

Fed. Std. No. 236A
March 13, 1969
SUPERSEDING
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March 31, 1965

FEDERAL STANDARD

CLEANING AND RENOVATING OF COTTON FELTED MATTRESSES

Authority. This standard is issued pursuant to the Federal Property and Administrative Services Act of 1949, as amended, and its application to the purchase of commodities referred to herein is mandatory on all Federal agencies.

S1. PURPOSE AND SCOPE. This standard establishes the criteria and procedures which shall govern the cleaning, sterilizing, repairing, renovating and rebuilding of cotton felted mattresses by contract service.

S2. APPLICATION. Mattress cleaning services shall be classified as follows:

Type I - Surface cleaning, sterilizing, and minor repairing.

Type II - Renovating and rebuilding.

S3. REFERENCED SPECIFICATIONS

S3.1 The following specifications of the issue in effect on date of invitation for bids or request for proposal, form a part of this standard to the extent specified herein.

Federal Specifications:

V-M-81 - Mattresses, Bed, Felted Cotton.

CCC-C-436 - Cloth, Ticking Twill, Cotton.

S4. DEFINITIONS

S4.1 Type I service. Type I service is applicable to mattresses which are structurally sound and of uniform thickness requiring only minor repairs, and surface cleaning of the ticking which is only slightly stained or soiled (see S6.1).

FSC 7210

Fed. Std. No. 236A

S4.1.1 Surface cleaning. Surface cleaning involves a cleaning process in which all the ticking of the surfaces of a mattress is machine or hand-scrubbed with a detergent solution, solvent, or foam in such a manner that the ticking is completely penetrated and cleaned. The cotton felt remains essentially dry during this process.

S4.1.2 Sterilization. Sterilization is a process by which all bacteria (pathogenic and non-pathogenic) and all living matter are killed.

S4.1.3 Minor repairing. Tears, which are 6 inches or less in length and burned areas which are 2 inches or less in diameter are considered minor repairs and shall be mended by means of stitching and patching.

S4.2 Type II service. Type II service is applicable to mattresses containing one or more of the following conditions:

- (a) Structurally unsound.
- (b) Requires replacement of the ticking.
- (c) Contains insect infestation, eggs or larvae thereof, fungi, ticking moldy or mildewed.
- (d) Badly stained, as from urine, rust, blood and water.
- (e) Large holes at tufting or other stitching.
- (f) Ticking has been greatly weakened.

S4.2.1 Renovation. Renovation is a process which includes sterilization by dry heat, steam pressure, or streaming steam and regarnetting of cotton and cotton linters in order to remove dust and form a new filling.

S4.2.2 Rebuilding. Rebuilding is a process of replacing felt, ticking, thread, twine or tape as applicable. It also includes the reformation of the mattress structure including box edges and reconstructing the mattress to specification dimensions, and installation of new mattress cover.

S5. GENERAL REQUIREMENTS

S5.1 Classification. Mattresses requiring cleaning or renovating and rebuilding shall be individually inspected and classified by the contracting officer or his authorized representative as to type of service required in accordance with the definitions contained in S4.1 and S4.2. Classification shall be completed prior to solicitation of invitation for bid.

S5.2 Mildew prevention. All mattresses received at the supplier's plant in a moist or damp condition shall be processed promptly to prevent development of mildew.

S5.3 Labels. All labels required by this standard including labels required by the State Health Department of the state in which the work is performed shall be furnished by the supplier.

S5.4 Sterilization. All mattresses shall be sterilized by dry heat, steam pressure, or streaming steam processes in accordance with the regulations of the Department of Health of the state in which the cleaning or repairing is done whether performed at the site of use or at the supplier's plant. The sterilization process shall destroy all bacteria and all living vermin. The mattresses shall be so placed as to allow complete penetration of the sterilizing medium. In the absence of state regulations, sterilization shall be conducted in accordance with one of the following methods:

S5.4.1 Dry heat method. Mattresses to be sterilized shall be placed in a sterilization chamber and suspended by suitable hangers or placed on open construction shelves, with an air space of not less than 6 inches between the mattresses, and then exposed to dry heat. The temperature of the air in contact with all surfaces of the mattresses shall be maintained at $235^{\circ} \pm 5^{\circ}\text{F}$. for at least 2-1/2 hours or $205^{\circ} \pm 5^{\circ}\text{F}$. for at least 5 hours. A recording thermometer should be used to check the temperature during the process. If not available a long stem mercury thermometer may be used by placing the bulb within the chamber and the stem outside the chamber to facilitate reading.

S5.4.2 Steam under pressure method. The mattresses to be sterilized shall be placed in a steam chamber and subjected under required pressure for a period of at least 30 minutes. Mattresses shall be placed on end, suspended by suitable hangers or placed on open construction shelves with an air space of not less than 6 inches between them. They shall not be piled one on the other. The pressure of the steam shall be maintained at a minimum of 15 pounds per square inch, gage pressure, with the temperature of the steam a minimum of 240°F . A properly checked steam pressure gage and a thermometer, both visible from the outside of the chamber shall be provided. A safety valve shall be provided to prevent any danger from excess pressure.

S5.4.3 Streaming steam method. The mattresses to be sterilized shall be placed in a steam chamber suspended by suitable hangers or placed on open construction shelves with an air space of not less than six inches between them. They shall not be piled one on the other. Two applications of streaming steam shall be maintained for one hour each with an

Fed. Std. No. 236A

interval of not less than six hours nor more than twenty-four hours between each application. The chamber must have valves at top and bottom but should otherwise be steam tight, and provisions made for draining off condensed steam. Outlet valves must be kept open to prevent pressure in the chamber.

S5.5 Labeling for type II service.

- (a) Each mattress shall have stitched in the end closing seam a cloth label bearing the following information:

Mattress Cotton (Felted)

Stock No.

Type II

Renovated Type Service Fed. Std. No.

Supplier's Name and Address

Date Sterilized

Date of Contract

Contract No.

Note. When the cleaning and repairing is performed at the site of use, the above label need not be used.

(b) State Department health labels. When required by the state in which the work is performed, the health labels of that state shall be attached to each mattress in addition to the label described above.

S5.6 Workmanship. All workmanship shall reflect conformance with the requirements specified herein and applicable local health regulations. The work when finished shall be complete in every detail and mattresses shall be delivered in serviceable and sanitary condition. The plant, or mobile units of the supplier or plants performing work for the supplier shall be subject to sanitary inspection by the Government. Mattresses shall be handled in such a manner as to limit shrinkage to a reasonable degree and to avoid injury of any kind to the material. No soapy or other objectionable odors shall be left in the mattresses.

S6. DETAIL REQUIREMENTS. Cleaning, Repairing and Renovation Procedures.

S6.1 Type I service, surface cleaning, sterilizing and minor repairing. Mattresses shall be surface cleaned, sterilized and repaired by the supplier either at the site of use by a mobile cleaning unit or at the supplier's plant, as designated in the contract. The process employed shall be as follows:

(a) Remove loose dust or dirt from all surfaces by vacuum.

(b) Machine or hand scrub all surfaces of the mattress ticking such that the ticking is completely penetrated and cleaned. The detergent solution, solvent or foam as applied shall not discolor or injure the fabric in any way. Remove the residual solution, solvent or foam by vacuum.

(c) Sterilize in accordance with S5.4 and dry thoroughly.

(d) Spot out water and other stains by the use of a suitable organic dry-cleaning solvent or other stain removers. Air dry mattress to remove all odor of solvents.

(e) Repair tears, burned areas, and open seams in ticking, replacing cotton felt and tufting as required, and applying suitable patches by stitching. Patching material may be obtained from laundered, irreparable mattress covers or from new ticking supplied by the supplier. All materials used in repairing the mattress shall be equal to that used in the mattress as originally manufactured.

S6.2 Type II service renovating and rebuilding. Mattresses shall be rebuilt at the supplier's plant so equipped to completely rebuild a mattress. Material, as required, such as ticking, cotton felt, thread, twine, tufting twine or tape and construction procedures shall be in accordance with the following:

CCC-C--36

V-M-81

Process each mattress as follows:

(a) Sterilize in accordance with S5.4.

Fed. Std. No. 236A

(b) The cotton linters and cotton removed from the mattress shall be thoroughly and completely regarnetted to remove dust and to form a new filling of uncroked laminated sheets of interlaced-garnetted felt. Additional felt required to compensate for any waste or loss shall be obtained from cotton and linters supplied by the supplier. This cotton shall be new, not lower in grade than a blend of 25-percent low middling spotted cotton having a staple length of not less than 1 5/16 inch, plus 75 percent of grade 5, staple 5 linters, no tinged or stained cotton shall be used.

(c) A new mattress cover shall be prepared from ticking conforming to type II of CCC-C-436.

(d) The mattress covers shall be filled with the regarnetted felt, stitched and tufted so as to conform to the requirements of type I or II of V-M-81. The dimensions and minimum weight of the rebuilt mattresses shall conform to applicable size as listed in table I of V-M-81 except that tolerances for length and width dimensions shall be $\pm 1/2$ inch. If additional felt is required, it should be specified in the contract.

MILITARY CUSTODIANS:

Army - GL
Navy - MD
Air Force - 82

Review activities:

Army - MD
Navy - MD, MC
Air Force - 82, 85

Preparing activity:

Army - GL

CIVIL AGENCIES INTEREST:

COM-NBS
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VA
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