

EE-C-281A

February 28, 1974

SUPERSEDING

Fed. Spec. EE-C-281

October 9, 1941

(See 6.6)

## FEDERAL SPECIFICATION

### CHILI CON CARNE, WITH OR WITHOUT BEANS, CANNED

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 canned chili con carne with or without beans intended as an item of general issue for all Federal agencies.

#### 1.2 Classification.

1.2.1 Types. The product shall be of the following types as specified (see 6.1).

- Type I - Chili Con Carne (without beans)
- Type II - Chili Con Carne (with beans)

#### 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

(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, DC 20402.

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available

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without charge from Business Services Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(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 Specifications:

- MIL-L-1497 - Labeling of Metal Cans for Subsistence Items
- MIL-C-3394 - Chili Powder Seasoning

Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-900 - Bacterial Standards for Starches, Flours, Cereal, Alimentary Pastes, Dry Milks, and Sugars Used in the Preparation of Canned Foods for the Armed Forces

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

PUBLICATIONS

U.S. Department of Health, Education and Welfare

**Federal Food, Drug, and Cosmetic Act.**

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

U.S. Department of Agriculture

- U.S. Standards for Dry Beans
- U.S. Standards for Grades of Tomato Paste
- Regulations Governing the Meat Inspection of the USDA
- Official U.S. Standards for Grades of Carcass Beef

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

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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

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

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 First article. When specified (see 6.1), the supplier shall furnish samples for first article inspection and approval (see 4.4 and 6.4).

3.2 Material. All ingredients and materials shall be free from foreign material, foreign odor and foreign color.

3.2.1 Beef.

1. Beef shall be prepared from fresh chilled or frozen bone-in or boneless triangles, rounds, loins (flank off), ribs (plate off), square cut chucks or any combination of these cuts which shall be derived from steer, heifer or cow carcasses. Shank meat shall be removed through the natural seam and excluded.

2. When a grade is specified (see 6.1) the beef shall be graded in accordance with the Official U.S. Standards for Grades of Carcass Beef of the U.S. Department of Agriculture.

3. Shall be in excellent condition and shall show no evidence of off-condition including, but not restricted to, off-odor, sticky, gassy, rancid, sour or discolored (see 6.5.5).

4. When chilled beef is used, the internal temperature at the thickest portion of the bone-in or boneless cuts shall be in the temperature range of 28°F. to 40°F. (inclusive) at all times after initial chilling following slaughter and prior to processing.

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5. When frozen beef is used, it shall be stored for not more than 180 days at a temperature of 0°F. or lower, from time of initial freezing until start of processing. Storage time and temperature verification records shall be made available for inspection.

3.2.1.1 Beef boning and trimming. All beef cuts shall conform to the following requirements:

Applicable to all cuts.

1. Meat shall be free from foreign material (including but not restricted to dirt, sawdust, insect or insect fragment, grease, paint, glass or metal particle); and chemical odor.
2. Meat shall show no evidence of off-condition (including but not restricted to meat that is sticky, gassy, rancid, sour, or discolored) (see 6.5.5).
3. Maximum temperature at the thickest part of the beef shall not exceed 42°F. during boning and trimming.
4. The following shall be removed and excluded.
  - (a) Bruises, blood clots, bones and cartilage in excess of established tolerances (see 6.5.1 through 6.5.4).
  - (b) Glandular tissue.
  - (c) Ligaments and tendons protruding (extending) beyond the lean.
  - (d) Dehydrated (dried) tissue.
  - (e) Calcified periosteum.
5. Unless otherwise specified under the specific cuts, periosteum after trimming shall not exceed 2 square inches of surface on any single cut.

Applicable to round only. The round shall be boned and trimmed to remove and exclude the following:

1. Silver strip.
2. Gracilis membrane.
3. Shank meat (remove through the natural seam).
4. Popliteal lymph gland.
5. Prefemoral lymph gland.
6. Sacrosciatic ligament.
7. Flank (remove in the standard manner).
8. Tendinous ends of the heel and the knuckle resulting from the trimming of these cuts to the extent that the cross sectional cut at the shank end shall expose at least 75 percent lean meat.
9. Periosteum from the knuckle.
10. Abdominal tunic.
11. Knuckle cover.

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Applicable to Loin only. The loin shall be boned and trimmed to remove and exclude the following. The tenderloin may be retained by the supplier.

1. Serous membrane.
2. Flank (remove in the standard manner).
3. Iliac lymph gland.
4. Sacrosciatic ligament.
5. Abdominal tunic.
6. Kidney and kidney knob.
7. Hanging tender.
8. Backstrap.

Applicable to Rib only. The rib shall be boned and trimmed to remove and exclude the following:

1. Backstrap.
2. Rib fingers in excess of those naturally occurring.
3. Plate (remove in the standard manner).

Applicable to Chuck only. The square-cut chuck shall be boned and trimmed to remove and exclude the following:

1. Prescapular lymph gland.
2. Backstrap.
3. Bloody neck meat.
4. Carotid arteries and jugular veins.
5. Subscapularis muscle (remove through the natural seam).
6. Protruding tendons of the clod shall be removed even with the lean tissue.
7. Periosteum from the clod.
8. Rib fingers.

Applicable to Triangle only. The triangle shall be boned and trimmed to remove and exclude the following:

1. Prescapular lymph gland.
2. Backstrap.
3. Bloody neck meat.
4. Carotid arteries and jugular veins.
5. Protruding tendons and ligaments shall be trimmed even with the lean meat.
6. The thin end of the shoulder clod shall be trimmed to expose 75 percent lean meat.
7. Periosteum from the clod.
8. Deckle.
9. Foreshank.
10. Surface fat on the skin side of the brisket shall be trimmed to 1/2 inch in thickness.

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11. The skirt may be included but the membrane from both sides shall be removed.

12. Abdominal tunic from the plate.

3.2.2 Beans. Pinto beans, light or dark red kidney beans shall conform to the U.S. Standards for Dry Beans for U.S. No. 1 grade.

3.2.3 Tomato product. Tomato product shall conform to the U.S. Standards for Grades of Canned Tomato Paste for U.S. Grade A (fancy).

3.2.4 Flour. Flour shall be white (bleached), clean, free from mold, and free from lumps that do not break under light finger pressure. In addition, flour shall comply with the bacteriological standards of MIL-STD-900.

3.2.5 Sugar. Sugar shall be clean, refined, non-invert, liquid or granulated, cane or beet sugar or both. The sugar shall comply with the bacteriological requirements of MIL-STD-900.

3.2.6 Modified waxy maize starch. Modified waxy maize starch shall be an odorless and tasteless finely ground powder that is slightly off-white, free-flowing, and free from lumps, mold, and foreign material. The starch shall comply with the bacteriological requirements of MIL-STD-900.

3.2.7 Chili powder seasoning. Chili powder seasoning shall conform to the requirements of MIL-C-3394.

3.2.8 Salt. Salt shall be non-iodized, clean, white, refined sodium chloride, with or without anti-caking agents.

3.2.9 Onion. Onion shall be dehydrated diced onion, with or without anti-caking agents or dehydrated minced onion. It shall be pungent, free-flowing; of a bright uniform color, practically free from outer skin and scorched particles, and free from stem, root base, soil, mold, and foreign material.

3.2.10 Garlic. Garlic shall be dehydrated garlic powder that is pungent, free-flowing, of a uniform light color, practically free from skin and scorched particles, and free from husk, root base, stem, soil, mold, and foreign material.

3.3 Processing. Components complying with 3.2 shall be processed in accordance with table I to yield a finished product complying with 3.4.

3.3.1 Bean preparation and soaking.

1. Thoroughly clean and wash beans to remove dirt, loose skins, stones, and other extraneous material. 1/

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2. Spotted or discolored beans shall be removed. 1/
3. Insect or disease damaged beans shall be removed. 1/
4. Beans should be soaked for sufficient time to reach the desired moisture level (see 6.5.6). Beans, during the soaking process, shall not develop fermented off-odors or flavors.

1/ Culling shall be required.

### 3.3.2 Meat processing.

1. The boned and trimmed beef shall be maintained at an internal temperature not to exceed 42°F. until it is heated in accordance with table I. (Exception: Ground meat immediately after grinding shall not exceed 50°F.).
2. The beef shall be ground through a half inch plate using a two bladed knife or chopped to give equivalent results.

### 3.3.3 Preparation of chili con carne.

TABLE I. Processing requirements

Item	Requirement
1.	Chili Con Carne shall be formulated as follows:
	Beef (raw basis) 405.00 pounds
	Flour 30.00 pounds
	Tomato paste (32% solids or equivalent) 30.00 pounds
	Chili powder 30.00 pounds
	Salt 15.00 pounds
	Starch 10.00 pounds
	Sugar 8.50 pounds
	Onion dehydrated diced 5.50 pounds
	Garlic powder 3.00 ounces
	Water and broth To make 1000 pounds
2.	The ground beef shall be heated in not more than two quarts of water, per 100 pounds of meat, until no raw portions are visible. The use of a continuous braiser or equivalent is allowed.
3.	To the heated ground beef, add the tomato paste, salt, sugar, dehydrated onions, garlic powder and water. Heat to 160°F.
4.	Make a flour-starch slurry and add to the mixture along with the chili powder. Heat to 180°F. Mix thoroughly to blend ingredients.

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TABLE . Processing requirements (cont'd)

Item	Requirement
<u>Can filling</u>	
5.	The Chili Con Carne shall be filled into the cans at not less than 150°F.
6.	For type II the beans shall be filled separately into the cans. Bean fill for the 6-pound, 12-ounce can (603 x 700) shall be based on dry solids of 7.75 - 8.50 ounces; followed by the Chili Con Carne mixture. Bean fill for type II, 15-ounce can (300 x 407) shall be based on dry solids of 1.18 - 1.50 ounces. (See 6.5.6 and 6.5.7).
7.	Cans shall be closed under vacuum at such level as to result in a vacuum not less than 5 inches, at least 72 hours after processing.
8.	Heat sterilize using normal commercial practices.

3.4 Finished product. The finished product shall comply with the requirements of table II.

TABLE II. Finished product requirements

Item	Requirement
<u>Physical requirements (see 4.5.1)</u>	
1.	There shall be no foreign odor or flavor, such as, but not limited to, burnt, scorched, stale, sour, rancid, musty or moldy.
2.	There shall be no foreign material, such as, but not limited to dirt, insect, insect part, wood, paper, paint, glass or metal.
3.	There shall be no foreign color, such as, but not limited to black, purple, green or white.
4.	The meat retained on the top (1/4 inch) sieve shall weigh not less than 16 ounces for type I and not less than 10 ounces for type II in the 6-pound, 12-ounce (603 x 700) can size.



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TABLE II. Finished product requirements (cont'd)

Item	Requirement
<u>Physical requirements (see 4.5.1) (cont'd)</u>	
5.	Meat retained on the top (1/4 inch) sieve shall weigh not less than two ounces for type I and not less than 1-1/2 ounces for type II in the 15-ounce (300 x 407) can size.
6.	The meat retained on both sieves (1/4 inch and No. 8) shall weigh not less than 21-1/2 ounces for type I and not less than 16 ounces for type II in the 6-pound, 12-ounce (603 x 700) can size.
7.	The meat retained on both sieves (1/4 inch and No. 8) shall weigh not less than three ounces for type I and not less than 2-1/4 ounces for type II in the 15-ounce (300 x 407) can size.
8.	There shall be no bone greater than 1/4 inch in any dimension.
9.	There shall be no cartilage, ligament, tendon, or connective tissue greater than 1/2 inch in any direction.
10.	The beans retained on the top (1/4 inch) sieve shall weigh not more than 25 ounces and the weight for both sieves (1/4 inch and No. 8) combined shall be not more than 26 ounces in the 6-pound, 12-ounce can (603 x 700).
11.	The total weight of beans retained on the top (1/4 inch) sieve shall be not less than 3-1/2 ounces for the 15-ounce can (300 x 407).
<u>Chemical requirements (see 4.5.2)</u>	
12.	The salt content shall be not less than 1.0 nor more than 2.0 percent.
13.	The fat content shall be not more than 15 percent.
14.	The moisture content shall be not more than 78 percent.

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3.5 Plant qualification. The product shall originate, be processed, marked and handled in plants which are operated under the Regulations Governing the Meat Inspection of the U.S. Department of Agriculture (USDA).

3.6 All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Plant qualification conditions. The product furnished under this document shall be unacceptable if not produced and stored in plants which currently meet the qualification conditions of 3.5.

4.3 Inspection. Sampling for inspection shall be in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

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

4.3.1.1 Examination of the beef component. The bone-in or boneless primal cuts of beef shall be examined to determine compliance with 3.2, as concerns foreign color, foreign material or foreign odor, and 3.2.1 as concerns condition, temperature, storage limitation, grade, when specified, and cuts of meat. Records of storage time and temperature shall be maintained. When frozen beef is used, it shall be thawed prior to conducting the examination for condition. Nonconformance to one or more of the requirement(s), reflected by actual examination of storage records, inspection records or documents as applicable, shall be cause for rejection of the involved quantity of beef component or of the involved quantity of finished product made therefrom, as applicable.

4.3.1.2 Examination of salt. Examination of salt shall be made to determine compliance with 3.2.8 as concerns identity. Determination of compliance shall be ascertained by examination of labels or invoices or other valid documents. In addition, the salt shall be examined for the condition requirements of 3.2. The sample size for the examination shall be a 1-pound composite derived from

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5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the requirement(s) shall be cause for rejection of the lot or finished product made therefrom, as applicable.

4.3.1.3 Examination of flour. Examination of flour shall be made to determine compliance with 3.2.4 as concerns identity, i.e., color (bleached). Determination of compliance shall be ascertained by examination of labels, invoices or other valid documents. In addition, the flour shall be examined for the condition requirements of 3.2 and 3.2.4. The sample size for examination shall be a 1-pound composite derived from 5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the requirement(s) shall be cause for rejection of the lot or finished product made therefrom, as applicable.

4.3.1.4 Examination of tomato product and beans. Examination of tomato product and beans shall be made to determine compliance with 3.2.2 and 3.2.3 as concerns identity and grade. Determination of compliance shall be satisfied by the tendering of a USDA grade certificate indicating compliance with grade requirements. In addition, the beans and tomato product shall be examined for the condition requirements of 3.2. The sample size shall be a 1-pound composite derived from 5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the requirement(s) shall be cause for rejection of the lot or finished product made therefrom, as applicable.

4.3.1.5 Examination of chili powder seasoning. Examination of chili powder seasoning shall be made to determine compliance with 3.2 as concerns condition. In addition, the chili powder seasoning shall be examined in accordance with that table of MIL-C-3394 entitled "Examination of end item", except that the sampling plans and acceptable quality levels (AQLs) shall not apply. The sample size shall be a 1-pound composite derived from 5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the requirement(s) shall be cause for rejection of the lot or the finished product made therefrom, as applicable.

4.3.1.6 Examination of sugar. Examination of sugar shall be made to determine compliance with the condition requirements of 3.2 and 3.2.5. The sample for the examination shall be a 1-pound composite derived from 5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the above requirements shall be cause for rejection of the lot. In addition, examination shall be made to determine compliance with the identity requirements of 3.2.5. Determination of compliance shall be made by examination of labels, invoices, or other valid documents. Nonconformance to the identity requirements shall be cause for rejection of the lot.

4.3.1.7 Examination of modified waxy maize starch, onion and garlic. Examination shall be made to determine compliance with the identity and condition requirements of 3.2, 3.2.6, 3.2.9, or 3.2.10, as applicable. Determination of compliance shall be made by examination of labels, invoices, or other valid documents. The

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Sample for examination shall be a 1-pound composite derived from 5 primary containers or all containers if less than 5 form a lot. Nonconformance to one or more of the above referenced requirements shall be cause for rejection of the component lot or the finished product made therefrom, as applicable.

4.3.2 Testing of components. Testing of components described in this specification and changes listed in subsidiary specifications shall be as shown in table I. Test requirements shall be lot average requirements. Nonconformance to one or more test requirement shall be cause for rejection of the lot.

TABLE III. Testing of components (see 4.3.1)

Component	Sample unit	Lot size expressed in	Inspection level	Characteristics	Results reported	Test ref and reqmt par
Four	1/2 lb	Primary containers	2/	Bacteriological standards	Pass or fail	3.2.4 and MIL-STD-900
Wet powder seasoning	1/2 lb	Primary containers	1/	Moisture and total ash	Nearest whole percent	3.2.7 and MIL-C-3394
Wet maize starch	1/2 lb	Primary containers	2/	Bacteriological standards	Pass or fail	3.2.6 and MIL-STD-900
Sugar	1/2 lb	Primary containers	2/	Bacteriological standards	Pass or fail	3.2.5 and MIL-STD-900
Beans	1 lb composite 1/	Pounds	1/	Dry solids	0.5 ounce	Table I, item 6, 4.5.2 and 6.5.6 and 6.5.7

The sample size shall be a 1/2-pound composite derived from 5 primary containers or all containers if less than 5 form a lot.

As indicated in MIL-STD-900.

4.3.2.1 Examination of beef component after boning and trimming prior to cutting and grinding. Examination shall be made to determine compliance with the requirements of 3.2.1.1. The examination shall be made in accordance with the classification of defects listed in table IV. Lot size shall be expressed in terms of the

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number of pounds. The sample unit shall be one cut. The sample size shall be the number of sample units indicated by inspection level S-4. The AQL shall be 10.0 for Major B defects. In addition, the lot shall be rejected if the temperature of the beef at the thickest part exceeds 42°F.

TABLE IV. Examination of beef component after boning and trimming prior to cutting or grinding

Category		Defect
<u>Major A</u>	<u>Major B</u>	<u>Applicable to all cuts</u>
101		Presence of foreign material, (e.g., dirt, sawdust, insect or insect fragment, grease, paint, glass or metal particle). <u>1/</u>
102		Off condition (e.g., sticky, gassy, rancid, sour, discolored or chemical odor). <u>1/</u>
	151	Presence of blood clot or bruise (see 6.5).
	152	Presence of bone or cartilage (see 6.5).
	153	Presence of unauthorized material (glandular tissue, protruding ligaments or tendons, dehydrated tissue, or calcified periosteum).
	154	Presence of periosteum that exceeds 2 square inches on single cut. <u>2/</u>
		<u>Applicable to round only</u>
	155	Presence of silver strip.
	156	Presence of gracilis membrane.
	157	Shank meat not removed through the natural seam.
	158	Presence of popliteal lymph gland.
	159	Presence of prefemoral lymph gland.
	160	Presence of sacrosciatic ligament.
	161	Flank not removed in the standard manner.

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TABLE IV. Examination of beef component after boning and trimming prior to cutting or grinding (cont'd)

Category		Defect
<u>Major A</u>	<u>Major B</u>	<u>Applicable to round only (cont'd)</u>
	162	Tendinous ends of the heel and knuckle after trimming do not expose 75 percent lean meat. 3/
	163	Periosteum from the knuckle not removed.
	164	Abdominal tunic not removed.
	165	Knuckle cover not removed.
		<u>Applicable to loin only</u>
	166	Presence of serous membrane.
	167	Flank not removed in the standard manner.
	168	Presence of iliac lymph gland.
	169	Presence of sacrosciatic ligament.
	170	Presence of abdominal tunic.
	171	Presence of kidney or kidney knob.
	172	Presence of hanging tender.
	173	Presence of back strap.
		<u>Applicable to rib only</u>
	174	Presence of back strap.
	175	Rib fingers in excess of those naturally occurring.
	176	Plate not removed in the standard manner.
		<u>Applicable to chuck only</u>
	177	Presence of prescapular lymph gland.
	178	Presence of back strap.

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TABLE IV. Examination of beef component after boning and trimming prior to cutting or grinding (cont'd)

Category		Defect
<u>Major A</u>	<u>Major B</u>	<u>Applicable to chuck only (cont'd)</u>
	179	Presence of bloody neck meat.
	180	Presence of carotid artery or jugular vein.
	181	Subscapularis muscle not removed through natural seam.
	182	Protruding tendons of the clod not removed even with the lean tissue.
	183	Periosteum not removed from the clod.
	184	Presence of rib fingers.
		<u>Applicable to triangle only</u>
	185	Presence of prescapular lymph gland.
	186	Presence of back strap.
	187	Presence of bloody neck meat.
	188	Presence of carotid artery or jugular vein.
	189	Protruding tendons or ligaments not trimmed even with the lean meat.
	190	Trimmed thin end of the shoulder clod not trimmed to expose 75 percent lean meat. <u>3/</u>
	191	Periosteum not removed from clod.
	192	Presence of deckle.
	193	Foreshank not removed.
	194	Surface fat on the skin side of the brisket not trimmed to 1/2 inch. <u>4/</u>

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TABLE IV. Examination of beef component after boning and trimming prior to cutting or grinding (cont'd)

Category		Defect
Major A	Major B	<u>Applicable to triangle only (cont'd)</u>
	195	Membrane from both sides of skirt not removed.
	196	Presence of abdominal tunic from the plate.

- 1/ Finding of one or more Major A defects shall be cause for rejection of the lot.
- 2/ Measure to the nearest 1/4 inch.
- 3/ Measure to the nearest 5 percent.
- 4/ Measure to the nearest 1/8 inch.

4.3.3 Process examination (preparation and formulation). Examination shall be made during processing to determine compliance with the requirements of 3.3 as concerns processing and formulation. Records of formulation, temperature and time shall be maintained. Nonconformance to one or more of the above referenced requirement(s), reflected by actual examination or by records, shall be cause for rejection of the involved product or the finished product made therefrom, as applicable.

4.3.4 Examination of end item. Classification of defects found during examination shall be in accordance with tables VI and VII, 4.3.4.1 and 4.3.4.2. The examination criteria for the above referenced tables shall be as shown in table V. AQLs shall be expressed as defects per hundred units.

TABLE V. End item examination criteria

Table	Inspection level	Sample unit	Lot size expressed in	AQLs	
				Major	Minor
VI	S-3	1 can	Number of cans	1.5	6.5
VII	S-3	1 can	Number of cans	1.5	6.5



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TABLE VI. Examination for net weight and weight of beans  
and meat pieces retained on sieves

Category		Defect
<u>Major B</u>	<u>Minor</u>	<u>Applicable to 6-pound, 12-ounce can (603 x 700)</u>
151		Net weight less than 10 <sup>4</sup> ounces. <u>2/</u>
	201	Total weight of beef pieces retained on the 1/4 inch sieve weighs less than 16 ounces for type I product and less than 10 ounces for type II product. <u>1/ 3/</u>
	202	Total weight of beef pieces retained on both 1/4 inch and No. 8 sieves weighs less than 21-1/2 ounces for type I product and less than 16 ounces for type II product. <u>1/ 3/</u>
		<u>Type II only</u>
	203	Beans retained on the top (1/4 inch) sieve weigh more than 25 ounces. <u>1/ 4/</u>
	204	Beans retained on both sieves (1/4 inch and No. 8) weigh more than 26 ounces. <u>1/ 4/</u>
		<u>Applicable to 15 ounce can (300 x 407)</u>
152		Net weight less than 14-1/2 ounces. <u>2/</u>
	205	Beans retained on top sieve (1/4 inch) less than 3-1/2 ounces. <u>3/</u>
	206	Meat retained on top (1/4 inch) sieve weighs less than 2 ounces for type I product. <u>5/</u>
	207	Meat retained on top (1/4 inch) sieve weighs less than 1-1/2 ounces for type II product. <u>5/</u>
	208	Total meat retained on both sieves (1/4 inch and No. 8) weighs less than 3 ounces for type I product. <u>5/</u>
	209	Total meat retained on both sieves (1/4 inch and No. 8) weighs less than 2-1/4 ounces for type II product. <u>5/</u>

1/ See 4.5.1 for procedure.

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- 2/ The lot shall be rejected if the sample data indicate a lot average weight is less than specified weight. Report to the nearest 1/4 ounce.
- 3/ Weigh to the nearest 1/4 ounce.
- 4/ Weigh to the nearest one ounce.
- 5/ Weigh to the nearest 1/8 ounce.

TABLE VII. Examination of finished product 1/

Category			Defect
<u>Major A</u>	<u>Major B</u>	<u>Minor</u>	
101			Presence of foreign odor or flavor (e.g., burnt, scorched, stale, sour, rancid, musty or moldy odor or flavor).
102			Presence of foreign material (e.g., dirt, insect, insect part(s), wood, paper, paint, glass or metal).
103			Presence of foreign color (e.g., black, purple, green or white).
	151		Presence of bone greater than 1/4 inch in any dimension. 2/
		201	Presence of cartilage, ligament, tendon, or connective tissue greater than 1/2 inch in any dimension.

- 1/ The finding of one or more Major A defect(s) shall be cause for rejection of the lot.
- 2/ Measure to nearest 1/8 inch.

4.3.4.1 Examination of packaging, packing, marking and vacuum. Examination shall be made in accordance with the applicable examination criteria of PPP-C-29 and subsidiary specifications where therein directed. Vacuum less than 5 inches shall be classified as a defect. In addition, for level A and B pack, the following defects shall be included in the table of examination of the appendix to PPP-B-836: Major - Marking missing, incorrect or illegible. Minor - Arrangement not as specified. Level C pack shall be examined in accordance with the criteria of PPP-C-29.

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4.3.4.2 Examination of can labeling. Examination of can labeling shall be in accordance with the examination criteria of MIL-L-1497.

4.3.5 Sampling procedures and acceptance criteria for testing of finished product. The finished product shall be tested for salt, fat, and moisture contents, as specified in table II, items 12, 13, and 14, respectively. Procedures for testing shall be in accordance with 4.5.2. Lot size shall be expressed in terms of cans, and the sample for testing shall be a 1-pound composite derived from the number of cans indicated by inspection level S-1. Results shall be reported as follows: Salt - nearest 0.1 percent; fat and moisture - nearest whole percent rounded off. Nonconformance to any one of the test requirements shall be basis for rejection of the lot.

4.4 First article inspection. First article samples of the product which the supplier intends to supply shall be inspected to assure compliance with 3.4.

4.5 Examination and test methods. Examination and test procedures and controls which differ from those specified herein, 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 test procedures set forth herein. In case of dispute as to examination or test results, the examination and test methods specified herein shall govern.

4.5.1 Physical analysis. Not less than 72 hours after processing cans shall be weighed and opened. (Cans tested for vacuum may be used.) The contents of the can shall be emptied into a flat bottom container and mixed with at least an equal volume of hot water (180°-212°F). The product and water shall be stirred, exercising care to prevent breakage of the meat pieces. After stirring has liquefied the rendered fat and broken apart gravy masses, the product and water shall be poured onto a set of 2 nested, woven-wire sieves in a manner that will distribute the product on the top sieve. The top sieve shall be a US Standard 3-1/2 or 1/4 inch sieve, and the bottom one a US Standard No. 8 sieve. Sieves shall be 12 or 15 inches in diameter. The product on the sieves shall be washed with at least another equal volume of the same temperature water to remove the adhering sauce. The sieves shall be tilted slightly and allowed to drain at least 2 minutes before determining the weight of meat by subtracting the sieve tares from the gross weights. The net weight shall be the difference between the unopened can weight and the weight of the washed and dried can and lid. The determination of bean and meat weights shall be made by picking the beans from the top sieve and weighing each component separately.

4.5.2 Chemical analyses. Chemical analyses shall be performed in accordance with the methods cited below: fat and moisture shall be reported to the nearest whole percent. Salt shall be reported to the nearest 0.1 percent.

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Association of Official Analytical Chemists (where applicable):

<u>Chapter</u>	<u>Section</u>	<u>Test</u>	<u>Method</u>
Bean moisture	-	-	Rapid method by use of a moisture balance
Meat & meat products	Meat	Fat	Crude fat or ether extract (using petroleum ether)
		Salt	Salt
		Moisture	Moisture (drying in vacuum at 95 - 100°F.)

4.5.3 Bacteriological analysis. Flour, starch and sugar shall be sampled and tested for thermophilic spores in accordance with MIL-STD-900.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging, level A and C. A net weight of 15 ounces or 6-pounds, 12-ounce of chili con carne shall be filled into a size 300 by 407 or size 603 by 700 can respectively, in accordance with the level A or C requirements of PPP-C-29, as specified (see 6.1). A minus 1/2 ounce tolerance will be allowed in any one size 300 by 407 can or a minus 4 ounce tolerance will be allowed in any one size 603 by 700 can, provided that the average net weight of the size 300 by 407 or size 603 by 700 cans inspected in accordance with table VI is not less than 15 ounces nor less than 6-pounds, 12-ounces, respectively. The cans shall be closed under conditions which shall result in not less than 5 inches of vacuum.

5.2 Packing, all levels. The cans of the product shall be packed in accordance with PPP-C-29 for the level specified (see 6.1).

5.3 Labeling and marking.

5.3.1 Cans. Cans shall be labeled in accordance with MIL-L-1497.

5.3.2 Shipping containers. Shipping containers shall be marked in accordance with MIL-STD-129.

## 6. NOTES

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

- a) Title, number and date of this specification.
- b) Type required (see 1.2.1).
- c) Grade required (see 3.2.1).
- d) When first article samples are required (see 3.1).
- e) Levels of packaging and packing required (see 5.1 and 5.2).

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6.2 Military agencies. Based on the 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, NAVSUPINST PUB 470, AFR 71-6, MCO 4030.14D or DSAR 4145-7, as applicable.

6.3 Award of contract for the product specified in this document will be limited to plants known to maintain the required sanitation conditions of 3.5 (also see 4.2).

6.4 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of ASPR 7-104.55. The first article should be a preproduction sample. The first article should consist of six 6-pound, 12-ounce (603 x 700) can size or twelve 15 ounce (300 x 407) can size. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

#### 6.5 Definition of terms.

6.5.1 Bruise. A bruise is a damaged portion of a muscle or fatty tissue as evidence by opaqueness of connective tissue or darkened flesh which exceeds 1/2 inch in any dimension.

6.5.2 Blood clot. A blood clot is an organized, coagulated opaque mass of blood on the surface of fat or muscle fibers which exceeds 1/2 inch in any dimension.

6.5.3 Bone. Bone is connective tissue whose matrix is hardened by various salts of calcium or potassium. Functional definition - Bone is calcified tissue greater than 1/4 inch in any dimension. Calcified tissue 1/4 inch or less shall not be classified as bone.

6.5.4 Cartilage. Cartilage is elastic, unossified bone tissue greater than 1/4 inch in any dimension. Unossified material 1/4 inch or less shall not be classified as cartilage.

6.5.5 Excellent condition. Meat in excellent condition has a degree of freshness exhibited by meat maintained at an optimum temperature of 32° - 40°F. Normally the product will not be more than ten days old from the date of slaughter. However, the final determination of excellent condition shall be based on product characteristics. The meat shall be firm and dry and shall not show evidence of freezing or storage at improper temperatures. Only small areas of darkening, discoloration or dehydration that can be easily trimmed without affecting the appearance of the meat shall be permitted. Meat showing moderate degree of aging, darkening, discoloration or stickiness shall not be considered to be in excellent condition. (This definition has been provided by the Department of the Army, Office of The Surgeon General, Washington, DC).

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6.5.6 Dry solids basis. Dry solids is the quantity remaining on the moisture balance after the removal of the water from the soaked beans.

1. 100 minus percent water (direct reading from moisture balance) = percent dry solids.
2. Percent dry solids x (weight of beans required per can) = 7.75 ozs. to 8.50 ozs. on a dry solids basis.

Experience shows that 55-57% moisture content of beans after soaking will provide the bean with the proper amount of moisture to meet the end item requirements. Moisture adjustments will be required if the soaked beans fail to meet the 55-57% moisture level necessary to maintain the 7.75-8.50 bean solids range.

6.5.7 An example of a fill which should be in compliance for the 6-pound, 12-ounce (603 x 700) can size is: 18-1/2 ounces soaked beans (55-57 percent moisture content) and 89-1/2 ounces of chili con carne mixture. An example of a fill which should be in compliance for the 15 ounce (300 x 407) can size is: 2-3/4 ounces of soaked beans (55-57 percent moisture content) and 12-1/4 ounces of chili con carne mixture.

6.6 This document includes the requirements of MIL-C-1381E dated 25 March 1971.

Custodians:

Army - GL  
Navy - SA  
Air Force - 45

Preparing activity:

Army - GL  
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Army - MD  
Navy - MC, MS  
AF - SS

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EE-C-281A CHILI CON CARNE, WITH OR WITHOUT BEANS, CANNED

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