

DPSCM 4155.9

DPSC-HQP

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FOREWORD

(Supplementation is prohibited.)

This Manual provides procedures for estimating count per shipping case by Government personnel assigned to inspection of items procured on DPSC subsistence contracts.

This Manual will be maintained in a current status and reviewed biennially.

Users of this publication are encouraged to submit recommended changes and comments to improve the publication, through channels, to Directorate of Subsistence, ATTN: DPSC-HQP.

BY ORDER OF THE COMMANDER

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* Denotes Changes.

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I. REFERENCES.

A. MIL-STD-105, Sampling Procedures and Tables for Inspection by Attributes.

B. Military Handbook 53-1A, Guide for Attribute Lot Sampling Inspection and MIL-STD-105.

II. PURPOSE AND SCOPE. These procedures apply to ration assembly plants and for any other instances when an inspector needs to estimate the count per shipping container in random packed items. This Manual applies to inspection personnel inspecting subsistence and non-food items that are random, thrown, bulk, or loose packed.

III. DEFINITION.

Random, Thrown, Bulk, or Loose Pack. A method of packing wherein a large quantity of end item product is placed, without any kind of organization, into a shipping case. Intermediate containers or case dividers may or may not be used. An example of this method of pack is a shipping case filled with 1,000 envelopes of single-serve salt.

IV. RESPONSIBILITY. The Quality Assurance Representative is responsible for following these guidelines whenever there is a need to determine the count per shipping container on items random, thrown, bulk, or loose packed.

V. PROCEDURES. The Quality Assurance Representative shall:

A. Determine the average net weight per shipping case as follows:

1. Ascertain the total number of shipping cases of item comprising the lot.

2. Randomly select and extract the number of shipping cases indicated by Inspection Level II of MIL-STD-105.

3. Weigh and record the total item contents of each shipping case in the sample. The total item content could be envelopes containing can openers, salt, toilet tissue, etc., but not intermediate boxes or pads, partitions, and liners that may be additionally employed in packing the item. The weighing can be facilitated by establishing a tare weight for the cases, and other interior packing, from not less than ten cases, or from the entire lot when the lot consists of less than ten cases.

4. Total the weights found and divide by the number of shipping cases in the sample.

B. Express the lot size of item in pounds by multiplying the number of cases by the average net weight per case.

C. The sample unit shall be 16 ounces of item (e.g., one pound bags, accessory packet; envelopes of salt, can openers, etc.; wrappers containing plastic spoons, toilet paper, etc.) weighed to the nearest 0.1 ounce on a scale graduated in 0.05 of an ounce or to the nearest 1/8 ounce on a scale graduated to sixteenths of an ounce.

D. The sample size shall be the number of sample units indicated by Inspection Level II of MIL-STD-105, applied to the lot expressed in pounds.

E. The sample size shall be extracted at random from the lot; each sample unit from a separate shipping case whenever possible. When the sample size exceeds the number of shipping cases, the sample size shall be divided by the total number of shipping cases. The resultant whole number shall be the amount of sample units extracted from each case. Any remainder from the division performed shall be selected one per case, at random, until the entire sample size is extracted.

F. Determine the average count per pound by:

1. Totaling the ounces comprising the sample units and dividing by the sample size to get the average sample unit weight.

2. Totaling the count per sample unit and dividing by the sample size to get the average count per sample unit weight.

3. Multiplying 16 ounces by the average count per sample unit weight, and dividing the product by the average sample unit weight. The basic equation is $16 \times \text{count/weight} = \text{average count per pound}$.

G. Determine the average count per shipping case by multiplying the average net weight per shipping case by the average count per pound.

H. Example: A lot consisting of 1,724 cases of 4-gram envelopes of salt is to be inspected. The packing requirement for the item calls for 1,000 envelopes per case.

1. Inspection Level II determines the sample size is 125.

2. Of those randomly drawn (125 cases), ten are emptied and weighed to determine the tare weight. The ten empty cases are found to weigh 17 pounds; an average tare weight of 1.7 pounds.

3. The average net weight per case is determined by subtracting the tare weight (1.7 pounds) from the gross weight (e.g., 10.5 pounds, 10.4 pounds, etc.) of each of the 125 cases as it is weighed, totaling the results of the weighings and dividing by 125.

4. Multiplying the average net weight per case by the number of cases in the lot gives the lot size expressed in pounds, e.g., 8.8 pounds/cases x 1,724 cases = 15,171 pounds.

5. Inspection Level II determines that 125 units shall be extracted from the lot.

6. Each unit, weighed to the nearest 0.1 ounce is counted and both the weight and count are recorded; e.g., 16.1 ounces-113 envelops; 16.0 ounces-111 envelops; 15.9 ounces-109 envelops; etc.

7. The weights of the sample units are totaled and divided by the sample size: $16.1 + 16.0 + 15.9 + \dots + 16.2 = 16.1$ oz. unit average weight.

8. The counts of each sample unit are totaled and divided by the sample size:
 $111 + 113 + 109 + \dots + 116 = 114.3$ unit average count.

9. The average count per pound is calculated next:
 $16 \text{ oz. per pound} \times 114.3 \text{ average count per sample unit} = 113.6$
 $16.1 \text{ oz. average weight per sample unit} \quad \text{envelope}$
average
count per
pound.

10. Multiplying the average count per pound by the average net weight per case gives the average count per case: 113.6
envelopes/pounds x 8.8 pounds/cases = 999.7 or 1,000
envelopes/cases.