

§ 431.305 [Reserved]

ENERGY CONSERVATION STANDARDS

§ 431.306 Energy conservation standards and their effective dates.

(a) Each walk-in cooler or walk-in freezer manufactured on or after January 1, 2009, shall—

(1) Have automatic door closers that firmly close all walk-in doors that have been closed to within 1 inch of full closure, except that this paragraph shall not apply to doors wider than 3 feet 9 inches or taller than 7 feet;

(2) Have strip doors, spring hinged doors, or other method of minimizing infiltration when doors are open;

(3) Contain wall, ceiling, and door insulation of at least R-25 for coolers and R-32 for freezers, except that this paragraph shall not apply to glazed portions of doors nor to structural members;

(4) Contain floor insulation of at least R-28 for freezers;

(5) For evaporator fan motors of under 1 horsepower and less than 460 volts, use—

(i) Electronically commutated motors (brushless direct current motors); or

(ii) 3-phase motors;

(6) For condenser fan motors of under 1 horsepower, use—

(i) Electronically commutated motors (brushless direct current motors);

(ii) Permanent split capacitor-type motors; or

(iii) 3-phase motors; and

(7) For all interior lights, use light sources with an efficacy of 40 lumens per watt or more, including ballast losses (if any), except that light sources with an efficacy of 40 lumens per watt or less, including ballast losses (if any), may be used in conjunction with a timer or device that turns off the lights within 15 minutes of when the walk-in cooler or walk-in freezer is not occupied by people.

(b) Each walk-in cooler or walk-in freezer with transparent reach-in doors manufactured on or after January 1, 2009, shall also meet the following specifications:

(1) Transparent reach-in doors for walk-in freezers and windows in walk-in freezer doors shall be of triple-pane

glass with either heat-reflective treated glass or gas fill.

(2) Transparent reach-in doors for walk-in coolers and windows in walk-in cooler doors shall be—

(i) Double-pane glass with heat-reflective treated glass and gas fill; or

(ii) Triple-pane glass with either heat-reflective treated glass or gas fill.

(3) If the walk-in cooler or walk-in freezer has an antisweat heater without antisweat heat controls, the walk-in cooler and walk-in freezer shall have a total door rail, glass, and frame heater power draw of not more than 7.1 watts per square foot of door opening (for freezers) and 3.0 watts per square foot of door opening (for coolers).

(4) If the walk-in cooler or walk-in freezer has an antisweat heater with antisweat heat controls, and the total door rail, glass, and frame heater power draw is more than 7.1 watts per square foot of door opening (for freezers) and 3.0 watts per square foot of door opening (for coolers), the antisweat heat controls shall reduce the energy use of the antisweat heater in a quantity corresponding to the relative humidity in the air outside the door or to the condensation on the inner glass pane.

Subpart S—Metal Halide Lamp Ballasts and Fixtures

SOURCE: 74 FR 12075, Mar. 23, 2009, unless otherwise noted.

§ 431.321 Purpose and scope.

This subpart contains energy conservation requirements for metal halide lamp ballasts and fixtures, pursuant to Part A-1 of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311-6317.

§ 431.322 Definitions concerning metal halide lamp ballasts and fixtures.

Ballast efficiency means, in the case of a high intensity discharge fixture, the efficiency of a lamp and ballast combination, expressed as a percentage, and calculated in accordance with the following formula: Efficiency = P_{out}/P_{in} where:

(1) P_{out} equals the measured operating lamp wattage;

(2) P_{in} equals the measured operating input wattage;

(3) The lamp, and the capacitor when the capacitor is provided, shall constitute a nominal system in accordance with the ANSI C78.43, (incorporated by reference; see § 431.323);

(4) For ballasts with a frequency of 60 Hz, P_{in} and P_{out} shall be measured after lamps have been stabilized according to section 4.4 of ANSI C82.6 (incorporated by reference; see § 431.323) using a wattmeter with accuracy specified in section 4.5 of ANSI C82.6; and

(5) For ballasts with a frequency greater than 60 Hz, P_{in} and P_{out} shall have a basic accuracy of ± 0.5 percent at the higher of either 3 times the output operating frequency of the ballast or 2 kHz.

Metal halide ballast means a ballast used to start and operate metal halide lamps.

Metal halide lamp means a high intensity discharge lamp in which the major portion of the light is produced by radiation of metal halides and their products of dissociation, possibly in combination with metallic vapors.

Metal halide lamp fixture means a light fixture for general lighting application designed to be operated with a metal halide lamp and a ballast for a metal halide lamp.

Probe-start metal halide ballast means a ballast that starts a probe-start metal halide lamp that contains a third starting electrode (probe) in the arc tube, and does not generally contain an igniter but instead starts lamps with high ballast open circuit voltage.

Pulse-start metal halide ballast means an electronic or electromagnetic ballast that starts a pulse-start metal halide lamp with high voltage pulses, where lamps shall be started by the ballast first providing a high voltage pulse for ionization of the gas to produce a glow discharge and then power to sustain the discharge through the glow-to-arc transition.

TEST PROCEDURES

§ 431.323 Materials incorporated by reference.

(a) *General.* We incorporate by reference the following standards into Subpart S of Part 431. The material

listed has been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to a standard by the standard-setting organization will not affect the DOE regulations unless and until amended by DOE. Material is incorporated as it exists on the date of the approval and a notice of any change in the material will be published in the FEDERAL REGISTER. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Also, this material is available for inspection at U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, 202-586-2945, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays, or go to: http://www1.eere.energy.gov/buildings/appliance_standards/. Standards can be obtained from the sources listed below.

(b) ANSI. American National Standards Institute, 25 W. 43rd Street, 4th Floor, New York, NY 10036, 212-642-4900, or go to <http://www.ansi.org>.

(1) ANSI C78.43-2004, Revision and consolidation of ANSI C78.1372-1997, .1374-1997, .1375-1997, .1376-1997, .1377-1997, .1378-1997, .1379-1997, .1382-1997, .1384-1997, and .1650-2003 (“ANSI C78.43”), American National Standard for electric lamps: Single-Ended Metal Halide Lamps, approved May 5, 2004, IBR approved for § 431.322;

(2) ANSI C82.6-2005, Proposed Revision of ANSI C82.6-1985 (“ANSI C82.6”), American National Standard for Lamp Ballasts—Ballasts for High-Intensity Discharge Lamps—Methods of Measurement, approved February 14, 2005, IBR approved for § 431.322;

(c) NFPA. National Fire Protection Association, 11 Tracy Drive, Avon, MA 02322, 1-800-344-3555, or go to <http://www.nfpa.org>;

(1) NFPA 70-2002 (“NFPA 70”), National Electrical Code 2002 Edition, IBR approved for § 431.326;