DSCPM 4155.15

DLA-Troop Support
(DSCP-FTRE)

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(Supplementation is prohibited.)

DLA Troop Support-DSCP Manual 4155.15 is published by the DLA-Troop Support for use by DLA Troop Support and supporting inspection and storage activities. Utilization of this information will reduce deterioration in food products and assist in identifying defects caused by damage during receipt, processing, storage handling and shipment.

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

Users of this publication are encouraged to submit recommended changes and comments to improve the publication, through channels, to DLA-Troop Support, Directorate of Subsistence, ATTN:. DSCP-FTRE

BY ORDER OF THE COMMANDER

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This Manual supersedes DPSC Manual 4155.15, 21 May 1984

I. REFERENCES.

A. DLAM 4155.5, Appendix S, Quality Control Depot Serviceability Standards. (For Historical Reference Only)
B. U.S. Standards for Condition of Food Containers.
C. USDA Visual Aids/Gauges for Containers. (Go to http://www.dscp.dla.mil/subs/support/qapubs/appb/aidsugr.asp)
D. Federal Specification PPPC29, Canned Subsistence Items, Packaging and Packing of.

II. PURPOSE AND SCOPE. To provide adequate inspection methods at origin and destination, and promote adherence to good manufacturing, storage and loading procedures to identify defects and reduce deterioration in canned foods.

III. DEFINITIONS. These definitions apply to defects of filled and closed cans as listed in applicable quality assurance provisions referenced in DSCP subsistence contracts.

A. Buckle or Buckling. A permanent distortion of a can end caused by excessive internal pressure developed during processing.
B. Cable Cut. An abrasion of the edge of the top or bottom double seam, caused by the action of moving cable conveyors on stationary cans. Not considered a defect unless laminations of metal are showing.
C. Dents. Permanent disfigurations of can body, seam, or end caused by an external force.
D. Double Seam. A joint formed by folding, interlocking, and pressing together the edges of the can body and can end. Edges are rolled over twice and pressed, using a suitable sealant material between layers, resulting in an airtight seal consisting of five thickness of plate.
E. Improper Closure. Any can closure which is other than a normal, completely interlocked, double seam. This includes but is not necessarily restricted to:
1. False Seam. Double seam formation without interlocking surfaces.
2. Improper Seam. Cans with droops and lips.
a. Droop. Smooth projection of double seam below bottom of the normal seam; usually at the side seam lap on a metal can.
b. Lip. Irregularity in a double seam on a metal can, showing as a sharp "**V**" projection below the seam. . Flipper. Sealed packer's can with small internal pressure causing only one end to bulge. The end can be flipped back with manual pressure.
G. Flux. A chemical used to aid soldering by removing the oxides. Chemicals generally used must meet the Food and Drug Administration requirements for contact with foodstuffs.
H. Paneling. One or more flat sections in the body of the can caused by an external pressure on the can becoming greater than the internal pressure or presence of a vacuum.
I. Springer. A can with a small amount of internal pressure causing a slight bulge on one end which can be forced back into normal position, causing a bulge to appear on the opposite end.
J. Sweller. Swellers are caused by overfill (insufficient headspace), gases which result when the food reacts with the can metal, or gases created by spoilage of the food. Some nitrogen gas packed foods may exhibit swelling when subjected to high storage temperature or high altitude.
1. Soft Sweller. Both ends of the can are bulged outward. The bulged ends can be depressed manually; however, the bulge returns as manual pressure is relieved.
2. Hard Sweller. Both ends of the can are bulged outward and cannot be depressed manually.
K. Can Size. The overall dimension of the round can diameter and length. The diameter is measured to the outside of the double seam. The length includes the entire length of can including end seams. The first number of the can size is the diameter. The second number is the can length, i.e., 4-1/16 x 4-11/16. Can sizes are usually expressed as a 3digit number. The first digit indicates the number of whole inches in a dimension, and the second and third digits indicate the fractional inches as sixteenths of an inch. In stating the dimensions of oval, obround, or obrotund cans, outside dimensions are used, the dimensions of the opening being stated first, followed by the height.

Thus, there will be three sets of figures, the first two being the long and short axis of the opening. Their interpretation in inches and sixteenths of an inch is the same as with round cans. An oval can might have the size given as 402 x 304 x 412, which would mean that the oval opening was 42/16 x 34/16 inches and the height was 412/16 inches. Some can sizes are designated by trade name nomenclature.

Can Size	Trade Name
300 x 206	
300 x 407	No. 300
603 x 700	No. 10

See Fed. Spec. PPPC29 for complete list.

L. Sweating. The condensation of moisture on surfaces colder than the dew point of the ambient atmosphere.

IV. STORAGE.

A. The greatest enemy of long service life in metal cans is high storage temperatures. Temperatures above 75°F. Over an extended period of time will result in hydrogen swells and perforations regardless of the weight of the tin coating on the cans. Under abnormally severe conditions, losses may occur even in foods usually considered noncorrosive.

B. Stacking or storage in narrow blocks immediately after packing permits ventilation which soon reduces the temperature of the can to that of the warehouse and thereby diminishes the possibility of stackburn. Palletized loads should be stacked to allow for an air space within, around and under the loads. Shipping containers should not be stacked on cement, wood, or dirt floors, and never against or in close proximity to steam or water pipes.

C. Sudden increases of temperature and humidity in the warehouse will cause sweating. This condition is likely to occur in the spring of the year when warehouses are likely to be cool. If a cool warehouse is opened on a warm day, the warm air coming in contact with the cool cans may cause sweating.

D. Proper heating and ventilation of the warehouse will reduce sweating of cans.

E. Sweating may occur when cold cans are placed in warm warehouses.

F. Good housekeeping rules and open aisles free from overcrowding will minimize losses. Special care should be exercised to reduce lift truck or handling damage.

G. Coastal warehouses should be constructed and ventilated so that a minimum of air currents from the ocean enter the storage areas.