



ENERGY STAR® Program Requirements for Commercial Solid Door Refrigerators and Freezers

Eligibility Criteria

Below is the product specification (Version 1.1) for ENERGY STAR qualified commercial solid door refrigerators and freezers. 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 32 degrees Fahrenheit (F) but no greater than 40 degrees F.
 - B. Commercial Freezer: A cabinet designed for storing food or other perishable items at temperatures of 0 degrees 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 32 degrees F but no greater than 40 degrees F and at least one of which is designed for storing food or other perishable items at temperatures of 0 degrees F or below.
 - D. Commercial Ice Cream Freezer: A cabinet designed for storing food or other perishable items at temperatures of -5 degrees 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 a 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.
 - J. Worktop Surface: A solid working surface and backsplash. The working surface may be a cutting board, a stainless steel work surface, or a stone slab.
- 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 with or without a worktop surface (see definition in Section 1) which has hinged, solid doors. In the case where the unit does not have a worktop surface, the unit is intended for installation under a counter. In the case where the unit has a worktop surface, this surface may not add to the total energy consumption of the unit. Preparation tables are not eligible for ENERGY STAR qualification under this specification.

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: 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	$\leq 0.10V + 2.04$ kW-hours/day
Freezers	$\leq 0.40V + 1.38$ kW-hours/day
Refrigerator-Freezers	$\leq 0.27AV - 0.71$ kW-hours/day
Ice Cream Freezers	$\leq 0.39V + 0.82$ kW-hours/day

Note: 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 product models that meet the ENERGY STAR guidelines. The test results must be reported to EPA using the Commercial Solid Door Refrigerator and Freezer Qualifying Product Form.

In performing these tests, manufacturers must use ASHRAE Standard 72-2005, "Method of Testing Commercial Refrigerators and Freezers," to measure the daily energy consumption of commercial solid door refrigerators and freezers with the following temperature specifications:

Product Type:	Integrated average product temperature:
Commercial solid-door refrigerator	38 degrees ± 2 degrees F
Commercial solid-door freezer	0 degrees ± 2 degrees F
Commercial ice cream cabinet	-5 degrees ± 2 degrees F

- 5) Effective Date: The date that manufacturers may begin to qualify products as ENERGY STAR will be defined as the *effective date* of the agreement. The ENERGY STAR for Commercial Solid Door Refrigerators and Freezers Specification (Version 1.1) is effective on September 1, 2001.
- 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.