



ENERGY STAR® for Commercial Solid Door
Refrigerators and Freezers
Draft Eligibility Criteria
Version 1.0 - May 14, 2001



Below is the *draft (Version 1.0)* for ENERGY STAR® qualified commercial solid door refrigerators and freezers. A product must meet all of the identified criteria to qualify for the ENERGY STAR label.

1) Definitions:

- A. Commercial Refrigeration Cabinet: A refrigerator, freezer, or combination refrigerator-freezer for storing food products or other perishable items at specified temperatures and designed for use by commercial or institutional facilities.
- B. Commercial Refrigerator: A cabinet designed for storing food or other perishable items at temperatures above 32°F and below 40°F.
- C. Commercial Freezer: A reach-in cabinet designed for storing food or other perishable items at temperatures below 0°F and above -5°F.
- D. 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 32°F and below 40°F and at least one of which is designed for storing food or other perishable items at temperatures below 0°F and above -5°F.
- E. Ice Cream Freezer: A commercial cabinet designed for storing food or other perishable items at temperatures below -5°F.
- F. Energy Consumption: The energy required to maintain the contents at a specified temperature for a 24-hour period.
- G. Initial Product Temperature: The temperature of a test package at the beginning of the performance test.
- H. Maximum Product Temperature: The highest temperature of any test package during the performance test.

2) Qualifying Products: For the purposes of this specification commercial solid door refrigerators, freezers, and combination refrigerator-freezers include the following:

- A. Reach-in Cabinet: An upright commercial refrigeration cabinet with one to three solid doors, but not including undercounter, roll-in, roll-through, or pass-through cabinets.
- B. Undercounter Cabinet: An upright commercial refrigeration cabinet with one to three solid doors intended for installation under a counter and is thermally isolated from the counter.
- C. Roll-in or Roll-through Cabinet: An upright commercial refrigeration cabinet with one to three 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 refrigeration cabinet with one to three solid sliding or hinged doors on both the front and rear of the refrigerator or freezer.
- 3) Energy-Efficiency Specifications for Qualifying Products: Only those products listed in Section 2 that also meet the specifications listed in Table 1 below, may qualify for the ENERGY STAR label.

Table 1. Draft Criteria for ENERGY STAR Qualified Commercial Solid Door Refrigerators and Freezers

Product Category	Energy Use Under Test Conditions
Refrigerators	#0.10V + 2.04 kW-hours/day
Freezers	#0.40V + 1.38 kW-hours/day
Refrigerator-Freezers	#0.27AV - 0.71 kW-hours/day
Ice Cream Freezers	#0.39V + 0.82 kW-hours/day

V = Internal volume in ft³

AV = Adjusted volume = (1.63 x freezer volume in ft³) + refrigerator volume in ft³

- 4) Test Criteria: Manufacturers are required to perform tests to self-certify those models that meet the ENERGY STAR criteria. The test results must be reported to EPA using the Commercial Solid Door Refrigerator and Freezer Qualifying Product Form.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 117-1992, "Method of Testing Closed Refrigerators," shall be used to measure the daily energy consumption of commercial reach-in refrigerators and freezers with the following temperature specifications:

- Commercial solid-door refrigerator: initial product temperature 38°±1°F
maximum product temperature 40°F
- Commercial solid-door freezer: initial product temperature 0°±1°F
maximum product temperature 2°F
- Ice cream cabinet: initial product temperature -5°±1°F
maximum product temperature 0°F

- 5) 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.

EPA comments: The Eligibility Criteria is part of a larger document, called a Partnership Agreement (PA), which is signed by a manufacturer in order to become an ENERGY STAR Partner. The PA contains standard language outlining the responsibilities of a Partner and requirements to maintain that partnership.

Future versions of this document will contain a section called "Effective Date." The effective date is the date as of which Partners may begin to use the ENERGY STAR label on their qualifying products.

The formulae in Table 1 were derived from data contained in the California Energy Commission database as of February 1, 2001, for the products listed in Part 2 of this document.

