



ENERGY STAR®

Qualifying Criteria for Commercial Solid Door Refrigerators And Freezers July 2006

A product must meet all of the identified criteria if it is to be labeled as ENERGY STAR by its manufacturer.

1) Definitions: Below is a brief description of a commercial solid door refrigerator and commercial solid door freezer and other terms relevant to ENERGY STAR.

A. Commercial Refrigerator: A cabinet designed for storing food or other perishable items at temperatures above 0°C (32°F) but no greater than 4.4°C (40°F)

B. Commercial Freezer: A cabinet designed for storing food or other perishable items at temperatures of -17.8°C (0°F) or below.

C. Commercial Refrigerator-Freezer: A cabinet with two or more compartments; at least one of which is designed for storing food or other perishable items at temperatures above 0°C (32°F) but no greater than 4.4°C (40°F), and at least one of which is designed for storing food or other perishable items at temperatures of -17.8°C (0°F) or below.

D. Commercial Ice Cream Freezer: A cabinet designed for storing food or other perishable items at temperatures of -20.6°C (-5°F) or below.

E. Commercial Refrigeration Cabinet: A refrigerator, freezer, or refrigerator-freezer for storing food products or other perishable items at specified temperatures and designed for use by commercial or institutional facilities.

F. Self-contained Refrigeration Cabinet: A refrigerator, freezer, or refrigerator-freezer which has the condensing unit built into the cabinet.

G. Energy Consumption: The energy required to maintain the contents at a specified temperature for 24-hour period.

H. Integrated Average Product Temperature: The integrated average of all test package temperatures, recorded at 15-minute intervals, as determined using the test method prescribed in Section 4, Test Criteria.

I. ASHRAE: American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc.

2) Qualifying Products: For the purposes of ENERGY STAR, the following types of commercial solid door refrigerators, freezers, and refrigerator-freezers may qualify:

A. Reach-in Cabinet: An upright commercial, self-contained refrigeration cabinet with hinged, solid doors but excluding undercounter, roll-in, roll-through, or pass-through cabinets.

B. Undercounter Cabinet: An upright commercial, self-contained refrigeration cabinet without a worktop surface which has hinged, solid doors and which is intended for installation under a counter.

C. Roll-in or Roll-through Cabinet: An upright, self-contained commercial refrigeration cabinet with hinged, solid doors that allows wheeled racks of product to be rolled into or through the refrigerator or freezer.

D. Pass-through Cabinet: An upright commercial, self-contained refrigeration cabinet with hinged, solid doors on both the front and rear of the refrigerator or freezer.

3) Energy-Efficiency Specifications for Qualifying Products:

When proposed Canadian energy efficiency regulations for commercial solid door refrigerators and freezers go into effect, the list of qualified models in Canada will be drawn from third party verified models that figure on energy efficiency reports submitted to NRCan. The list will be posted on the ENERGY STAR in Canada web site.

Only those products listed in Section 2 that also meet the specifications listed in Table 1 below, may qualify as ENERGY STAR.

Table 1: Specifications for ENERGY STAR Qualified Commercial Solid Door Refrigerators and Freezers	
Product Type	Energy Consumption Under Test Conditions
Refrigerators	< 0.00353V + 2.04 kW-hours/day
Freezers	< 0.01413V + 1.38 kW-hours/day
Refrigerator-Freezers	< 0.00954AV - 0.71 kW-hours/day
Ice Cream Freezers	< 0.01377V + 0.82 kW-hours/day

Note: V = Internal volume in liters

AV = Adjusted volume = (1.63 x freezer volume in liters) + refrigerator volume in liters

4) Test Criteria: Manufacturers are required to perform tests to self-certify those product models that meet the ENERGY STAR guidelines. The test results must be reported to Natural Resources Canada using the Commercial Solid Door Refrigerator and Freezer ENERGY STAR Energy Efficiency Report.

In performing these tests, manufacturers must use ASHRAE Standard 117-1992, "Method of Testing Closed Refrigerators," to measure the daily energy consumption of commercial solid door refrigerators and freezers with the following temperature specifications:

Product Type:	Integrated average product temperature in C°:
Commercial solid-door refrigerator	3.3 ± 1.1
Commercial solid-door freezer	-17.8 ± 1.1
Commercial ice cream cabinet	-20.6 ± 1.1

5) Effective Date: The date that manufacturers may begin to qualify products as ENERGY STAR will be defined as the *effective date* of the signing an administrative arrangement in Canada and/or a partnership agreement in the U.S. The ENERGY STAR for Commercial Solid Door Refrigerators and Freezers Specification (Version 1.0) is effective on September 1, 2006.

6) Future Specification Revisions: ENERGY STAR reserves the right to revise the specifications should technological and/or market changes affect its usefulness to purchasers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through discussions with industry.

**Regulatory Requirements for Products
Included Under Canada's Energy Efficiency Regulations**

Products regulated under *Canada's Energy Efficiency Regulations* must meet the following regulatory requirements:

Each product must meet or exceed the minimum energy performance levels as prescribed in that product's test standard(s).

Each product must bear a verification mark from a certification organization that is accredited by the Standards Council of Canada (SCC) and is recognized by Natural Resources Canada (NRCan) as an administrator of an energy performance verification program. The following certification organization is currently listed in *Canada's Energy Efficiency Regulations*:

American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE)

An energy efficiency report must be filed with NRCan before the product is imported into Canada or shipped between provinces or territories. This report provides information on the product and its energy performance.

For imports into Canada, specific information must appear on the customs import documents and an extra copy of the document is given to Canada Customs and Revenue Agency (CCRA).

For more details about these requirements, visit NRCan's regulation Web site at <http://oee.nrcan.gc.ca/regulations/>