

## Judging Canned Tomatoes and Tomato Products

Headspace allowances for tomato products vary. Headspace for canned tomatoes, tomato juice and chile salsa is  $\frac{1}{2}$  inch. For tomato sauce and paste, headspace is  $\frac{1}{4}$  inch. Headspace for ketchups is  $\frac{1}{8}$  inch.

Canned tomatoes and tomato products should meet all of the general characteristics for container, pack, appearance of contents and attractiveness.

### Desirable General Characteristics for Tomatoes and Tomato Products

Size and Shape	Uniform pieces of same to similar size and shape.
Pack – Tomatoes	Attractive; neat; space well used. Good proportion of solids to liquid. Liquid covers all product with $\frac{1}{2}$ inch headspace. No floating pieces. No skins. No sprouting seeds (a sign of over-mature tomatoes).
	Raw pack tomatoes without added liquid should be packed so that enough juice is extracted from the fruit to produce adequate covering liquid. This pack will not have tomatoes or pieces that retain uniform shapes; the tomatoes are squeezed as they are pushed into the jar to fill all the spaces and create juice.
Pack – Juices and Sauces	No seeds, peel or other foreign particles. No wasted space in jar.
Texture – Tomatoes	Firm but ripened fruit used. Free from cores and green spots. If whole or halved hot packs, pieces retain shapes yet jars are filled as completely as possible with pieces.
Color	Uniform bright color characteristic of variety throughout the pack. Free from brown or black spots, signs of mold, or discoloration. Color of tomato-vegetable juice blends may be lighter (less red) than pure tomato juice.
Liquid – Tomatoes	Clear, bright if water; however, some tissue from the tomatoes will break off and be in the liquid. May be slightly tinted from color of tomatoes. Alternatively, strained tomato juice may be used as the covering liquid. Any liquid completely covers solids. No sediment, cloudiness, or bubbles. No foreign matter.

## **Desirable General Characteristics for Tomatoes and Tomato Products**

Liquid – Juice	No separation. Separation of tomato juice into a yellowish clear layer and red layer happens from enzymes found naturally in the tomatoes. A higher quality product will not have this problem; it is prevented or minimized by (1) heating the tomatoes immediately after peeling and cutting and (2) by squeezing rather than blending the tomatoes into juice.
Container	Properly labeled. Appropriate size for available recommended canning processes. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
Acidification	To ensure safe acidity in whole, crushed, or juiced tomatoes, the following should have been added: 2 tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid per quart of tomatoes. (Use one tablespoon bottled lemon juice or 1/4 teaspoon citric acid per pint jar.) Vinegar is a less desirable choice because of undesirable flavor changes, but can be used: 4 tablespoons of a 5 percent acidity bottled vinegar per quart jar of tomatoes.

## **Judging Criteria for Additional Tomato Products**

Standard Tomato Sauce	Only hot pack canning is recommended. Can vary in thickness, but should be thicker than drinking juice and more fluid than paste.  No pieces of tomato, seeds, skin, cores or stems. If juice is blended instead of being pressed or strained, discoloration from trapped air may have occurred during cooking and canning.
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## **Judging Criteria for Additional Tomato Products**

### Spaghetti Sauce

Only hot pack canning is recommended. Consistency should be that of ready-to-serve thickness and uniform throughout jar. Pleasant, even color throughout jar. Added pieces of vegetables or meat should be uniform in size and of appropriate bite-size. No skins, cores or stems of tomatoes. No black flecks from burning (scorching).

Spaghetti sauce with vegetables, unlike plain standard tomato sauce, requires pressure processing.

Spaghetti sauce with meat requires pressure processing.

### Tomato Salsas

Salsas are mixtures of acid and low-acid ingredients. The actual recipe will determine whether boiling water or pressure canning is appropriate. Salsa should have ingredients evenly distributed throughout jar. Pieces of vegetables should be uniform in size and of appropriate bite-size. No skins, cores or stems of tomatoes. Attractive coloring.

### Tomatoes with Okra or Zucchini

Only hot pack canning is recommended. Products must be pressure canned. No stems of any vegetable. No skins or cores of tomatoes. Zucchini should be sliced or cubed; skin may be left on. Okra should be cut into uniform, easily eaten size pieces. Small pods may be left whole.

### Catsups and Chili Sauces

No separation. Tomatoes should be heated immediately after peeling and cutting. Tomatoes should be cooked down, not blended, as this will incorporate air. Attractive, appetizing color. Thick, but movable consistency, uniform throughout jar. No peels, cores or stems.



## Tomato Products Canning Summary Sheet for Judges USDA Recommendations\*

TOMATO PRODUCTS – BOILING WATER	Headspace	Style of Pack	Jar Size	Minutes in Boiling Water at Altitudes of			
				0 - 1,000 ft	1,001 - 3,000 ft	3,001 - 6,000 ft	Above 6,000 ft
Tomato Juice**	½ inch	Hot	Pint	35	40	45	50
		Hot	Quart	40	45	50	55
Tomato-Vegetable Juice**	½ inch	Hot	Pint	35	40	45	50
		Hot	Quart	40	45	50	55
Crushed Tomatoes**	½ inch	Hot	Pint	35	40	45	50
		Hot	Quart	45	50	55	60
Standard Tomato Sauce**	¼ inch	Hot	Pint	35	40	45	50
		Hot	Quart	40	45	50	55
Whole or Halved** packed in water	½ inch	Hot &	Pint	40	45	50	55
		Raw	Quart	45	50	55	60
Whole or Halved** packed in tomato juice	½ inch	Hot &	Pint &	85	90	95	100
		Raw	Quart	85	90	95	100
Whole or Halved** packed raw w/o liquid	½ inch	Raw	Pint	85	90	95	100
		Raw	Quart	85	90	95	100

\*\* Must add 1 tablespoon bottled lemon juice, ¼ teaspoon citric acid, or 2 tablespoons 5% vinegar per pint (double all measurements per quart jar).

\* Source: *Complete Guide to Home Canning*, Agriculture Information Bulletin No. 539, US Department of Agriculture. Revised 1994. [www.homefoodpreservation.com](http://www.homefoodpreservation.com)

Developed by The University of Georgia, Athens, for the National Center for Home Food Preservation. Released by Elizabeth L. Address, Ph.D., Department of Foods and Nutrition, College of Family and Consumer Sciences. August 2003.



## Tomato Products Canning Summary Sheet for Judges USDA Recommendations\*

TOMATO PRODUCTS – PRESSURE	Headspace	Style of Pack	Jar Size	Process Time (minutes)	Pressure (psig) at Altitudes of					
					Weighted Gauge		Dial Gauge			
					0 - 1,000 ft	Above 1,000 ft	0 - 2,000 ft	2,001 - 4,000 ft	4,001 - 6,000 ft	6,001 - 8,000 ft
Tomato Juice**	½ inch	Hot	Pint &	20	5	10	6	7	8	9
		Hot	Quart	20	5	10	6	7	8	9
		Hot	Pint &	15	10	15	11	12	13	14
		Hot	Quart	15	10	15	11	12	13	14
		Hot	Pint &	10	15	Not Recommended	-----Not Recommended-----			
		Hot	Quart	10	15	Not Recommended	-----Not Recommended-----			
Tomato-Vegetable Juice**	½ inch	Hot	Pint &	20	5	10	6	7	8	9
		Hot	Quart	20	5	10	6	7	8	9
		Hot	Pint &	15	10	15	11	12	13	14
		Hot	Quart	15	10	15	11	12	13	14
		Hot	Pint &	10	15	Not Recommended	-----Not Recommended-----			
		Hot	Quart	10	15	Not Recommended	-----Not Recommended-----			
Crushed Tomatoes**	½ inch	Hot	Pint &	20	5	10	6	7	8	9
		Hot	Quart	20	5	10	6	7	8	9
		Hot	Pint &	15	10	15	11	12	13	14
		Hot	Quart	15	10	15	11	12	13	14
		Hot	Pint &	10	15	Not Recommended	-----Not Recommended-----			
		Hot	Quart	10	15	Not Recommended	-----Not Recommended-----			

**\*\* Must add 1 tablespoon bottled lemon juice, ¼ teaspoon citric acid, or 2 tablespoons 5% vinegar per pint (double all measurements per quart jar).**

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**TOMATO PRODUCTS – PRESSURE**

	Headspace	Style of Pack	Jar Size	Process Time (minutes)	Pressure (psig) at Altitudes of							
					Weighted Gauge		Dial Gauge					
					0 - 1,000 ft	Above 1,000 ft	0 - 2,000 ft	2,001 - 4,000 ft	4,001 - 6,000 ft	6,001 - 8,000 ft		
Standard Tomato Sauce**	¼ inch	Hot	Pint &	20	5	10	6	7	8	9		
		Hot	Quart	20	5	10	6	7	8	9		
		Hot	Pint &	15	10	15	11	12	13	14		
		Hot	Quart	15	10	15	11	12	13	14		
		Hot	Pint &	10	15	Not Recommended	-----Not Recommended-----					
		Hot	Quart	10	15	Recommended	-----Not Recommended-----					
Whole or Halved** packed in water	½ inch	Hot & Raw	Pint & Quart	15	5	10	6	7	8	9		
		Hot & Raw	Pint & Quart	10	10	15	11	12	13	14		
		Hot & Raw	Pint & Quart	10	10	15	11	12	13	14		
		Hot & Raw	Pint & Quart	1	15	Not Recommended	-----Not Recommended-----					
		Hot & Raw	Pint & Quart	1	15	Recommended	-----Not Recommended-----					
		Hot & Raw	Pint & Quart	1	15	Recommended	-----Not Recommended-----					
Whole or Halved** packed in tomato juice	½ inch	Hot & Raw	Pint & Quart	40	5	10	6	7	8	9		
		Hot & Raw	Pint & Quart	40	5	10	6	7	8	9		
		Hot & Raw	Pint & Quart	25	10	15	11	12	13	14		
		Hot & Raw	Pint & Quart	25	10	15	11	12	13	14		
		Hot & Raw	Pint & Quart	15	15	Not Recommended	-----Not Recommended-----					
		Hot & Raw	Pint & Quart	15	15	Recommended	-----Not Recommended-----					
Whole or Halved** packed raw w/o liquid	½ inch	Raw	Pint &	40	5	10	6	7	8	9		
		Raw	Quart	40	5	10	6	7	8	9		
		Raw	Pint &	25	10	15	11	12	13	14		
		Raw	Quart	25	10	15	11	12	13	14		
		Raw	Pint &	15	15	Not Recommended	-----Not Recommended-----					
		Raw	Quart	15	15	Recommended	-----Not Recommended-----					

**\*\* Must add 1 tablespoon bottled lemon juice, ¼ teaspoon citric acid, or 2 tablespoons 5% vinegar per pint (double all measurements per quart jar).**

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## Tomato Products Canning Summary Sheet for Judges USDA Recommendations\*

These process times are only for the recipes in the *USDA Complete Guide to Home Canning*.  
Only boiling water processes are available for the products in this table:

TOMATO PRODUCTS – BOILING WATER	Headspace	Style of Pack	Jar Size	Minutes in Boiling Water at Altitudes of			
				0 - 1,000 ft	1,001 - 3,000 ft	3,001 - 6,000 ft	Above 6,000 ft
Tomato Paste	¼ inch	Hot	Half Pint Only	45	50	55	60
Tomato Ketchup	⅛ inch	Hot	Pint	15	20	20	25
Country Western Ketchup	⅛ inch	Hot	Pint	15	20	20	25
Blender Ketchup	⅛ inch	Hot	Pint	15	20	20	25
Chile Salsa	½ inch	Hot	Pint	15	20	20	25

\* Source: *Complete Guide to Home Canning*, Agriculture Information Bulletin No. 539, US Department of Agriculture. Revised 1994. [www.homefoodpreservation.com](http://www.homefoodpreservation.com)

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## Tomato Products Canning Summary Sheet for Judges USDA Recommendations\*

These process times are only for the recipes in the *USDA Complete Guide to Home Canning*.  
Only pressure processes are available for the products in this table:

TOMATO PRODUCTS – PRESSURE	Headspace	Style of Pack	Jar Size	Process Time (minutes)	Pressure (psig) at Altitudes of					
					Weighted Gauge		Dial Gauge			
					0 - 1,000 ft	Above 1,000 ft	0 - 2,000 ft	2,001 - 4,000 ft	4,001 - 6,000 ft	6,001 - 8,000 ft
Mexican Tomato Sauce	1 inch	Hot	Pint	20	10	15	11	12	13	14
				25	10	15	11	12	13	14
Spaghetti Sauce Without Meat	1 inch	Hot	Pint	20	10	15	11	12	13	14
				25	10	15	11	12	13	14
Spaghetti Sauce With Meat	1 inch	Hot	Pint	60	10	15	11	12	13	14
				70	10	15	11	12	13	14
Tomatoes with Okra or Zucchini	1 inch	Hot	Pint	20	10	15	11	12	13	14
				25	10	15	11	12	13	14

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## Canned Fruits, Tomatoes and Vegetables

Characteristic	Points	
<b>Pack</b> Acceptable processing method used with correct altitude adjustment made; correct preparation procedures followed; correct type of pack (hot, raw) for processing method.	40	
Jar filled to appropriate headspace.		
Liquid covers all solids; no floating pieces.		
Good proportion of solids and liquids.		
Free of fancy packs that interfere with heat penetration.		
<b>Quality of Product</b> Pieces uniform in size and shape when appropriate.	30	
Fresh, natural color to foods; characteristic of cooked product.		
Pieces retain shape; firm yet tender; free of mushiness; clean cut edges to cut pieces; no split skins on beans or peas.		
Free from discoloration, blemishes, bruises, brown or black spots, insect damage, mold, or other defects.		
Free of strings, fibers, unapproved stems, peels, cores and pits.		
Characteristic of optimum maturity.		
<b>Quality of Liquid</b> Free from unnatural cloudiness or bubbling.	20	
Free from any or excessive sediment, floating food tissue, unintended seeds, peels, or other particles.		
Free from large amounts of trapped air.		
<b>Container</b> Vacuum-sealed.	10	
Clean, clear glass standard canning jar.		
Appropriate size jar for product.		
New lid and band free of rust; screwband clean, unbent and easily removed.		
Label clean, neatly placed and contains name of product, date processed, processing method and time.		
<b>Comments</b>		