

C-C-291F
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SUPERSEDING
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FEDERAL SPECIFICATION

CHEESE AND CHEESE FOOD, PROCESS, PASTEURIZED

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for the preparation and packaging of pasteurized, process, cheese and cheese food for use by all agencies of the Federal Government.

1.2 Classification. Pasteurized process cheese and cheese food covered by this specification shall be of the following types, classes, and styles as specified (see 6.1).

Pasteurized Process Cheese

Type I	- American
Type II	- Pimiento
Type III	- Cheddar
Class 1	- With blend requirements
Class 2	- Without blend requirements
Style A	- Canned cheese (applicable to type III only)
Style B	- Sliced cheese
Style C	- Wrapped and cartoned cheese

Pasteurized Process Cheese Food

Type IV	- American
Style B	- Sliced cheese
Style C	- Wrapped and cartoned cheese

C-C-291F

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specifications:

- PPP-B-636 - Boxes, Shipping, Fiberboard.
- PPP-C-29 - Canned Subsistence Items, Packaging and Packing Of.

Federal Standards:

- FED-STD-123 - Marking for Domestic Shipment (Civil agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers, at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification:

- MIL-L-1497 - Labeling of Metal Cans for Subsistence Items.

Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-1162 - Sanitary Standards for Cheese and Cheese Products Plants.

C-C-291F

(Copies of Military specifications and standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

PUBLICATIONS

Department of Health, Education and Welfare

Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.)

U.S. Department of Agriculture

U.S. Standards for Grades of Cheddar Cheese
U.S. Standards for Grades of Bulk American Cheese for Manufacturing
General Specifications for Dairy Plants Approved for USDA Inspection and Grading Service
Dairy Plants Surveyed and Approved for USDA Grading Service

(Application for copies should be addressed to the Dairy Division, Agricultural Marketing Service, United States Department of Agriculture, Washington, D.C. 20250.)

Brucellosis Eradication - Recommended Uniform Methods and Rules,
Agricultural Research Service, U.S. Department of Agriculture, Bulletin
ARS 91-79.

(Copies may be obtained from U.S. Department of Agriculture, Agricultural Research Service, Washington, D.C. 20250.)

U.S. Standards for Condition of Food Containers

(Application for copies should be addressed to the Information Division Agricultural Marketing Service, U.S. Department of Agriculture, Washington, D.C. 20250.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

Association of Official Analytical Chemists

Official Methods of Analysis of the Association of Official Analytical Chemists.

C-C-291F

(Application for copies should be addressed to the Association of Official Analytical Chemists, P.O. Box 540, Benjamin Franklin Station, Washington, D.C. 20044.)

National Association of Dairy Equipment Manufacturers

Recommended Practices for Producing Culinary Steam for Processing Milk and Milk Products.

(Application for copies should be addressed to the National Association of Dairy Equipment Manufacturers, 5530 Wisconsin Ave., N.W., Washington, D.C. 20015.)

American Public Health Association

Standard Methods for the Examination of Dairy Products

(Application for copies should be addressed to the American Public Health Association, 1015 18th Street, N.W., Washington, D.C. 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, Illinois 60606.)

National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W., Washington, D.C. 20036.)

3. REQUIREMENTS

3.1 Materials.

3.1.1 Cheese. The natural cheese shall include commercial styles of cheddar, granular or stirred curd, colby, washed or soaked curd. The cheese shall have been prepared from milk or cream, or a combination of milk and cream originating from raw milk complying with all the quality requirements specified in the General Specifications for Dairy Plants Approved for USDA Inspection and Grading

C-C-291F

Service. The natural cheese, when ready for grinding, shall be properly cleaned, free from all impurities, mold, rind rot, thick dry rind, paraffin, cheese pests, soft spots, salt spots objectionable surface flavor or condition which is unwholesome or which will detract from the quality of the finished product. Cheese made from unpasteurized milk may be used. All cheese used shall be subject to USDA inspection and grading.

3.1.1.1 Milk. The raw milk used in the preparation of the varieties of cheese or optional dairy ingredients referenced or specified in 3.1.1, 3.1.2 and 3.1.8 shall be drawn from cows in herds accredited as tuberculosis-free and certified brucellosis-free by the U.S. Department of Agriculture, or herds that have passed an annual tuberculosis test and meet USDA requirements for an individually certified herd, or from cows in herds located in:

- (1) A modified accredited tuberculosis area; and
- (2) Either (a) A certified brucellosis-free area; or
(b) Modified certified brucellosis area; or
- (3) An area in the process of being accredited or certified by the USDA in accordance with USDA Agricultural Research Service Bulletin 91-79.

The milk shall be practically free from colostrum, fresh, wholesome, and normal in appearance and odor and shall be subject to inspection by the procuring agency or duly authorized representative.

3.1.1.2 Grades of cheddar cheese. The interpretation of the requirements (descriptive terms) for grades of natural cheddar cheese shall be as defined in the U.S. Standards for Grades of Cheddar Cheese. Before a blend is formed, the cheese shall be USDA graded to permit the use of various cheese characteristics which will give the desired composition, flavor, body, and texture in the finished product.

3.1.1.3 Cheddar cheese. Natural cheddar cheese used in type III, or when comprising all or a portion of types I, II and IV, shall conform to the requirements for US Grade B or better. Cheddar cheese cured in bulk form (commonly termed bulk cheese) may be used provided it meets the requirements of US Standard Grade or better as defined in U.S. Standards for Grades of Bulk American Cheese for Manufacturing.

3.1.1.4 Other types of cheese. One or more of the following varieties may be used for types I, II and IV - colby, washed or soaked curd, or granular and stirred curd. The cheese shall conform to the requirements of US Standard Grade or better as defined in U.S. Standards for Grades of Bulk American Cheese for Manufacturing.

C-C-291F

3.1.2 Cream, anhydrous milk fat and dehydrated cream. These products used singly or in any combination to standardize the fat content, shall be free from objectionable flavors and odors. Cream may be fresh, frozen or in plastic form and shall be pasteurized.

3.1.3 Pimientos. Pimientos, at time of use, shall have a deep, bright red color, mild sweet flavor, shall be whole or in broken pieces, and shall be firm and meaty.

3.1.4 Salt. Salt shall be white refined sodium chloride of food grade quality, free from extraneous material.

3.1.5 Coloring. Coloring if used, shall be Annatto or any cheese or butter color certified by the U.S. Food and Drug Administration.

3.1.6 Emulsifying agents. Emulsifying agents shall be those permitted by the Definitions and Standards of Identity for Cheeses and Cheese Products under the Federal Food, Drug, and Cosmetic Act.

3.1.7 Acidifying and mold inhibiting agents. Acidifying and mold inhibiting agents, when used, shall be those permitted by the Definitions and Standards of Identity for Cheese and Cheese Products under the Federal Food, Drug, and Cosmetic Act. They shall not be used in amounts greater than permitted by the Act. The use of mold-inhibiting components shall be restricted to style B product.

3.1.8 Optional dairy and non-dairy ingredients for use with type IV (pasteurized process cheese food). Other than ingredients permitted for use with types I, II and III products (see 3.1.2 through 3.1.7) the optional use of milk, skim milk, buttermilk cheese whey, cheese albumin and skim milk cheese shall be in accordance with the referenced document in 3.1.6.

3.1.9 Water. The water shall be of a safe sanitary quality approved by Federal or State authorities. It may be subjected to suitable chemical or heat treatment and shall not impart undesirable odors or flavors to the finished product.

3.1.10 Culinary steam. Steam in direct contact with the product shall be culinary steam. Culinary steam shall be free from extraneous material and shall be of the quality described in Recommended Practices for Producing Culinary Steam for Processing Milk and Milk Products promulgated by the National Association of Dairy Equipment Manufacturers. The flavor of the steam condensate shall be bland and free from objectionable flavors and odors. The water for the generation of steam may be treated with boiler compounds

C-C-291F

which conform to the Food Additives Amendment of Federal Food, Drug, and Cosmetic Act or a secondary steam generator used in which soft water is converted to steam and no boiler compounds used.

3.2 Preparation.

3.2.1 Types.

3.2.1.1 Type I. Pasteurized process American cheese shall be prepared by comminuting and mixing one or more lots of natural cheese as specified in 3.1 into a homogeneous mass with the aid of heat, with or without the addition of salt, water, and with the incorporation of not more than 3 percent (based on the weight of the anhydrous form) of a suitable emulsifying agent. Cream anhydrous milkfat, dehydrated cream or any combination of two or more of these may be added to bring the fat content to the required percentage but the quantity of the fat derived therefrom shall not exceed 5 percent of the weight of the pasteurized process cheese. Acidifying agents may be added.

3.2.1.2 Type II. Pasteurized process pimiento cheese shall meet the requirements of 3.2.1.1 except that pimientos shall be added. The pimientos shall be chopped or diced into small particles and shall be uniformly distributed throughout the cheese. Pimientos, other than those processed by commercial sterilization procedure, shall be brought to a boil prior to addition to cheese. The finished cheese shall contain not less than 0.2 percent by weight of pimiento solids.

3.2.1.3 Type III. Pasteurized process cheddar cheese shall meet the requirements of 3.2.1.1 except that only cheddar cheese as specified in 3.1.1.3 shall be used in the preparation of the product.

3.2.1.3.1 Class 1, (see 4.2.7.2). Class 1 product shall be made from a blend of cheddar cheese having a minimum weighted average age of not less than 45 days. No lot of cheese in the blend shall be less than 20 days old and cheese used in the blend less than 30 days old shall not exceed two-thirds of the weight of the blend. Acidifying agents shall not be used in the blend.

3.2.1.3.2 Class 2. Class 2 products shall be made from a blend of cheddar cheese. Acidifying agents shall not be used in the blend.

3.2.1.4 Type IV. Pasteurized-process American cheese food shall be prepared by comminuting and mixing, with the aid of heat, one or more lots of natural cheese as specified in 3.1 in addition to incorporating one or more of the optional dairy and non-dairy ingredients of 3.1.8, until the formation of a smooth, homogeneous mass. Amounts of ingredients added shall be in accordance with the referenced documents in 3.1.6. Procedures shall be in accordance with good industry practice and the finished product shall comply with 3.3.

C-C-291F

3.2.2 Pasteurization. Types I through III process cheese shall be pasteurized by heating to not less than 158°F. and holding at such temperature for not less than 30 seconds. Type IV process cheese food shall be given a similar heat treatment except that a minimum temperature of 165°F. shall be attained in the process.

3.2.3 Packaging temperature. The process cheese, other than style B, shall be packaged at not less than 150°F. Immediately after filling and closing, the containers shall be inverted with the final closure on the bottom side of the package and shall be so handled and stacked in such a manner as to permit good ventilation and air circulation around the packages. The cheese shall be cooled to a temperature of 100°F. or less, within 24 hours or less, from the time the cheese is packaged. Cans may be cooled in water; however they shall be completely dry prior to packaging into shipping cases. Style B cheese shall be packaged soon after the slices are formed and cooled to below 60°F.

3.3 Finished product (all types).

3.3.1 Flavor.

Type I product shall possess a mild and desirable pasteurized process cheese flavor.

Type II product shall possess a mild and desirable pasteurized process cheese and pimiento flavor.

Type III product shall possess a pleasing and desirable flavor characteristic of mild to medium cured cheddar cheese.

Type IV product shall resemble type I flavor, but have a slightly milder cheese flavor.

There shall be no more than a slight emulsifier flavor in any type of product.

3.3.2 Body and texture. The body shall be smooth, medium firm, and resilient with practically no pinholes or openings, except those caused by trapped air. The texture shall be close and free from lumps or graininess, slice freely, show no more than slight brittleness or roughness and shall not break when cut. Type IV product may have a slightly softer body than types I through III. All types shall melt substantially uniformly and smoothly.

3.3.3 Color. The process cheese shall have a uniform medium yellow to medium orange color.

C-C-291F

3.3.4 Finish and appearance. The process cheese and cheese food shall be uniform in shape and size with practically straight edges and flat sides, except for canned cheese, slices shall separate readily and in whole slices when removed from the primary container. The product, including canned cheese, shall have dry surfaces, free from mold, cracks, or other surface defects. The liner, wrapper, or pouch shall closely contact the cheese on all surfaces and shall entirely enclose the cheese. The wrapper, pouch, or can shall be completely sealed in accordance with good industry practice.

3.3.5 Analytical requirements. The finished product shall comply with the following analytical requirement (see 4.3.1):

	Type I	Type II	Type III	Type IV
Moisture (not more than)...	40.0 percent	41.0 percent	40.0 percent	44.0 percent
Fat, moisture free basis (not less than)...	50.0 percent	49.0 percent	50.0 percent	23.0 percent ^{1/}
pH, not less than...	5.3	5.3	5.3	5.0
Salt, not more than...	2.5 percent	2.5 percent	2.5 percent	2.5 percent
Phosphatase activity...	^{2/}	^{2/}	^{2/}	^{2/}

^{1/} Percent fat is on an "as is" basis rather than on a moisture free basis.

^{2/} Less than 1 microgram per ml of cheese extract.

3.4 Handling, storage, and delivery. Finished product stored for more than one week prior to shipment shall be promptly cooled and held at below 45°F. (with no freezing) during subsequent handling, storage, and delivery, the temperature of the style A (canned) product shall not be allowed to rise above 60°F. Styles B and C cheese should be stored below 45°F. (with no freezing) at all times to prevent cheese slices from sticking together.

3.5 Plant qualification. The product shall originate, be processed, handled, packaged in plants which are approved under the USDA General Specifications for Dairy Plants Approved for USDA Inspection and Grading Service, and listed by the U.S. Department of Agriculture in the documents titled "Dairy Plants

C-C-291F

Surveyed and Approved for USDA Grading Service" and approved for the finished product described in this specification or in plants meeting the requirements of MIL-STD-1162. Storage or warehousing facilities for the finished product for military use shall also meet the requirements of MIL-STD-1162.

3.6 Federal Food, Drug, and Cosmetic Act. All deliveries shall conform in every respect to the provision of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. The supplier is responsible for meeting all the provisions of the specifications prior to submission of supplies to the Government for acceptance. Unless otherwise specified in the contract or order, the supplier is required to perform the examination and tests prescribed herein, using his own or any other inspection facilities and services acceptable to the Government.

4.1.1 Inspection records of the examinations and tests shall be complete and made available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.2 Sampling. Samples of finished products covered by this specification and samples of any materials, components, or constituents entering products covered by this specification may be taken at any time by the Government inspector to determine compliance with the requirements. Such samples as are required shall be at the expense of the supplier.

4.2 Inspection.

4.2.1 General. Inspection shall be made by the procuring agency, or a duly authorized representative, at the time and place designated by the procuring agency. It may be made at the site of manufacture, both during and after processing, at any point in transit, at time of delivery at the the point of destination (see 6.5).

4.2.2 Plant qualification conditions.

4.2.2.1 For civil agencies. Plants shall have received prior sanitary approval by the procuring agency or a duly authorized representative. Plants listed or eligible for listing in the current bulletin Dairy Plants Surveyed and Approved for USDA Grading Service may be accepted as evidence of compliance.

C-C-291F

4.2.2.2 For military agencies. The product furnished under this document shall be unacceptable if not produced and stored in plants when currently meet the qualification condition of 3.5.

4.2.3 Factory inspection. The passing as satisfactory of any detail of processing or materials shall not relieve the supplier of responsibility for faulty workmanship or materials which may be discovered at any time prior to final acceptance.

4.2.4 Final inspection. Unless otherwise specified (see 5.5), final inspection shall be made at time of delivery at the point of destination.

4.2.4.1 Condition inspection of containers. The United States Standards for Conditions of Food Containers shall apply for the condition inspection of the containers when inspection is performed by the U.S. Department of Agriculture. (For applicable criteria governing inspection of containers for the Military, see 4.2.9.2).

4.2.5 Basis for acceptance by the Government. The supplier is responsible for offering to the Government for acceptance only those items that conform to all contractual requirements. The Government will conduct quality conformance inspections required to determine acceptability of the components and finished product as follows.

4.2.5.1 Verify supplier's inspection and test records (see 4.2.7 and 4.2.8), as to compliance with the specification.

4.2.5.1.1 Select samples of the finished product and perform verification inspections as directed by procuring agency (see 4.2.9).

4.2.5.1.2 When specified by the procuring agency (see 6.1) the supplier shall furnish a USDA inspection or grading certificate evidencing quality, quantity and condition as outlined in procurement documents (see 6.1 for note on small lot orders).

4.2.6 Inspection (for military agencies). Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.2.7 Component and material inspection. In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings, and standards, unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document.

4.2.7.1 Inspection of milk and milk products.

C-C-291F

4.2.7.1.1 Animal sources. Inspection shall be made to determine that cows supplying the milk used in the preparation of the components specified in 3.1.1.2 through 3.1.2 are in disease-free herds as specified in 3.1.1.1. Determination of herd status regarding tuberculosis and brucellosis shall be made by contacting the nearest office of the Agricultural Research Service of the Animal Health Division. (Location of this office may be ascertained by consulting the publication entitled Directory of Meat and Poultry Inspection Program, Establishments, Circuits and Officials.) Nonconformance to the above referenced requirements shall be cause for rejection of the lot.

4.2.7.1.2 Examination of milk and cream used in the manufacture of the cheese component. Examination shall be made to determine that milk or cream (or both) used in the preparation of the cheese meets the quality requirements referenced in 3.1.1. Determination of acceptance of these products shall be ascertained if received, handled and processed in plants listed by the U.S. Department of Agriculture in the document entitled, "Dairy Plants Surveyed and Approved for USDA Grading Service" and listed for the specific products approved. Nonconformance to the above referenced requirements or plant(s) not listed in the aforementioned document shall be cause for rejection of the involved cheese component or finished product made therefrom, as applicable.

4.2.7.2 Examination of cheese component(s). Unless cheese component(s) is accompanied and identified by a USDA grade certificate in accordance with the US grade requirements of 3.1.1.2, 3.1.1.3 and 3.1.1.4 (as applicable), examination shall be made to determine compliance with the flavor requirements of above referenced paragraphs. Each lot of cheese shall be represented by a cheese vat number and date of manufacture. At least one cheese plug drawn from a representative sample of cheese from each vat (lot) to be used in the specified blends shall be examined for flavor. Noncompliance of any lot of cheese with the USDA flavor requirements shall be cause for rejection of the involved component lot or finished process cheese made therefrom, as applicable.

4.2.7.3 Examination of cream, pimientos, salt, coloring, emulsifying agents, acidifying and mold inhibiting agents. When applicable, conformance of these components to the requirements of 3.1.2 through 3.1.8 as concerns identity (kind, FDA certification, etc.) shall be determined by examination of pertinent labels, invoices or other valid documents. In addition, each of the ingredients shall be examined organoleptically, as necessary, to determine conformance to the applicable condition requirements of the above referenced paragraphs. The sample unit for examination shall be approximately 1 pound of each ingredient except coloring, emulsifying, acidifying and mold inhibiting agents for which the sample shall be approximately 4 ounces. The sample units shall be drawn from each of five containers or all containers if the lot contains less than 5 containers. Nonconformance to one or more identity or condition requirements shall indicate an unacceptable ingredient(s) and use of such shall be cause for rejection of the involved end item.

C-C-291F

4.2.7.4 Water. Certified semiannual laboratory test reports from the state or municipality in which the plant is located or the Federal Government, indicating that the water supply is of a safe sanitary quality, shall be available for review by the Government inspector and may be accepted as evidence of compliance with 3.1.9.

4.2.7.5 Examination of boiler compounds (when applicable). Conformance of boiler compounds to the identity requirements of 3.1.10 shall be ascertained by examination of pertinent labels, invoices or other valid documents. Nonconformance to the above referenced requirements shall be cause for rejection of the involved lot of finished product.

4.2.8 Procedures, formulation, controls and packaging temperature. Unless otherwise specified (see 6.1) examination shall be performed during processing to determine component and formulation requirements of 3.1 and 3.2 and with the processing requirements of 3.1.1, 3.1.10 and 3.2 as concerns cleaning of cheese component prior to grinding and blending, the effect of culinary steam (when used) on flavors and odors, preparation, age blend of cheese (see 3.2.1.3.1), heat treatment of pimientos (when applicable), pasteurization, packaging procedures, cooling and all other related procedures pertinent to the operation. All applicable control data (temperature, time, age, formulation records, etc.) shall be maintained. Noncompliance, as determined by examination of the records or actual examination, shall be cause for rejection of the involved lot of finished product.

4.2.9 Finished product inspection.

4.2.9.1 For civil agencies.

4.2.9.1.1 Container inspection. Examination of the exterior condition of containers and labels and markings shall be in accordance with procedures outlined in the U.S. Standards for Condition of Food Containers. (See purchase contract for type and size primary and shipping container and for any special labeling and marking requirements).

4.2.9.1.1.1 Lot size. An inspection lot shall be one car lot or less converted to number of primary containers of process cheese to be inspected at one place at one time. More than one production code may be included in the lot if the number of cases from each code represented in the lot is known.

4.2.9.1.2 Examination for net weight, exterior and interior condition of container, and product characteristics. Sampling plans shall be in accordance with the following procedure: The appropriate minimum sample size designated in table I shall be formed by drawing one sample unit per shipping case selected proportionately from the production codes represented in the inspection lot. The applicable acceptance (Ac) and rejection (Re) numbers are given

C-C-291F

in table I at the intersection of the sample size(s) row and the appropriate AQL column. Classification of defects found during the examination shall be in accordance with table III, V and VI.

TABLE I. Single sampling plans

Number of primary containers in the insp. lot	Minimum sample size	For table III		Minimum sample size	For tables V and VI			
		AQL 2.5			AQL 1.0		AQL 6.5	
		Ac	Re		Ac	Re	Ac	Re
1-1200...	9	0	1	6	1/		1	2
1201-6000...	9	0	1	21	0	1	3	4
6001 and over...	29	2	3	48	1	2	6	7

1/ Lot with one or more defect shall be rejected.

4.2.9.2 Examination of end item (for military agencies). Classification of defects found during examination shall be in accordance with tables III through V and 4.2.9.2.1 through 4.2.9.2.3. The examination criteria for the above referenced tables shall be as shown in table II. The acceptable quality levels (AQLs) shall be expressed in terms of percent defective for table III and in terms of defects per hundred units for tables IV and V.

TABLE II. End item examination criteria

Table	Inspection level	Sample unit	Lot size expressed in	AQLs			
				Major A	Major B	Minor	Total
III	S-3	1 primary container	Primary containers	-	-	2.5	-
IV	I	1 primary container	Primary containers	0.25	1.5	-	4.0
V	S-2	Contents and 1 pri- mary con- tainer	Primary containers	1/	1.0	-	4.0

1/ See foot note 2/ to table V.

C-C-291F

TABLE III. Examination for net weight 1/

Category	Defect
201	Over one-pound: Net weight 2.0 percent or more under specified weight. 2/
202	One-pound or under: Net weight - 5.0 percent or more under specified weight. 3/

- 1/ Lot shall be rejected if sample data indicate lot average net weight is less than specified net weight.
 2/ Report to nearest 1/4 ounce.
 3/ Report to nearest 1/8 ounce.

TABLE IV. Examination of wrapping and carton

Category	Defect	Wrapping Carton	
		Major A	Major B
101	Incompletely sealed, tear or hole.	X	-
151	Wrapping material does not adhere very tightly to product surface. 1/	X	-
152	Not clean.	X	X
153	Nomenclature missing, incorrect or illegible.	X	X
201	Other required label information missing, incorrect or illegible.	X	X

- 1/ Not applicable to level C packaging or style B product.

C-C-291F

TABLE V. Examination for product characteristics 1/

Category			Defect
<u>Major A</u>	<u>Major B</u>	<u>Minor</u>	
101			Presence of foreign material such as, but not limited to, paint, glass, dirt, wood, metal, insect(s), insect part(s), etc. 2/
	151		Color mottled, wavy or streaked.
		201	Color not a uniform medium yellow to medium orange.
	152		Not smooth, medium firm or resilient.
		202	Presence of recognizable openings or pinholes (except those caused by trapped air) (see 3.3.2).
	153		Texture loose knit and not free from lumps or graininess.
	154		More than slight brittleness or roughness.
	155		Does not slice freely or breaks when cut (has crumbly tendency).
	156		Not uniform in shape and size with practically straight edges and flat sides (not applicable to canned cheese).
	157		Presence of mold, cracks or other surface defects.
		203	Sticky surface.
		204	Presence of large sections of pimientos or pieces not uniformly distributed (type II only).
	158		More than slight emulsified flavor (bitter, rancid, astringent oxidized or unclean).

C-C-291F

TABLE V. Examination of product characteristics 1/ (con.)

Category			Defect
Major A	Major B	Minor	
	159		Cheese slices (as applicable) do not separate readily or as whole slices.
	160		Product does not melt uniformly and smoothly. (see 3.3.2).
		205 <u>Type I</u> <u>only</u>	Not a mild, desirable pasteurized process cheese flavor.
		206 <u>Type II</u> <u>only</u>	Not a mild, desirable pasteurized process cheese and pimiento flavor.
		207 <u>Type III</u> <u>only</u>	Not a pleasing and desirable flavor, characteristic of mild to medium cured cheddar cheese.
		208 <u>Type IV</u> <u>only</u> 3/	Cheese flavor not slightly milder than that characteristic of type I.

- 1/ A standard cheese trier plug of cheese at 50°-70°F. shall be drawn from each sample unit. For sliced cheese, 3 slices of cheese shall be selected from each sample unit (2 outer slices and one center slice).
- 2/ Presence of this major A defect shall be cause for rejection of the involved lot of finished product.
- 3/ Type IV cheese food may have a slightly softer body than types I through III.

C-C-291F

TABLE VI. Examination for interior packaging characteristics
(can interior) 1/ (for civil agencies)

Category		Defect
<u>Major B</u>	<u>Minor</u>	
101		Minimum residual vacuum less than specified.
		<u>Can liner (paper):</u>
102		Top, bottom, or body liner missing.
103		Not covering product.
104		Not as specified.
105		Dirty or stained.
		<u>Interior coating (when required):</u>
106		Not as specified.
107		Missing or incomplete.
	201	Blistered, flaking, sagging or wrinkled.

1/ Packaging characteristics. (Can, interior). The can and contents shall be allowed to reach a temperature of 75^o+5^oF. A puncture-type vacuum gauge shall be used to measure residual vacuum. Add one inch of vacuum to the gauge reading for each 1,000 feet above sea level at which the determination is made.

4.2.9.2.1 Examination for packaging, liners, interior coating, packing and shipping container, vacuum, labeling, and marking (for cans only). When packaging, packing, and shipping container, lining, interior coating, vacuum, labeling, and marking are required to be in accordance with PPP-C-29, examination of these requirements shall be in accordance with the applicable paragraphs and tables of that specification.

4.2.9.2.2 Examination of shipping containers (for containers other than cans). When shipping containers are required to be in accordance with PPP-B-636, the filled and closed shipping container shall be examined in

C-C-291F

accordance with the examination criteria contained in the appendix to that specification. In addition, the following defects shall be added to the table for examination:

Major: Marking, missing, incomplete, or illegible.

- Minor: (1) Net weight of carton more than 56 pounds as indicated by marked net weight.
 (2) Arrangement not as specified.
 (3) Container reinforced with other than nonmetallic strapping or pressure-sensitive adhesive, filament reinforced tapes, as applicable.
 (4) Missing chipboard pad or not as specified, as applicable.
 (5) Missing pressure sensitive tape over stitching, as applicable.

For level C pack the examination criteria shall be in accordance with the foregoing specification, except that only the defects pertaining to marking and arrangement shall apply.

4.2.9.2.3 Examination of temperature during handling, storage and delivery.

The finished product shall be examined during handling, storage and at time of delivery to determine compliance with the temperature requirements of 3.4. Temperature records shall be maintained. Noncompliance with the above referenced requirements, reflected by actual examination or by records, shall be cause for rejection of the involved quantity of finished product.

4.2.10 Sampling procedures and acceptance criteria for testing of finished product. The finished product shall be tested for compliance to the analytical requirements of 3.3.5. Procedures for testing shall be in accordance with 4.3. The sample unit shall be an approximate one pound composite formed by taking a proportionate number of cheese plugs from the number of primary containers indicated by inspection level S-2, except that for civil agencies a 16-ounce sample shall be composited from the number of samples indicated in table I. Lot size shall be expressed in terms of primary containers. Alternatively, proportionate samples of hot cheese may be taken from the processing line to form the composite sample unit. (NOTE: In all cases extreme caution must be taken to minimize evaporation or condensation during sampling, until the cheese is tested. Sample containers shall be of the size to permit filling to capacity for the amount of sample unit specified). Results shall be reported to the same unit or decimal specified for the pertinent requirement except that phosphatase activity shall be reported as pass or fail. Nonconformance to one or more test requirements shall be cause for rejection of the lot.

C-C-291F

4.3 Test methods. Examination and test procedures which differ from those specified herein, unless otherwise excepted, may be used by the supplier if they provide a quality assurance equivalent to that specified. If the Government contracting officer determines that such procedures and controls do not provide, as a minimum such quality assurance, the supplier will use the procedures set forth herein. In case of dispute as to examination or test results, the procedures specified herein will govern.

4.3.1 Test procedures.

4.3.1.1 Chemical analyses. Unless otherwise specified (see 6.1), chemical analyses, if required by purchaser, shall be made in accordance with the Official Methods of Analysis of the Association of Official Analytical Chemists, Chapter: Dairy Products, Section: Cheese.

<u>Test</u>	<u>Method</u>
Milkfat	Fat
Moisture	Moisture-Method I
Salt	Total chlorides
Phosphatase <u>1/</u> ^a	Scharer Rapid Method
pH <u>2/</u>	Electrometric Method

1/ Standard Methods for the Examination of Dairy Products.

2/ Official Methods of Analysis, Chapter: Beverages, Malt Beverages, and Brewing Materials, Section: Beer; Method: Hydrogen-Ion Concentration (pH)-Official Final Action Electrometric Method.

5. PREPARATION FOR DELIVERY

5.1 Packaging. The product shall be packaged in accordance with level A, B or C as specified (see 6.1).

5.1.1 Canned cheese (type III, class 1 only), levels A or C. The type III, class 1 cheese, in the can size specified (see 6.1) and in accordance with net weight requirements of table VII shall be packaged in accordance with the level A or C requirements of PPP-C-29 for the level specified (see 6.1). The can shall be fully lined (top, bottom and body) with vegetable parchment or a suitable parchmentized or grease-proof wet-strength paper. The filled and sealed can shall have a residual vacuum of 5 inches when tested in accordance with PPP-C-29.

C-C-291F

TABLE VII. Can size, net contents

Can size	Net contents
603 by 700	7 pounds
300 by 200	6-1/4 ounces
300 by 106	4 ounces

5.1.2 Wrapped and cartoned cheese and sliced cheese. Wrapped, cartoned and sliced cheese shall be packaged in accordance with level B or C, as specified (see 6.1).

5.1.2.1 Level B. The product shall be packaged in accordance with 5.1.2.1.1 or 5.1.2.1.2, as applicable.

5.1.2.1.1 Wrapped and cartoned cheese. Commercial packaging in units of 8 ounces, 1 pound, 2 pounds or 5 pounds of the product, as specified (see 6.1), will be acceptable provided the cheese is completely sealed in the original package into which it was filled, and the package material very tightly adheres to the product surface. The pouch shall be over-packaged in a commercial carton.

5.1.2.1.2 Sliced cheese. Commercial packaging of long ribbon slices in 5-or 3-pound units, and individual serving slices in either 3 to 5 pound or 4 to 16-ounce units of the product, as specified (see 6.2), will be acceptable.

5.1.2.2 Level C. The product shall be packaged to afford adequate protection against physical damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets this requirement.

5.2 Packing. The product shall be packed in accordance with level A, B or C, as specified (see 6.1).

5.2.1 Canned cheese, levels A, B and C. The canned cheese shall be packed in accordance with the level A, B or C requirements of PPP-C-29, as specified (see 6.1).

5.2.2 Wrapped and cartoned cheese and sliced cheese. The wrapped and cartoned cheese and sliced cheese shall be packed in accordance with level B or C, as specified (see 6.1). Style RSC and FOL containers may be top opening or end opening. End opening containers shall have flutes parallel to the score line of the opening.

C-C-291F

5.2.2.1 Level B. The product shall be packed in accordance with 5.2.2.1.1 or 5.2.2.1.2, as applicable. Alternatively, closure of the four flaps on each of the two opposite faces of the top-opening style RSC box may be accomplished by making the flaps along the longer edge of the box opening the inner flaps and those along the shorter edge the outer flaps when in the closed position.

5.2.2.1.1 Wrapped and cartoned cheese. Not more than 56 pounds of the wrapped and cartoned cheese shall be packed into a snug-fitting fiberboard box, constructed, closed and reinforced in accordance with style RSC or FOL V3c, V3s or V4s of PPP-B-636.

5.2.2.1.1.1 When specified (see 6.1 and 6.3), the container specified in 5.2.2.1.1 shall be reinforced with nonmetallic strapping or pressure sensitive adhesive, filament reinforced tape in accordance with the appendix of PPP-B-636, except that two reinforcing bands may be used, one lengthwise and one girthwise.

5.2.2.1.2 Sliced cheese. Not more than 56 pounds of sliced cheese shall be packed into a snug-fitting fiberboard box, constructed, closed and reinforced in accordance with style RSC-L or FOL-L, V3c, V3s or V4s of PPP-B-636. When flaps are closed by stitching, the packages of sliced cheese shall be protected from the stitches with a chipboard pad placed between the stitches and the packaged cheese. The pad shall have the same dimensions as the interior of the container with a minus tolerance of not more than 3/16-inch. The packages of sliced cheese shall be protected from stitches in the manufacturer's joint by placing a strip of pressure-sensitive tape over the stitches.

5.2.2.1.2.1 When specified (see 6.1 and 6.3), the shipping container specified in 5.2.2.1.2 shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive, filament reinforced tape in accordance with the appendix of PPP-B-636.

5.2.2.2 Level C. The shipping container shall be in accordance with Uniform Freight Classification Rules or National Motor Freight Classification Rules, as applicable.

5.3 Labeling and marking.

5.3.1 Civil agencies.

5.3.1.1 Unit containers. Labeling that complies with the Federal Food, Drug and Cosmetic Act and regulations promulgated thereunder is acceptable.

C-C-291F

5.3.1.2 Shipping containers. Shipping containers shall be marked in accordance with FED-STD-123. The following additional precautionary marking shall appear on top of the shipping container:

KEEP REFRIGERATED
(BELOW 45°F.)
DO NOT FREEZE

5.3.2 Military agencies.

5.3.2.1 Labeling.

5.3.2.1.1 Cans. Cans of the product shall be labeled in accordance with MIL-L-1497.

5.3.2.1.2 Wrapped and cartoned cheese and sliced cheese. Labeling in accordance with 5.3.1.1 is acceptable.

5.3.2.2 Shipping containers. Shipping containers shall be marked in accordance with MIL-STD-129. The following additional precautionary marking applicable to styles B and C only shall appear on top of the container:

KEEP REFRIGERATED
(BELOW 45°F.)
DO NOT FREEZE

6. NOTES

6.1 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Type and style of product required (see 1.2).
- (c) Class of type III product required (see 1.2, 3.2.1.3).
- (d) When verification testing for analytical, in-process, and component examinations may be waived on small lot orders (see 4.2.5.1).
- (e) When USDA certificates of quality, quantity and condition are required (see 4.2.5.1.2).
- (f) When in-process examination is not required by civil agencies (see 4.2.8).
- (g) When chemical analyses are not required (see 4.3.1).
- (h) Size of unit required for commercially packed product (see 5.1.2.1.1).
- (i) Levels of packaging and packing required (see 5.1 and 5.2).
- (j) Weight and can sizes required (see 5.1.1).
- (k) When packing specified in 5.2.2.1.1.1 or 5.2.2.1.2.1 is required.

C-C-291F

6.2 Product information. The products described in this specification are used in various kitchen preparations such as cheese sauces, souffles, grilled cheese sandwiches, casseroles, etc. All types melt more readily on the grill or other source of heat than does natural cheese. The flavor intensity resulting from the meltdown of the process cheese and cheese food, though not as great as with the natural, mildly cured cheese nevertheless has a high degree of acceptability.

6.3 For military agencies. Based on conditions known or expected to be encountered during shipment, handling, and storage of the specific item being procured, the contracting officer should select the appropriate level of pack in accordance with the criteria established in AR 700-15, NAVSUP PUB 470, AFR 71-6, MCO 4030.14D or DSAR 4145.7, as applicable.

6.4 Packing specified in 5.2.2.1.1 or 5.2.2.1.2.1 is intended for transfer at sea operations and specific overseas operations.

6.5 Destination inspection (for civil agencies only). When the finished product has been inspected and passed at point other than destination, the contract should require that the product be inspected at destination, for condition and quantity only. Unless otherwise specified, such inspection should be made by the receiving facility. However, inspection for quality may be made by the procuring agency or a duly authorized representative when deemed necessary to verify contract compliance.

6.6 Award of contract for the product specified in this document will be limited to plants known to maintain the required sanitary conditions of 3.5 (see also 4.2.2).

Custodians:

Army - GL
Navy - SA
Air Force - 45

Review activities:

Army - MD
Navy - MC, MS
DP-SS

Preparing activity:

Army - GL

Civil Agency Interest:

VA
HEW
GSA

Project No. 8910-0319

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SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 22-R255
<p>INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
<p>SPECIFICATION Cheese And Cheese Food, Process, Pasteurized C-C-291F</p>		
<p>ORGANIZATION</p>		
<p>CITY AND STATE</p>		<p>CONTRACT NUMBER</p>
<p>MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT</p>		
<p>1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING.</p>		
<p>B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES</p>		
<p>2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID</p>		
<p>3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO (If "yes", in what way?)</p>		
<p>4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)</p>		
<p>SUBMITTED BY (Printed or typed name and activity - Optional)</p>		<p>DATE</p>

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1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.