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United States Standards for Grades of Canned Tomatoes

Effective June 12, 2026

This issue of the United States Standards for Grades of Canned Tomatoes (91 FR 26985) supersedes the previous issue which had been in effect since April 13, 1990.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of fresh and processed fruits, vegetables, and specialty crops these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The U.S. grade standards and inspection instructions for all fresh and processed fruits, vegetables, and specialty crops are available on the internet and upon request at the address below. These documents provide detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the U.S. Department of Agriculture (USDA) after careful consideration of all data and views submitted during rulemaking. The Department welcomes suggestions for improving the standards in future revisions. Comments may be submitted to, and copies of standards and inspection instructions obtained from:

Director, Specialty Crops Inspection Division
Specialty Crops Program,
USDA, Agricultural Marketing Service
1400 Independence Avenue, SW, STOP 0240
Washington, D.C. 20250

Authority: 7 U.S.C. 1621-1627.

Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

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Product Description

§52.5161 Product description.

The products to which these standards apply are defined in the Standards of Identity issued under the Federal Food, Drug, and Cosmetic Act as:

- (a) **Canned tomatoes** (21 CFR §155.190) and
- (b) **Canned stewed tomatoes** (21 CFR §155.190).

Styles

§52.5162 Styles.

- (a) **Whole** means tomatoes, peeled or unpeeled, of any size that are substantially whole or almost whole.
- (b) **Sliced** means tomatoes, peeled or unpeeled, that have been cut into units of approximately uniform thickness.
- (c) **Halves** means tomatoes, peeled or unpeeled, that have been cut into two approximately equal halves.
- (d) **Wedges** means tomatoes, peeled or unpeeled, that have been cut into approximate quarters or wedge-shaped sectors.
- (e) **Diced** means tomatoes, peeled or unpeeled, that have been cut into approximate cube-shaped units.

Pack

§52.5163 Type of pack.

Regular pack means tomatoes packed in a medium consisting of tomato juice, tomato puree, or tomato paste.

Definitions

§52.5164 Definition of terms.

- (a) **Character** means the degree of firmness normally found when tomatoes have been processed using good manufacturing practices as defined in 21 CFR Part 110. Canned and stewed tomatoes that, when fully cooked, are excessively soft or mushy are considered to lack character.

Excessively soft is further defined for all styles and means that the unit may disintegrate upon handling, has evidence of sloughing (erosion of the tomato tissue) or has ragged edges, and has lost ability to retain shape. For the purposes of these grade standards, character is classified as good, reasonably

good and fairly good. There is no substandard classification for the quality factor of character.

- (1) **Good character** in whole, halves, wedges, or sliced tomatoes is defined as tomatoes in which not more than 15 percent by count are excessively soft or mushy. Good character in diced tomatoes is defined as diced tomatoes in which not more than 15 percent by weight are excessively soft or mushy.
- (2) **Reasonably good** character in whole, halves, wedges, or sliced tomatoes is defined as tomatoes in which not more than 25 percent by count are excessively soft or mushy. Reasonably good character in diced tomatoes is defined as diced tomatoes in which not more than 25 percent by weight are excessively soft or mushy.
- (3) **Fairly good character** in whole, halves, wedges, or sliced tomatoes is defined as tomatoes in which more than 25 percent by count are excessively soft or mushy. Fairly good character in diced tomatoes is defined as diced tomatoes in which more than 25 percent by weight are excessively soft or mushy.

(b) **Color.**

- (1) **USDA Tomato Red** means the color contains more red than the USDA Color Standards for Canned Tomatoes. The USDA color standards are equivalent to the Munsell color discs in 21 CFR §155.190. The availability and procedure for using the color standards may be obtained by contacting the USDA.

Any method or device approved by the USDA (including electric color meters) which gives equivalent results may be used.

- (2) **Minimum Red for Canned Tomatoes** means color contains as much red as compared to the USDA Color Standards for Canned Tomatoes. To determine U.S. Grade C Color for canned and stewed tomatoes, apply the test for strength and redness of color outlined in 21 CFR §155.190 (b).

(c) **Defects** refer to objectionable core material, tomato peel, extraneous vegetable material (EVM), blemished areas, and discolored portions that affect the appearance and eating quality of the product as further described below.

- (1) **Blemished areas** are abnormal areas on the tomatoes which contrast strongly in color and/or texture with normal tomato tissue. Blemished areas may show objectionable discoloration ranging from light to dark discoloration. Blemished areas include but are not limited to scarred, raised, scabby tissue; darkened, tough areas which remain around the

core area; internal or external dark tissue around blossom ends of the tomatoes; or any other areas that are objectionable or unsightly.

- (2) **Discolored portions** are imperfections of the tomato tissue which may not be of strong contrasting color with respect to the tomato tissue but which detract slightly from the appearance of the product. Examples include sunburned areas, internal browning or tobacco mosaic, cloudy spots or ghost spots.
- (3) **Extraneous vegetable material (EVM)** is vegetable material that is not harmful and includes, but is not limited to, whole or parts of stems, calyx bracts, tomato leaves or portions thereof, sprouted seeds, and other similar vegetable material which may not be part of the tomato plant.
- (4) **Objectionable core material** is tomato material associated with the core of the tomato which detracts from the appearance or edibility of the product and includes tough fibers and tough or slightly discolored tomato tissue.
- (5) **Peel** means the loose or attached skin of the tomato.
- (d) **Drained tomatoes** means all of the tomato material that remains on the sieve after draining as prescribed in 21 CFR §155.190.
- (e) **Flavor and odor.**
 - (1) **Normal flavor and odor** means a typical characteristic flavor and odor of mature tomatoes.
 - (2) **Off-flavor and off-odor** means any flavor or odor other than typical characteristic flavor and odor of mature tomatoes that is objectionable.
- (f) **Whole or almost whole**, for whole style only, regardless of size, means that:
 - (1) The contour of the tomato is not materially affected by coring, trimming, or other means;
 - (2) The tomato may be cracked or split but not to the extent that there is material loss of seeds or placenta (gelatinous mass filling the seed cavity); and
 - (3) The tomato units may be restored to their approximate original shape during handling.

Fill of Container

§52.5165 Fill of container.

The standard of fill of container for canned tomatoes (21 CFR §155.190 (c)) requires that the product occupy not less than 90 percent of the water capacity of the container.

Drained Weight

§52.5166 Drained weight.

- (a) The method for ascertaining drained weight for all styles of canned and stewed tomatoes is found in 21 CFR §155.190 except that the U.S. Standard Number 8 circular sieve is used in lieu of a U.S. Standard Number 2 circular sieve for “sliced” and “diced” styles of canned and stewed tomatoes.
- (b) The drained weight is based on the equalization of the product 15 days or more after the product has been canned.
- (c) The drained weight must not be less than 50 percent of the weight of water required to fill the container.
- (d) **Meeting the drained weight requirements.** A lot of canned and stewed tomatoes is considered as meeting the minimum drained weight averages if the following criteria are met:
 - (1) The average of the drained weights from all the containers in the sample meets the average drained weight in Table I in §52.5170.
 - (2) All individual drained weights from the containers in the sample lot meets or exceeds the average drained weight listed in Table II in §52.5170.
 - (3) The number of individual containers in the sample which do not meet the requirement listed in Table II must not exceed the acceptance number prescribed for the sample size in 7 CFR §52.38, Table I.
- (e) **Meeting drained weight criteria.** A lot of canned tomatoes is considered as meeting the minimum drained weight averages if the following criteria are met:
 - (1) The average of the drained weights from all the containers in the sample meets the average drained weight in Table I in §52.5170.
 - (2) The drained weights from the individual containers which do not meet the minimum are:
 - (i) For No. 2-1/2 can size and smaller, all styles except diced: not more than 0.7 ounce lower than the minimum average.

- (ii) For No. 2-1/2 can size and smaller, diced style: not more than 0.5 ounce lower than the minimum average.
- (iii) For No. 10 cans, all styles: not more than 2.0 ounces below the minimum average; and
- (3) The number of containers in the sample which do not meet the requirements of paragraph (e)(2) of this section, does not exceed the acceptance number prescribed for the sample size in 7 CFR §52.38, Table I.

Sample Size

§52.5167 Sample unit sizes.

- (a) For “whole,” “halves,” and “wedges” styles, the sample unit size is the amount of product specified to be used for inspection in 7 CFR §52.38, Table I.
- (b) For “sliced” and “diced” styles, the sample unit size is the same as indicated in paragraph (a) of this section except in containers Number 10 (No. 10) can size and larger, an optional sample unit size of 32 ounces per container (drained weight) is permitted.

Grades and Factors of Quality

§52.5168 Grades.

- (a) **U.S. Grade A** is the quality of canned tomatoes that meets the applicable requirements of Tables I, II, III, IV, V, and VI of §52.5170, and scores not less than 90 points.
- (b) **U.S. Grade B** is the quality of canned tomatoes that meets the applicable requirements of Tables I, II, III, IV, V, and VI of §52.5170, and scores not less than 80 points.
- (c) **U.S. Grade C** is the quality of canned tomatoes that meets the applicable requirements of Tables I, II, III, IV, V, and VI of §52.5170, and scores not less than 70 points.
- (d) **Substandard** is the quality of canned tomatoes that fails the requirements for U.S. Grade C.

§52.5169 Factors of quality.

The grade of canned tomatoes is based on the following quality factors:

- (a) Drained weight;

- (b) Character;
- (c) Color;
- (d) Wholeness (“whole style” only);
- (e) Flavor and odor; and
- (f) Defects.

§52.5170 Requirements for grades.

Table I

**Minimum Drained Weight Averages for Canned Tomatoes and Stewed Tomatoes
All Grades, All Styles**

		Average Drained Weight (ounces)	
Container	Container Dimensions¹	U.S. Grade A and B	U.S. Grade C
8 oz Tall	211 X 304	5.0	4.3
No. 300	300 X 407	8.8	7.6
No. 303	303 X 406	9.8	8.5
No. 2	307 X 409	11.9	10.3
No. 2-1/2	401 X 411	17.3	14.9
No. 10	603 X 700	63.5	54.7

¹ The first figure in this column represents the diameter of the container and the second figure represents the height. The first digit in each number represents inches and the second two digits represent sixteenths of an inch. Thus 307 is three and seven-sixteenths inches.

Table II

**Low Individual Drained Weights for Canned Tomatoes and Stewed Tomatoes
All Grades, All Styles (ounces)**

Container	Container Dimensions	U.S. Grade A and B		U.S. Grade C	
		All (except diced)	Diced	All (except diced)	Diced
8 oz Tall	211 X 304	4.3	4.5	3.6	3.8
No. 300	300 X 407	8.1	8.3	6.9	7.1
No. 303	303 X 406	9.1	9.3	7.8	8.0
No. 2	307 X 409	11.2	11.4	9.6	9.8
No. 2-1/2	401 X 411	16.6	16.8	14.2	14.4
No. 10	603 X 700	61.5	61.5	52.7	52.7

Table III

Maximum Defects Permitted in Each Grade for All Styles

Grade	Defects	In an Individual Container ²		Sample Average ³
	Defect (Aggregate Area)	In cans of less than 2 pounds total contents (in any container)	In cans of 2 or more pounds total contents (equivalent amount per pound of contents of any container).	In total sample representing a lot; in cans of any size (per pound of total contents of all containers (average))
Grade A	Peel Blemished Areas Discolored portions	2 square inches 1/8 square inch 1/2 square inch	1 square inch 1/16 square inch 1/4 square inch	1/2 square inch 1/16 square inch 1/4 square inch
Grade B	Peel Blemished Areas Discolored portions	3 square inches 1/4 square inches 1 square inch	2 square inches 1/8 square inch 1/2 square inch	1.06 square inches 1/8 square inches 1/2 square inch
Grade C	Peel Blemished Areas Discolored portions	No limit 1/2 square inch 1-1/2 square inches	No limit 1/4 square inch 3/4 square inch	1.06 square inches 1/4 square inch 3/4 square inch

¹The sample lot can fail the product grade for **either**:

²Exceeding the acceptance number for any individual defect type (peel, blemish, etc.) in a single container **OR**

³Exceeding the sample lot average for any defect type.

The sample lot can fail product grade and still meet every single container defect requirement

Table IV
Quality Requirements for Canned Tomatoes and Stewed Tomatoes¹
Whole Style

Factor	Grade A	Grade B	Grade C
Average Drained Weight:	See Table I	See Table I	See Table I
Character: (by count)	Good character	Reasonably good character	Fairly good character
Score	18-20 points	16-17 points ²	14-15 points ³
Color: (by surface area)	At least 90% USDA Tomato Red, but not more than 5% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	At least 50% USDA Tomato Red, but not more than 10% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	Meets FDA requirements for strength and redness of color (21 CFR §155.190(b))
Score	27-30 points	24-26 points ²	21-23 points ³
Wholeness:	80% by weight whole or almost whole	70% by weight whole or almost whole	Less than 70% whole or almost whole
Score	18-20 points	16-17 points ⁴	14-15 points ³
Flavor:	Normal	Normal	Normal
Defects:			
Core Material	Trace	Slight	Moderate
EVM	Trace	Slight	Moderate
Peel	See Table III	See Table III	See Table III
Blemished Areas	See Table III	See Table III	See Table III
Discolored portion	See Table III	See Table III	See Table III
Score	27-30 points	24-26 points ²	21-23 points ³
Total Score	90-100 points	80-89 points	70-79 points

¹Stewed tomatoes are graded excluding other vegetable ingredients.

²Cannot be graded above U.S. Grade B, regardless of the total score.

³Cannot be graded above U.S. Grade C, regardless of the total score.

⁴Can be graded U.S. Grade A, if the total score requirement is met.

Table V

**Quality Requirements for Canned Tomatoes and Stewed Tomatoes¹
Halves and Wedges Styles**

Factor	Grade A	Grade B	Grade C
Average Drained Weight:	See Table I	See Table I	See Table I
Character: (by count)	Good character	Reasonably good character	Fairly good character
Score	18-20 points	16-17 points ²	14-15 points ³
Color: (by surface area)	At least 90% USDA Tomato Red, but not more than 5% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	At least 50% USDA Tomato Red, but not more than 10% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	Meets FDA requirements for strength and redness of color (21 CFR §155.190 (b)).
Score	27-30 points	24-26 points ²	21-23 points ³
Flavor:	Normal	Normal	Normal
Defects:			
Core material	Trace	Slight	Moderate
EVM	Trace	Slight	Moderate
Peel	See Table III	See Table III	See Table III
Blemished areas	See Table III	See Table III	See Table III
Discolored portions	See Table III	See Table III	See Table III
Score	27-30 points	24-26 points ²	21-23 points ³
Total Score⁴	90-100 points	80-89 points	70-79 points

¹Stewed tomatoes are graded excluding other vegetable ingredients.

²Cannot be graded above U.S. Grade B, regardless of the total score.

³Cannot be graded above U.S. Grade C, regardless of the total score.

⁴For **Halves** and **Wedges** styles, the final total score is adjusted by dividing the total score by 80 then multiplying by 100 to allow for the absence of the factor of wholeness.

Table VI

**Quality Requirements for Canned Tomatoes and Stewed Tomatoes¹
Sliced and Diced Styles**

Factor	Grade A	Grade B	Grade C
Average Drained Weight:	See Table I	See Table I	See Table I
Character: Sliced: by count Diced: by weight	Good character	Reasonably good character	Fairly good character
Score	18-20 points	16-17 points ²	14-15 points ³
Color: (by surface area)	At least 90% USDA Tomato Red, but not more than 5% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	At least 50% USDA Tomato Red, but not more than 10% less red than Minimum Red for Canned Tomatoes or yellow, and none may be vivid green.	Meets FDA requirements for strength and redness of color (21 CFR §155.190 (b)).
Score	27-30 points	24-26 points ²	21-23 points ³
Flavor:	Normal	Normal	Normal
Defects: Core material EVM Peel Blemished areas Discolored portions	Trace Trace See Table III See Table III See Table III	Slight Slight See Table III See Table III See Table III	Moderate Moderate See Table III See Table III See Table III
Score	27-30 points	24-26 points ²	21-23 points ³
Total Score⁴	90-100 points	80-89 points	70-79 points

¹Stewed tomatoes are graded excluding other vegetable ingredients.

²Cannot be graded above U.S. Grade B, regardless of the total score.

³Cannot be graded above U.S. Grade C, regardless of the total score.

⁴For **Sliced** and **Diced** styles, the final total score is adjusted by dividing the total score by 80 then multiplying by 100 to allow for the absence of the factor of wholeness.

Lot Compliance**§52.5171 Determining the grade of a lot.**

The grade of a lot of canned tomatoes covered by these standards is determined by the procedures found in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain other Processed Food Products (7 CFR §52.1 through §52.83).