

RATION, TEN-IN-ONE

A. APPLICABLE SPECIFICATIONS.

A-1. The following specifications, of the issue in effect on date of invitation for bids, shall form a part of this specification:-

A-1a. United States Army Specifications:-

No. 22-42 - Supplies, Subsistence, for the United States Army, Conditions Governing the Purchase of.

A-1b. Quartermaster Corps Tentative Specifications:-

O.Q.M.C. No. 93 - Boxes; Fiberboard, Corrugated and Solid.

O.Q.M.G. No. 94 - Marking of Outside Shipping Containers by Contractors.

O.Q.M.G. No. 106 - Strapping, Steel, Nailless Type (Flat Steel and Round Steel Wire) for Boxes, Crates and Bales.

A-1c. Specifications relating to individual components are noted under "Detail Requirements."

B. TYPES AND GRADES.

B-1. Ration Ten-in-One shall contain food for ten (10) men for one day and shall be packed in five menus as follows:

Ration, Ten-in-One, Menu No. 1* (Stock No. 56-R-8710)
Ration, Ten-in-One, Menu No. 2* (Stock No. 56-R-8720)
Ration, Ten-in-One, Menu No. 3* (Stock No. 56-R-8730)
Ration, Ten-in-One, Menu No. 4* (Stock No. 56-R-8740)
Ration, Ten-in-One, Menu No. 5* (Stock No. 56-R-8750)

B-2. Grades of materials shall be as herein specified.

C. MATERIAL AND WORKMANSHIP.

C-1. All materials shall be manufactured, packaged, and assembled in a strictly sanitary manner and in accordance with good commercial practice.

D. GENERAL REQUIREMENTS.

D-1. All deliveries shall conform, in every respect, to the provisions of the Federal Food, Drug, and Cosmetic Act, and regulations promulgated thereunder.

E. DETAIL REQUIREMENTS.

E-1. Ration Ten-in-One shall be assembled as five different menus, the components of each being as follows:

This is the approved nomenclature.



- Menu No. 1 as specified in E-1a.
 Menu No. 2 as specified in E-1b.
 Menu No. 3 as specified in E-1c.
 Menu No. 4 as specified in E-1d.
 Menu No. 5 as specified in E-1e.

E-1a. Menu No. 1 shall consist of the following components:

Product	No. of Units	Minimum Net Wt. of Unit Ounces	Maximum Measurements of Container	Related Specifications
Army Spread, Canned	2	3-3/4	300 X 106	* CQD 32, Type I
Coffee Product, Soluble, Canned	4	1	202 X 202	CQD 30
Jam, Canned	2	11	211 X 304	Z-J-96 (See E-2n)
Milk, Evaporated	2	6	208 X 206 V.H.	C-M-371
Pineapple-Rice Pudding, Canned	2	20	307 X 409 (No. 2)	(to be submitted by C.Q.D.)
Pork Sausage Meat, Canned	2	34	404 X 414	CQD 98
Tomatoes, Canned	2	19	307 X 409 (No. 2)	JJJ-T-571a, Type I
Cheese, Canned (Ration K)	10	4	300 X 106	CQD 20
Beans, Baked, Dehyd.	2	20		CQD 90
Biscuit, C Square	2	32		CQD 55
Cereal, Pre-mixed	2	10		CQD 92
Ration K, Menu No. 1	10	(Partial Units, see E-2s)		
Salt	2	1		
	or 4	1/2		SS-S-31a
Cigarettes	10	10 (Cig.)		Good Commercial Quality
Halazone Tablets	2	50 (Tablets)		(to be submitted by JCQD)
Matches	10	20 (Sticks)		CQD 127 (See E-20)
Opener, Can, Small, Ind.	2			** JQMD 313
Paper, Toilet	2	125 (sheets)		*** JCQD 10
Soap, Toilet	2	2 (cakes)		OQMG 100
Towels, Paper	2	10 (sheets)		UU-T-591

- * Chicago Quartermaster Depot Specification.
 ** Jeffersonville Quartermaster Depot Specification.
 *** Jersey City Quartermaster Depot Specification
 (Others refer to Federal Specification)



E-1b. Menu No. 2 shall consist of the following components:

Product	No. of Units	Minimum Net Wt. of Unit <u>Ounces</u>	Maximum Measurements of Container	Related Specifications
Army Spread, Canned	2	3-3/4	300 X 106	CQD 32, Type I
Bacon, Sliced, Canned	2	24	307 X 509	CQD 145
Beans, Snap, Canned	2	19	307 X 409 (No. 2)	JJJ-B-151a, Style I
Coffee Product, Soluble, Canned	4	1	202 X 202	CQD 30
Jam, Canned	2	11	211 X 304	Z-J-96 (See E-2n)
Milk, Evaporated	2	6	208 X 206 V.H.	C-M-371
Stew, English Style, Canned	2	30	401 X 411 (2 $\frac{1}{2}$) or 404 X 406	CQD 76
Cheese, Canned (Ration K)	10	4	300 X 106	CQD 20
Biscuit, C Square	2	32		CQD 55
Cereal, Premixed	2	10		CQD 92
Fruit Bars	10	2		CQD 22
Ration K, Menu No. 2	10	(Partial Units, see E-2s)		CQD 28
Salt	2	1		
or	4	1/2		SS-S-31a
Cigarettes	10	10 (Cig.)		Good Commercial Quality
Halazone Tablets	2	50 (Tablets)		(To be submitted by JCQD)
Matches	10	20 (Sticks)		CQD 127 (See E-2o)
Opener, Can, Small, Ind.	2			** J.Q.M.D. 313
Paper, Toilet	2	125 (Sheets)		*** J.CCQ.D. 10
Soap, Toilet	2	2 (Cakes)		OQMG 100
Towels, Paper	2	10 (Sheets)		UU-T-591



E-1c. Menu No. 3 shall consist of the following components:

Product	No. of Units	Minimum Net Wt. of Unit Ounces	Maximum Measurements of Container	Related Specifications
Army Spread, Canned	2	3-3/4	300 x 106	CQD 32, Type I
Beef, Corned, Canned	4	12	Truncated 314 x 202 x 308	PP-B-201
Coffee Product, Soluble, Canned	2	1	202 x 202	CQD 30
Ham and Eggs, Canned	2	30	404 x 406	CQD 20, Type IVb
Jam, Canned	2	11	211 x 304	Z-J-96 (See E-2n)
Milk, Evaporated	2	6	208 x 206 V.H.	C-M-371
Peas, Canned	2	20	307 x 409 (No.2)	JJJ-P-151a
Meat, Canned (K Ration)	10	3-3/4	300 x 106	CQD 20
Biscuit, C Square	2	32		CQD 55
Cereal, Pre-mixed	2	10		CQD 92
Fruit Bar	10	2		CQD 22
Orange Powder, Syn.	10	77 (grams)		(to be submitted by CQD)
Ration K, Menu No. 3	10	(Partial Units, see E-2s)		CQD 28
Salt	2	1		SS-S-31a
	or 4	1/2		
Sugar	2	8		JJJ-S-791, Type I
Cigarettes	10	10 (Cigarettes)		Good Commercial Quality
Halazone Tablets	2	50 (Tablets)		(to be submitted by JCQD)
Matches	10	20 (Sticks)		CQD 127 (See E-2o)
Opener, Can, Small, Individual	2			** J.Q.M.D. 313
Paper, Toilet	2	125 (Sheets)		*** J.C.Q.D. 10
Soap, Toilet	2	2 (Cakes)		OQMG 100
Towels, Paper	2	10 (Sheets)		UU-T-591



E-1d. Menu No. 4 shall consist of the following components:

Product	No. of Units	Minimum Net Wt. of Unit Ounces	Maximum Measurements of Container	Related Specifications
Army Spread, Canned	2	3-3/4	300 x 106	CQD 32, Type I
Bacon, Sliced, Canned	2	24	397 x 509	CQD 145
Beef, Roast, Canned	4	12	Truncated 314 x 202 x 308 or 404 x 202	CQD 53
Coffee Product, Soluble Canned	2	1	202 x 202	CQD 30
Corn, Sweet, Canned	2	20	307 x 409 (No. 2)	M-C-501a, Style II
Jam, Canned	2	11	211 x 304	Z-J-96 (See E-2n)
Milk, Evaporated	2	6	208 x 206 V.H.	C-M-371
Egg Product, Canned (Ration K)	10	3-3/4	300 x 106	CQD 20
Biscuit, C Square	2	32		CQD 55
Candy, Hard	10	1-3/8		Commercial Quality
Cereal, Pre-mixed	2	10		CQD 92
Lemon Juice Powder, Synthetic	10	7 (grams)		CQD 43
Ration K, Menu No. 4	10	(Partial Units, see E-2s)		CQD 28
Salt	2 or 4	1 1/2		SS-S-31a JJJ-S-791, Type I
Sugar	2	8		Good Commercial Quality (to be submitted by JCQD)
Cigarettes	10	10 (Cig.)		CQD 127 (See E-2o)
Halazone Tablets	2	50 (Tablets)		
Matches	10	20 (Sticks)		
Opener, Can, Small Individual	2			** J.Q.M.D. 313
Paper, Toilet	2	125 (Sheets)		*** J.C.Q.D. 10
Soap, Toilet	2	2 (Cakes)		OQMG 100
Towels, Paper	2	10 (Sheets)		UU-T-591



E-1e. Menu No. 5 shall consist of the following components:

Product	No. of Units	Minimum Net Wt. of Unit	Maximum Measurements of Container	Related Specifications
		<u>Ounces</u>		
Army Spread, Canned	2	3-3/4	300 x 106	CQD 32. Type I
Bacon & Eggs, Canned	2	30	404 x 406	(To be submitted by C.Q.D.)
Beans, Lima, Canned	2	20	307 x 409 (No. 2)	JJJ-B-126b
Coffee Product, Soluble, Canned	2	1	202 x 202	CQD 30
Hash, Corned Beef, Dehydrated	2	13	300 x 409	(To be submitted by C.Q.D.)
Jam, Canned	2	11	211 x 304	Z-J-96 (See E-2n)
Milk, Evaporated	2	6	208 x 206 V.H.	C-M-371
Egg Product Canned (Ration K)	10	3-3/4	300 x 106	CQD 20
Biscuit, C Square	2	32		CQD 55
Cereal, Pre-mixed	2	10		CQD 92
Grape Juice Powder, Syn.	2	15 (grams)		CQD 142
Ration D Bar	10	2		CQD 19(Type III)
Ration K, Menu No. 5	10	(Partial Units, see E-2s)		CQD 28
Salt	2	1		
	or 4	1/2		SS-S-31a
Sugar	2	8		JJJ-S-791, Type I
Cigarettes	10	10 (Cig.)		Good Commercial Quality
Halazone Tablets	2	50 (Tablets)		(To be submitted by J.C.Q.I)
Matches	10	20 (Sticks)		CQD 127 (see E-2o)
Opener, Can, Small Individual	2			** J.C.M.D. 313
Paper, Toilet	2	125 (Sheets)		*** J.C.Q.D. 10
Soap, Toilet	2	2 (Cakes)		OQMG 100
Towels, Paper	2	10 (Sheets)		UU-T-591



E-2. Packaging of Components.

The surfaces of all packages, except the cans and transparent overwraps shall have a dull nonreflective color such as drab, khaki, olive, or that of unbleached kraft.

All the paper, paperboard, waxes, adhesives and laminating materials shall be free from objectionable odors to eliminate any possibility of contaminating the packaged foodstuffs.

The packaging of items not specifically described in this section shall be in accordance with the appropriate specifications listed in paragraphs E-1a, E-1b, E-1c, E-1d, and E-1e, in effect on the date of invitation for bids.

E-2a. Army Spread: - Three and three-quarter ounces shall be packaged in a round, hermetically sealed, open top style metal can with double seamed, compound-lined ends and soldered side seams, made either of commercial 1.25 pound hot-dipped tin plate or 0.5 pound electrolytic tin plate. Cans shall be coated overall outside, except for soldered side seam, with a rust-resistant lacquer or enamel, and both types of cans shall be coated inside with an enamel suitable for the product.

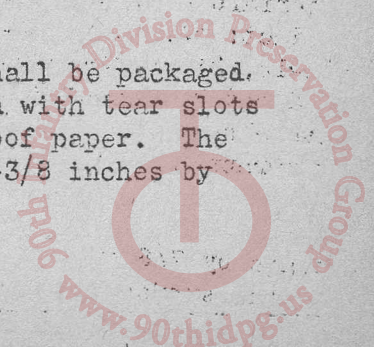
E-2b. Bacon, Canned: - Twenty-four ounces shall be packaged in a round, hermetically sealed open top style metal can with double seamed, compound-lined ends and soldered side seams, made of commercial 1.25 pound hot-dipped tin plate. Cans shall be coated overall outside, except for soldered side seam, with a rust-resistant lacquer or enamel.

E-2c. Coffee Product, Soluble: - One ounce shall be packaged in a round, hermetically sealed, open top style metal can with double seamed compound-lined ends and soldered side seams. The cans shall be made of the following materials:

- (a) 0.5 lb. tin coating, enameled or lacquered on the outside.
- (b) Body as in (a) and one or both ends of enameled or lacquered black iron or bonderized black iron plate.

If a scored top is employed, it shall bear suitable instructions for opening. If desired, instead of lithographing the required information on the can, it may be printed on a hard-sized, kraft-colored label which shall cover the cylindrical surface of the can with at least a 1/4 inch overlap and be firmly glued at the lap with a water-resistant glue.

E-2d. Beans, Baked, Dehydrated: - Twenty ounces shall be packaged in a waxed-paper wrap or wax-dipped, siftproof, seal-end carton with tear slots and extended glue flap, having an inner lamination of greaseproof paper. The size of the carton shall be not greater than 3-7/8 inches by 2-3/8 inches by 6-1/4 inches.



The greaseproof paper shall have a basis weight of not less than 25 pounds per ream (24 x 36 - 500) and shall have an average turpentine test (TAPPI T 454 m-42) of not less than 200 seconds. It shall be laminated to the inner surface of the carton stock with an odor-free adhesive.

The wax dipped carton shall be made of bending kraft-lined chipboard of not less than No. 3 finish. The overall thickness of the board, including the greaseproof liner, shall be not less than 0.022 inch. The waxed-paper-wrapped carton shall be made of good bending chipboard with not less than a No. 2 finish and 0.022 inch thickness, including the greaseproof liner.

(1) The container shall be overwrapped with a single sheet of waxed paper with an overlap at the seam of at least one-half inch and heat-sealed along seam and end closures. The paper before waxing shall have a basis weight of not less than 25 pounds per ream (24 x 36 - 500) and shall be waxed to not less than 40 pounds with fully refined wax, having a melting point (ASTM D 127-30) of not less than 132° F.

(2) Alternatively, the container shall be wax dipped to effect a partial penetration and to provide an even and continuous film of wax over its surface. The wax or wax mixture shall have a melting point (ASTM D 127-30) of not less than 135° F. and shall neither crack nor flake off when exposed to a temperature of minus 20° F. nor block excessively at 120° F.

E-2e. Candy, Hard: - Each piece shall be wrapped with suitable waxed paper or cellophane of such nature as to prevent undue adherence of the paper to the candy. From 1 to 2 ounces, as specified in the invitation for bids, of wrapped pieces shall be overwrapped with a heat-sealing, water-vapor-resistant cellophane or similar water-vapor-resistant material which will provide protection in handling.

E-2f. Cereal, Pre-mixed: - Ten ounces of the product shall be packaged according to E-2b, except that the thickness of the board for the carton may be reduced to 0.018 inch. If the carton is waxed-paper wrapped, two sheets shall be used with their side seams on the opposite sides of the carton.

E-2g. Fruit Bars: - Two ounces shall be sealed in a bag made of No. 300 PMBS or No. 300 MSAT 82 cellophane and placed in a tuck-end or seal-end carton made from dark colored board at least 0.010 inch thick which will not impart a flavor or odor to the contents. The bar shall then be adequately pasteurized. After cooling, the package shall be overwrapped in a sheet of No. 450 PMS or 450 MST 54 cellophane. All seams and closures shall be tightly sealed against the transmission of water vapor.

Alternatively, the fruit may be placed in a wrapper or liner made from waxed glassine and placed in a dull colored tray or carton not less than 0.010 inch thick, made from pulp or papers which have any objectionable materials excluded which would contaminate or impart an odor or flavor to the product; or, placed directly in a hot waxed tray made from 0.016 inch thick, single, bleached-sulphite, solid manila board with both faces having a dull color produced by a nontoxic dye. The tray or carton shall then be wrapped and sealed with a sheet of No. 300 PMBS or No. 300 MSAT 82 cellophane, then pasteurized and overwrapped as required in the preceding paragraph.

The overall dimensions of the package shall not exceed 1-5/16 inches by 7/8 inch by 3-1/8 inches. The package shall be uniform in contour, and the surfaces shall be squared one with another.

E-2h. Orange Powder: - Seven grams of orange powder shall be filled into an aluminum foil envelope manufactured in accordance with the packaging requirements for Lemon Powder, Synthetic, C.Q.D. No. 23.

E-2i. Sugar: - Eight or ten ounces, as specified by the Purchasing and Contracting Officer, shall be packaged in a seal-end carton with tear slots and extended glue flap, produced from 0.018 inch thick kraft-lined bending chipboard. If necessary, to make the package absolutely siftproof, it shall be overwrapped in a single thickness of paper not less than 23 pounds per ream (24 x 36 - 500).

E-2j. Cigarettes: - Shall be packaged in units of 10 or 20, wrapped and sealed with water-vapor-resistant cellophane or an equivalent material in accordance with good commercial practice.

E-2k. Toilet Paper: - Shall be packaged 125 sheets in an asphalt-laminated kraft paper envelope made in accordance with J.C.Q.D. No. 10. The envelope shall be free from any objectionable odor.

E-2l. Salt: - One-half or one ounce shall be packaged in a specially constructed envelope made from No. 1 kraft paper having a basis weight of at least 45 pounds (24 x 36 - 500) and a bursting strength (TAPPI T 403 m-41) of at least 45 points. The bag shall be equipped with a perforated paper tape under the flap, which will expose the perforations when the flap is opened and allow the salt to be shaken out. After filling, the flap shall be securely sealed so that the envelope will not allow its contents to sift.

Alternatively, two ounces shall be packaged in a spiral or involute wound news or solid fiber board container not less than 0.040 inch thick. The bottom shall be closed by a pressed paperboard cap. Near the top shall be inserted a suitable perforated cap to allow the salt to be freely shaken out, and this cap shall be closed with a removable inverted paperboard friction plug which, when in position, will effectively prevent any sifting of the contents. The outside of the container and the interior and exterior of the removable plugs shall be kraft colored, khaki, olive or drab.

E-2n. Biscuit, C Square: - Shall be manufactured according to CQD 55 and 2 pounds packaged according to paragraphs G-1 and G-2 of that specification.

E-2n. Jam, Canned: - The jam shall be manufactured according to Federal Specification Z-J-96, except that its solids content shall be increased to 75° Brix. Eleven ounces shall be packaged in round, hermetically-sealed, open top style metal cans with compound-lined, double seamed ends and soldered side seams, made of commercial 1.50 pound hot-dipped tin plate. The cans shall be coated on the inside with a lacquer or enamel suitable for the product and overall outside, except for the soldered side seam, with a rust-resistant lacquer or enamel. The maximum dimensions shall not be greater than 211 x 308.

E-2o. Matches, Book: - Shall comply with CQD 127 with the exception that each book shall contain two rows of 10 matches of standard size. In addition to the requirements of C.Q.D. 127, the matches shall be especially waterproofed.

E-2p. Soap, Toilet, Soft, Hard or Sea Water: - Shall be a 2-oz. bar of soap manufactured in accordance with OQMG No. 100, well wrapped with a suitable strong, water-resistant, wrapper that is secured by a moisture-resistant adhesive.

E-2q. Towels, Paper: - The towels shall be made in accordance with Federal Specification UU-T-591, Type B, except that the paper shall be creped so as to have a stretch of not less than 10 percent in one direction. The minimum basis weight shall be 34 pounds per ream (24 x 36 - 500), and the minimum average tensile strength in both directions shall be 1.0 kg. per 15 mm. strip, and the dimensions of the towel shall be approximately 10 inches by 11 inches. The color of the towel shall be that of unbleached kraft or a similar dull color.

The towels shall be delivered to the contractor packed in reams of 1,000, with projecting colored paper tabs inserted between each layer of 10 towels.

The towels, folded in the most suitable manner, shall be inserted in each box containing the canned items or, where required for tight packing, in the wax dipped carton.

E-2r. Halazone Tablets: - Fifty (50) tablets of Halazone shall be packaged in an amber glass bottle with a screw top closure.

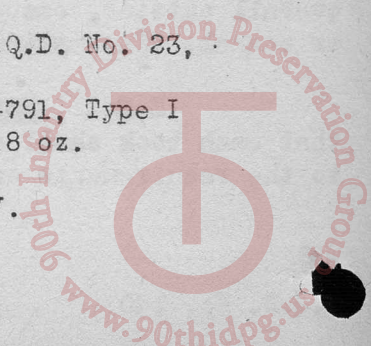
E-2s. K Ration, Partial Units: - The partial K Ration units shall consist of the following components of U.S. Army Field Ration K assembled and sealed in a laminated cellophane bag and placed in a folding carton - -

DINNER UNIT--Menu No. 1.

- 2 Packages Biscuits, C.Q.D. No. 21 (One package each of any two types).
- 1 Package Hard Candy.
- 1 Package Lemon Juice Powder, Synthetic, C.Q.D. No. 23, Type III.
- 0.8 oz. Sugar, Federal Specification JJJ-S-791, Type I four individually wrapped tablets or 0.8 oz. granulated in an approved carton.
- 1 Stick Chewing Gum, C.Q.D. No. 22, Type IV.
- 1 Key, Can, C.Q.D. No. 10, Type II.

DINNER UNIT--Menu No. 2

- 2 Packages Biscuits, C.Q.D. No. 21 (1 Package each of any two types).
- 1 Package Malted Milk-Dextrose Tablets.
- 1 Package Lemon Juice Powder, Synthetic, C.Q.D. No. 23, Type III.
- 0.8 oz. Sugar, Federal Specification JJJ-S-791, Type I four individually wrapped tablets or 0.8 oz. granulated in an approved carton.
- 1 Stick Chewing Gum, C.Q.D. No. 22, Type IV.
- 1 Key, Can, C.Q.D. No. 10, Type II.



- 2 Packages Biscuits, C.Q.D. No. 21 (1 Package each of any two types).
- 1 Two-ounce Bar U. S. Army Field Ration D, C.Q.D. No. 22, Type III.
- 1 Package Coffee, C.Q.D. No. 23, Type I.
- 0.8 oz. Sugar, Federal Specification JJJ-S-791, Type I, four individually wrapped tablets or 0.8 oz. granulated in an approved carton.
- 1 Stick Chewing Gum, C.Q.D. No. 22, Type IV.
- 1 Key, Can, C.Q.D. No. 10, Type II.

DINNER UNIT--Menu No. 4 and No. 5

- 2 Packages Biscuits, C.Q.D. No. 21 (1 Package each of any two types).
- 1 Fruit Bar, C.Q.D. No. 22, Type V.
- 1 Package Coffee, C.Q.D. No. 23, Type I.
- 0.8 oz. Sugar, Federal Specification JJJ-S-791, Type I, four individually wrapped tablets or 0.8 oz. granulated in an approved carton.
- 1 Stick Chewing Gum, C.Q.D. No. 22, Type IV.
- 1 Key, -Can, C.Q.D. No. 10, Type II.

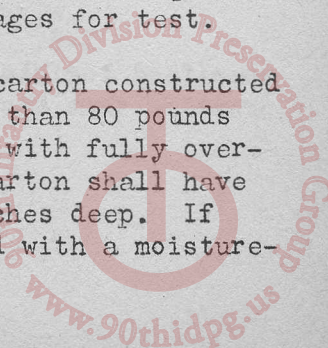
E-2s(1) The components of each of the respective menus shall be filled into a flat or envelope style bag constructed of a laminated sheet consisting of one sheet of either 450 MSAT-83 or 450 PMFB2CS laminated to one sheet of either 450 PMCSX-k or 450 MST-53 cellophane with not less than 18 pounds per ream (24 x 36 - 500) of a permanently plastic water-vapor-resistant laminating agent. The 450 MSAT-83 or 450 PMFB2CS cellophane shall comprise the inside wall of the bag.

The bag shall have a center seam and the side folds of the bag shall not be sharply creased during its manufacture. Tensile breaking load (See F-6) of a strip cut from the circumference of the bag, including the side seam, shall not be less than 95 percent of the tensile breaking load of an increased strip cut in the same direction.

The sealing of the seams and closure shall be carefully done so that at least 90 percent of the bags shall be air tight as described under paragraph F-7. The bag maker shall furnish a certificate of compliance with this paragraph, based on tests performed on the bottom and side seams of samples of production taken from each bag machine every half hour during production.

The packer shall comply with this paragraph by maintaining a record of tests carried out on the top closure of sample bags after sealing. At least one package shall be taken from each lot of 3,000 packages for test.

E-2s(2) The sealed bag shall be placed in a folding carton constructed of 0.020 inch bending chipboard having a No. 2 finish (not less than 80 pounds per thousand square feet). The carton shall be a seal-end style with fully overlapping outer flaps, or may be a notched tuck-end style. The carton shall have inside dimensions of 3-7/16 inches by 1-7/16 inches by 3-7/8 inches deep. If a seal-end style carton is used, the flaps shall be glued closed with a moisture-resistant adhesive.



E-2s(3) The following marking is approved for the Partial K Ration carton and shall appear on the main and one side panel or may be all on the main panel. It may run either the length or the width of the carton.

U. S. ARMY FIELD

RATION K (Without Meat)

DINNER Menu #1 (or appropriate Menu No.)

The can of Meat, Egg, or Cheese component will be found in the carton containing cans.

Packaged By

The legend "U. S. Army Field Ration K" and "Dinner" to be in approximately 40 point bold type. The words "Without Meat", "Menu #1", and "Packaged By" in approximately 18 point bold face type. The statement concerning the meat component shall be in approximately 10 point type.

E-3. Labeling of Components.

E-3a. All component packages shall be labeled plainly with the following information:

Name of Product.
Net Weight.
Instructions for preparation, if necessary.
Name and Address of Manufacturer.

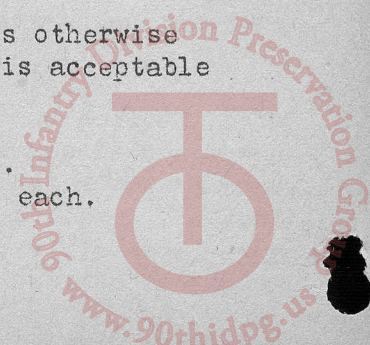
In addition, any other information shall be given as required in conformance to the provisions of the Federal Food, Drug, and Cosmetic Act, and regulations promulgated thereunder.

E-3b. A menu for breakfast, dinner, and supper indicating the components packed, shall be placed in both the top and bottom of each waxed box.

E-4. Packing of Components. - Unless otherwise specified, the components of this ration shall be packed for delivery to the assembly plants in containers complying with the requirements of rule No. 41 of the Consolidated Freight Classification.

E-5. Marking of Component Shipping Cases. - Unless otherwise specified legible commercial marking of the shipping container is acceptable provided that the following information is included:

Name (and type of product, if necessary).
Number of units packed and net weight of each.
Contract Number.
Date Packed.
Name and Address of manufacturer.



F. METHODS OF INSPECTION AND TEST.

F-1. Inspection shall be made at point of origin, unless otherwise specified.

F-2. Chemical analyses, if required by the purchaser, shall be made in accordance with methods of the Association of Official Agricultural Chemists in effect on date of invitation for bids.

F-3. Physical tests of packaging materials shall be made in accordance with the methods of the Technical Association of the Pulp and Paper Industry (TAPPI) and those of the American Society for Testing Materials (ASTM).

F-4. The sizing of the board in paragraph G-1d shall be determined as follows:

A 6-inch square section of the board shall be weighed, immersed in a horizontal position for ten (10) minutes in water at $73 \pm 3^{\circ}$ F. at a depth of 3 inches. The board shall then be removed, the excess water quickly wiped off with a dry, soft, absorbent rag, using a minimum of pressure, and the board reweighed at once. To be well-sized, the board shall not absorb more than 4.0 grams of water under these conditions.

F-5. The water-resistance of the adhesives used shall be determined as follows:

Two sections of the board to be used for the container shall be cut approximately 3 inches by 6 inches. The adhesive shall be applied evenly to the inner surface of one of these sections. The outer surface of the other section shall be superimposed on the first and maintained under a pressure of 5 pounds per square inch for one minute and then allowed to dry for twenty-four hours. The combined sections shall be trimmed into a square piece, approximately 2 inches by 2 inches, cut from the interior. These shall be immersed in tap water for twenty-four hours. The joint shall then be carefully pried apart from all four edges. To be water-resistant, not less than 75 percent of the surface shall show a fiber separation.

F-6. The tensile test required in paragraph E-2s(1) shall be made according to TAPPI T 404 m-41, except that the distance between the jaws of the tensile tester shall be approximately one inch, and when the creased strip is tested, the crease shall be located near the center of the test strip.

F-7. Sample bags described under paragraph E-2s(1) shall be tested by opening each bag to approximately a circular shape, and submerging it under water at room temperature, in such a manner that the bag is trapped full of air. The sealed bottom or top closure of the bag under test shall be held at least two inches under the surface of the water. No escape of air bubbles from the interior of the bag shall be visible.

F-8. The wax treated cartons, described under G-1 (without the outer carton) shall be tested for waterproofness by submerging a completed carton under two inches of water at room temperature for twenty-four hours, then wiping dry, opening and observing the inside surfaces of the carton for the presence of moisture.

G-1. Packaging.

G-1a. The components of this ration, other than the cans, soap, and towels, shall be assembled in their respective menus in the most convenient and compact manner in a specially constructed carton with a snug fitting inner liner and top and bottom pads. The carton liner and pads shall be free from objectionable odor.

G-1b. The solid fiber carton shall be manufactured of double kraft-lined bending board between 0.040 and 0.045 inch in thickness. The kraft liners shall be at least 0.006 inch thick; the filler shall be of a furnish which will insure the finished board conforming with all requirements.

G-1c. The carton shall be of special slotted construction, with all flaps meeting. It shall be approximately 9-5/8 inches by 6-3/8 inches by 7-1/8 inches inside dimensions. No overlap of the inner and outer flaps shall be permissible, nor shall they gap more than 1/16 inch. Each side of the outer flaps shall be tapered inward at an angle of 7° from a point about 5/8 inch from the hinge, and about 1/4 inch from the side of the box. The corner portions of the outer flaps shall be offset 1/32 inch from the center of the vertical score lines so as not to project over the edges of the closed carton. This will automatically increase the width of the inner flaps by 1/16 inch. The flaps shall be cut to not less than 1/32 inch nor more than 1/16 inch from the horizontal scores (to provide tear slots). Except at the hinges, all corners (including those situated 5/8 inch from the hinges) of the shaped flaps shall be rounded with a 1/4 inch to 5/16 inch radius.

G-1d. The board shall be well-sized throughout. (See F-4).

G-1e. The average bursting strength of the board shall be not less than 145 pounds.

G-1f. The board shall weigh not less than 140 pounds and not more than 155 pounds per thousand square feet.

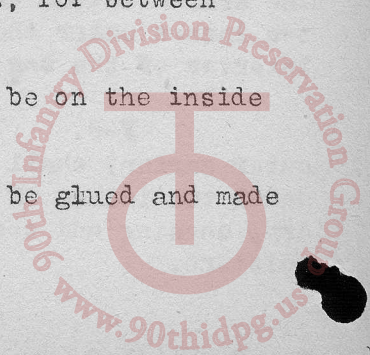
G-1g. No scores shall check or crack when folded through 135 degrees in one direction and 180 degrees in the other.

G-1h. The average tensile strength of the board (TAPPI T 404 m-41) shall be not less than 140 pounds per inch of width, machine direction, nor less than 55 pounds per inch of width, cross direction.

G-1i. The board shall permit penetration of the wax specified in G-1o, to a depth of not less than 35 percent of the thickness of the board when one side is held in contact with the wax, heated to 195° ± 5° F., for between 5 and 10 seconds.

G-1j. The convex side of the score line bead shall be on the inside of the carton.

G-1k. The manufacturer's joint on the carton shall be glued and made in the following manner:



(1) The flap of the joint shall be on the outside of the side of the carton and integral with one end of the carton. The outer corners of the flap shall be rounded with a 1/4 inch radius.

(2) The flap shall be tightly and adequately glued with a water-resistant adhesive (See F-5) with no excess of glue on the outside of the carton.

(3) The center line of the vertical score inside the carton at the glue flap, shall meet the adjoining end of the box with a maximum clearance of 1/16 inch.

(4) The center line of the scores around each side, or end or the top or bottom of the carton shall lie in a plane within 1/16 inch.

G-11. The sides and ends of the carton shall have a snug fitting liner having the vertical abutting joint near the center of one of the large panels. The top and bottom of the carton shall be lined with pads cut the full size of the carton. The liner shall be of such height that it will fit between the top and bottom pads and the three pieces form a snug fit in the carton depth. Pads and liners shall be made of 200 pound test, B-flute, corrugated board. Corrugations shall run vertically in the liner and the long way of the pads.

G-1m. The flaps of the carton shall be securely closed by means of a water-resistant adhesive (See F-5). The closure shall be given special attention in order that it shall be as tight as possible.

G-1n. The sealed carton shall be dipped (completely submerged) in molten wax, having a temperature of approximately 190° F., so as to allow the wax to penetrate the board to a depth of at least 35 percent of the thickness of the board. After a short cooling period, the carton shall be dipped a second time (completely submerged) for 5 seconds or less in a bath of the same wax at a lower temperature so as to build up a continuous film of wax about 0.005 inch thick on the outer surface of the board.

After immersion for 24 hours, according to paragraph F-8, at least 90 percent of the completed waxed cartons shall be dry inside when opened. The packers shall comply with this requirement by maintaining a record of test carried out on ten samples taken during production each day.

G-1o. The wax mentioned in paragraph G-1n, shall be of a micro-crystalline type and may be a mixture of waxes, with or without a crystallization inhibitor, which shall give as a final product, an amorphous type of wax having a melting point (ASTM D 127-30) of not less than 140° F., which shall not crack, chip, or become separated from the surface on which applied, when subjected to 20° F. below zero. The product shall be odorless, tasteless, and nontoxic. A list of approved waxes may be obtained from the Research and Development Branch, Office of The Quartermaster General, Washington, D. C., or from the Subsistence Research Laboratory, Chicago Quartermaster Depot, Chicago, Illinois.

G-2. Labeling.

G-2a. No labeling is necessary on the wax dipped carton described in G-1.

G-2b. The corrugated box containing the waxed carton, as described under G-2a, shall be labeled on both the 7-5/16 by 9-13/16 inch panels as follows:

be strapped with two flat steel straps $\frac{3}{8}$ inch by 0.015 inch thick having a minimum ultimate tensile strength of 80,000 pounds per square inch and protected with a rust-resistant coating.

G-3d(2) The seals shall provide a joint strength of not less than 75 percent of the strap-breaking strength. One strap shall be placed around the ends and sides of the case, and the second strap around the top, bottom, and sides of the case in such a manner that they cross at right angles over the open end of the sleeve. The longer strap shall be applied first.

G-4. Marking.

G-4a. The case and outer sleeve shall be imprinted or stenciled in bold Gothic capital letters as follows:

On one end of the sleeve:

CONT ----- (Contract Number in $\frac{1}{2}$ inch letters)

RATION 10-in-1 (1- $\frac{1}{2}$ inch letters)

(1- $\frac{1}{4}$ inch space for strap)

10 RATIONS (1/2 inch letters) MENU -- (1- $\frac{1}{2}$ inch letters. The number of the menu shall be inserted after the word "Menu" with a number 1- $\frac{1}{2}$ inches high.)

WT 45 CU 1:4 (1/2 inch letters)

The above marking may occupy the entire end of the sleeve.

In the upper right-hand corner of the front of the case, with the marked end of the sleeve on the right, shall be imprinted or stenciled the following information in letters $\frac{1}{2}$ inch high:

***----- (Name of Packer)

----- (Month & Year Packed)

REQ----- (Req. No. on at least 10 cases nearest the door of the conveyance)

G-4b. The ink used shall be either black or green, unless the exterior of the case is black, when the ink used, shall be white or yellow. The ink shall take on fiber, and shall be both sunfast and water-fast.

