published in 1998.

Many of the products within the scope of this Standard are currently covered under the certification program of the California Energy Commission (CEC). The test method for performance rating specified in this Standard is in accordance with ANSI/ASHRAE 72, and the cabinet volume measurement requirements are in accordance with AHAM HRF-1. Both minimum and high-efficiency energy performance requirements are included in this Standard; the latter have been harmonized with Energy Star® performance ratings.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

CSA acknowledges that the development of this Standard was made possible, in part, by the financial support of Natural Resources Canada (NRCan), Manitoba Hydro, and the Ontario Ministry of Energy & Infrastructure.

This Standard was prepared by the Subcommittee on Food Service Refrigerators, under the jurisdiction of the Technical Committee on Heating, Ventilation, Air Conditioning, and Refrigeration and the Strategic Steering Committee on Performance, Energy Efficiency, and Renewables, and has been formally approved by the Technical Committee. This Standard will be submitted to the Standards Council of Canada for approval as a National Standard of Canada.

July 2010

Notes:

- (1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- (3) This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.
- (4) CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.
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 - (b) provide an explanation of circumstances surrounding the actual field condition; and
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C827-10

Energy performance of food service refrigerators and freezers

1 Scope

1.1

This Standard applies to commercial refrigerator, refrigerator-freezer, and freezer cabinets that are intended for storing or holding food products and other perishable merchandise.

1.2

This Standard specifies methods for measuring the volume and energy consumption of electrically operated commercial refrigerated appliances.

1.3

This Standard applies to

- (a) manufacturers' standard catalogue-type equipment;
- (b) closed cabinets of the unitary, self-contained type;
- (c) commercial refrigerated storage cabinets, regardless of their shape, size, or configuration (except as noted in [Clause 1.4](#)), including
 - (i) reach-in cabinets;
 - (ii) roll-in or roll-through cabinets;
 - (iii) pass-through cabinets;
 - (iv) reach-in wine coolers;
 - (v) fish or poultry files;
 - (vi) ice cream cabinets;
 - (vii) milk or beverage cabinets;
 - (viii) worktop tables; and
 - (ix) undercounter cabinets;
- (d) closed refrigerated cabinets, regardless of the material used for the door(s) of such cabinets, provided that the closed cabinets are designed for holding and storing food products;
- (e) both permanently connected and cord-connected equipment;
- (f) cabinets equipped with or designed to work with electrically driven, mechanical, vapour compression systems charged with one of the refrigerants listed in CSA B52;
- (g) refrigeration equipment designed for storage temperatures either above or below freezing temperatures, or both in separate compartments; and
- (h) freezers.

1.4

This Standard does not apply to

- (a) open-type refrigeration cases designed for use without doors*;
- (b) remote-condensing commercial refrigerators and freezers*;
- (c) walk-in refrigerators and freezers, water coolers, refrigerated vending machines, or ice-making machines;
- (d) soft serve, slush, and shake-dispensing freezers and extruders;
- (e) refrigerators, freezers, or combinations thereof designed for residential or consumer household use;