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Commercial Refrigerators and Freezers



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The following table is provided as a reference for unit abbreviations for common forms of measurement used within NSF documents.

time	second	s
	minute	min
	hour	h
	day	d
	week	wk
	month	mo
	year	yr
length	inch	in
	foot	ft
	yard	yd
	micrometer	µm
	nanometer	nm
	millimeter	mm
	centimeter	cm
	meter	m
	kilometer	km
liquid measure	milliliter	mL
	liter	L
	liters per day	LPD
	liters per minute	LPM
	ounce	oz
	pint	pt
	quart	qt
	gallon	gal
	gallons per minute	GPM
	gallons per day	GPD
weight	microgram	µg
	picogram	pg
	nanogram	ng
	milligram	mg
	centigram	cg
	gram	g
	kilogram	kg
	pound	lb
	ton	t
	metric ton	mt
miscellaneous	British thermal unit	BTU
	kilowatt	kW
	volume per volume	v/v

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Foreword²

The purpose of this standard is to establish minimum food protection and sanitation requirements for the materials, design, construction, and performance of commercial refrigerators and freezers.

Requirements for food store refrigeration were developed in collaboration with the Commercial Refrigerator Manufacturers Association.

The requirements established in this Standard are intended to be consistent with the Food Code, recommendations of the US Public Health Service, Food and Drug Administration.

This edition of the standard contains the following revision:

Issue 27

This revision adds language regarding equipment mounting as Sections 5.24.7 and 5.24.8.

This standard was developed by the NSF Joint Committee on Food Equipment using the consensus process described by the American National Standards Institute.

This standard and the accompanying text are intended for voluntary use by certifying organizations, regulatory agencies, and/or manufacturers as a basis of providing assurances that adequate health protection exists for covered products.

Suggestions for improvement of this standard are welcome. This standard is maintained on a continuous maintenance schedule and can be opened for comment at any time. Comments should be sent to: Chair, Joint Committee on Food Equipment at standards@nsf.org, or c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, U.S.A.

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Commercial Refrigerator Manufacturers Division / Air Conditioning Refrigeration Institute

The Commercial Refrigerator Manufacturers Association (CRMA) was founded in 1933 as a national trade association dedicated to advancing the common interests of the commercial refrigeration industry. In April 2000, CRMA merged with the Air Conditioning Refrigeration Institute (ARI) to form the Commercial Refrigerator Manufacturers Division / Air Conditioning Refrigeration Institute. CRMD/ARI continues to target three primary objectives:

- to showcase technical and business information to help solve common problems and promote growth in industry;
- to represent the collective voice of the industry with any government organization addressing policies or issues affecting the industry; and
- to support high voluntary standards for quality in equipment design and performance.

CRMD/ARI is a not-for-profit corporation of leading businesses meeting international demands for increasingly specialized and efficient refrigeration equipment. CRMD/ARI members serve a wide range of markets, including supermarkets, food stores, convenience stores, restaurants, hotels, motels, food processing establishments, and hospitals.

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NSF/ANSI Standard for Food Equipment – Commercial Refrigerators and Freezers

1 General

1.1 Purpose

This standard establishes minimum food protection and sanitation requirements for the materials, design, manufacture, construction, and performance of commercial refrigerators and freezers and their related components.

1.2 Scope

This standard contains requirements for refrigerators and freezers used to store and/or display cold food. The types of refrigerators and freezers covered by this standard include, but are not limited to:

- storage refrigerators (e.g., reach-in, under counter, walk-in, roll-in);
- storage freezers (e.g., reach-in, under counter, walk-in, roll-in);
- rapid pull-down refrigerators and freezers;
- refrigerated food transport cabinets;
- refrigerated buffet units;
- refrigerated food preparation units;
- display refrigerators;
- beverage coolers; and
- ice cream cabinets.

This standard does not establish equipment installation requirements. While the requirements of this standard are intended to ensure that equipment may be installed in a sanitary manner, proper installation of equipment shall be governed by the applicable codes.

Refrigerator and freezer components and materials covered under other NSF or NSF/ANSI standards or criteria shall also conform to the requirements therein. This standard is not intended to restrict new unit design, provided that such design meets the minimum specifications described herein.

1.3 Alternate materials, design, and construction

While specific materials, design, and construction may be stipulated in this standard, equipment that incorporates alternate materials, design, or construction may be acceptable when such equipment meets the applicable requirements herein.

1.4 Measurement

Decimal and SI conversions provided parenthetically shall be considered equivalent. Metric conversions have been made according to IEEE/ASTM SI 10.³

³ Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York, NY 10016. <www.ieee.org>