

MIL-STD-666B

3 July 1968
SUPERSEDING
MIL-STD-666A
15 May 1962

MILITARY STANDARD
DRY CLEANING OF CLOTHING
AND EQUIPAGE



FSC 84GP

MIL-STD-666B

3 July 1968
SUPERSEDING
MIL-STD-666A
15 May 1962

DEPARTMENT OF DEFENSE

Washington, D. C. 20301

DRY CLEANING OF CLOTHING AND EQUIPAGE MIL-STD-666B

1. This Military Standard is mandatory for use by all Departments and Agencies of the Department of Defense.
2. Recommended corrections, additions or deletions should be addressed to U. S. Army Natick Laboratories (GL), Natick, Massachusetts 01760.

MIL-STD-666B

FOREWORD

This standard has been developed to replace MIL-STD-666A and to provide a document for use by posts, camps, and stations, as a basis for procuring dry cleaning services.

CONTENTS

	Page
1. SCOPE -----	1
1.1 Purpose -----	1
1.2 Classification -----	1
1.2.1 Types -----	1
1.2.2 Classes -----	1
2. REFERENCED DOCUMENT -----	1
2.1 Publication -----	1
3. DEFINITIONS -----	1
3.1 Type service -----	1
3.2 Class service -----	1
3.3 Dry cleaning -----	2
3.4 Wet cleaning -----	2
3.5 Surface cleaning -----	2
3.6 Prespotting -----	2
3.7 Charged System -----	2
3.8 Extracting -----	2
3.9 Water-Repellent Treatment -----	2
3.10 Pressing -----	2
3.11 Packaging -----	2
3.12 Chemical Treatments -----	3
4. GENERAL REQUIREMENTS -----	3
4.1 Classification -----	3
4.2 Unserviceable articles -----	3
4.3 Mildew prevention -----	3
4.4 Load -----	3
4.5 Solvent -----	3
4.6 Soap and detergent -----	3
4.6.1 Biodegradability -----	3
4.7 Rinsing -----	3
4.8 Extracting -----	3
4.9 Drying -----	3
4.10 Water-repellent -----	4
4.11 Damages -----	4
4.12 Repairs -----	4
4.13 Labels -----	4
4.14 Visual inspection -----	4
4.15 Sanitation -----	4
4.16 Workmanship -----	4

MIL-STD-666B

CONTENTS (cont'd)

	Page
5. DETAIL REQUIREMENTS -----	4
5.1 Services -----	4
5.1.1 Types -----	4
5.1.2 Classes -----	4
5.1.2.1 Class 1 -----	4
5.1.2.2 Class 2 -----	4
5.1.2.3 Class 3 -----	5
5.1.2.4 Class 4 -----	5
5.1.3 Prespotting -----	5
5.1.4 Washing and Rinsing -----	5
5.1.5 Extracting -----	5
5.1.6 Drying -----	5
5.1.7 Water-repellents -----	5

1. SCOPE

1.1 PURPOSE. This standard establishes the criteria and procedures which shall govern the dry cleaning of clothing and equipment by contract service.

1.2 CLASSIFICATION. This standard covers 6 types and 4 classes of dry-cleaning service.

1.2.1 Types.

- Type I - Dry cleaning, pressing and packaging.
- Type II - Dry cleaning, water-repellent treating, pressing and packaging.
- Type III - Dry cleaning and packaging.
- Type IV - Wet cleaning, pressing and packaging.
- Type V - Combination of dry cleaning and wet cleaning, pressing and packaging.
- Type VI - Surface cleaning and packaging.

1.2.2 Classes.

- Class 1 - Dark and medium colored fabrics.
- Class 2 - Light colored and white fabrics.
- Class 3 - Fugitive colored fabrics.
- Class 4 - Fragile fabrics.

2. REFERENCED DOCUMENT

2.1 Publication.~ The following document forms a part of this standard to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

Test Procedure and Standards - ABS and LAS Biodegradability Scientific and Technical Report No. 3

(Application for copies should be addressed to The Soap and Detergent Association, 485 Madison Avenue, New York, New York 10022).

3. DEFINITIONS

3.1 TYPE SERVICE. Types I, II, III, IV, V and VI services are applicable to specific cleaning and finishing operations and are as specified in 1.2.

3.2 CLASS SERVICE. Classes 1, 2, 3, and 4 services are applicable to fabrics having certain color, color fastness or strength characteristics which require specific handling and are as specified in 1.2.

MIL-STD-666B

3.3 DRYCLEANING. Drycleaning involves the immersion of garments in drycleaning solvents and cleaning them by use of mechanical action and soaps or synthetic detergents. Drycleaning removes some soluble and some insoluble soils and dissolves grease stains through the combined actions of drycleaning solvents, mechanical action, soaps, synthetic detergents, and other cleaning aids. In the drycleaning department the garment is inspected for stains and is prespotted if necessary before it is processed through the washer, extractor, and tumbler. Water repellents are added when necessary.

3.4 WET CLEANING. Wet cleaning is a process by which soiled and stained garments and other fabric items are cleaned by treatment with water or water solutions of detergents either by hand or in a machine. In the process special precautions are taken to prevent the bleeding of fugitive colored fabrics and damage to fragile fabrics or items.

3.5 SURFACE CLEANING. Surface cleaning is the process by which soiled and stained garments and other fabric items are hand cleaned by the application of limited amounts of either solvents or aqueous solutions to soiled surfaces.

3.6 PRESPOTTING. Prespotting is the application of soaps or chemicals for spot or stain removal before or during the cleaning operation.

3.7 CHARGED SYSTEM. The term "charged system" generally refers to any cleaning system in which the solvent is impregnated (charged) with a synthetic detergent. Either a synthetic or petroleum solvent is used, and the detergent must be soluble and not removed by filtration.

3.8 EXTRACTING. Extracting is the removal of fluid by mechanical means as an extractor.

3.9 WATER-REPELLENT TREATMENT. A water-repellent treatment is a process by which clean garments or other fabric items are treated by hand or in a machine either with solvent or aqueous solutions of water-repellent compounds. Water repellents used in many fabrics during manufacture must be replaced if they have been removed during drycleaning.

3.10 PRESSING. Pressing is the process for the insertion of required creases and the removal of undesired wrinkles from cleaned garments or items. Pressing also includes stretching, shrinking, and reshaping the cleaned garment or item to its original shape and dimensions.

3.11 PACKAGING. Unless otherwise specified in the contract, packaging is the process by which cleaned garments or other items are placed on hangers and placed in protective paper or plastic film bags. Small items of clothing and other items which are not customarily placed on hangers shall be wrapped in protective paper in accordance with commercial practice.

MIL-STD-666B

3.12 CHEMICAL TREATMENTS. Only those chemical treatments already approved by the appropriate medical service and so listed in the invitation for bids or request for proposal shall be considered acceptable for the services to be contracted.

4. GENERAL REQUIREMENTS

4.1 CLASSIFICATION. The articles received by the supplier shall be individually inspected for condition of serviceability and classified as to class of service required in accordance with paragraph 1.2. The supplier shall be responsible that good judgment, consistent with accepted commercial drycleaning practice, is exercised in classifying items for drycleaning.

4.2 UNSERVICEABLE ARTICLES. All articles received at the supplier's plant which cannot be restored to a serviceable condition by the mending of minor rips and tears and by the replacement of missing and broken buttons shall be returned by the supplier to the Government without drycleaning.

4.3 MILDEW PREVENTION. All items received at the supplier's plant in a moist or damp condition shall be immediately dried or promptly dry cleaned in order to prevent the development of mildew.

4.4 LOAD. Each load processed in the drycleaning machines shall consist of only contract Government garments.

4.5 SOLVENT. The dry cleaning solvent, through filtration, clarification and distillation processes must be maintained as free of coloring matter, fatty matter and other impurities as is necessary to do first-class drycleaning.

4.6 SOAP AND DETERGENT. The amount of soap or detergent added to the drycleaning solvent may vary, depending on the type used.

4.6.1 BIODEGRADABILITY. The supplier shall certify by a certificate of compliance that the biodegradability meets the minimum requirement of 80 percent. The certificate shall be accompanied by actual test data (Field or laboratory) including the detail test procedure utilized in making the biodegradability determination. When the detergent is an alkyl benzene sulfonate or a linear alkylate sulfonate, the biodegradability shall be determined in accordance with the Test Procedure and Standards - ABS and LAS Biodegradability Scientific and Technical Report No. 3 of The Soap and Detergent Association.

4.7 RINSING. Rinsing shall be accomplished by treatment of the articles in either a fresh, filtered, or a newly distilled solvent.

4.8 EXTRACTING. Extracting shall be done mechanically.

4.9 DRYING. Drying shall be carried out either mechanically (tumble drier) or in a heated cabinet or room with a constant flow of clean fresh air.

MIL-STD-666B

4.10 WATER-REPELLENT. Water-repellent compound shall be applied by immersion in a solution or emulsion of a water-repellent compound, in accordance with manufacturer's instruction. The concentration of the water-repellent shall be such that the treated fabric shall shed water and the surface of the fabric shall not become wet when sprinkled with an ounce of water. The Army uses two types of water repellents: type I, soluble in water, type II, soluble in drycleaning solvent. Both types are mixed in the same proportions, nine parts repellent to one part water or drycleaning solvent.

4.11 DAMAGES. The articles shall be treated in such a manner as to keep the dimensional changes of the article to a minimum and to avoid injury of any kind to the fabric.

4.12 REPAIRS. The supplier shall repair all minor rips, tears, and open seams using thread and material of similar quality, color, colorfastness, and texture as that used in the manufacture of the articles and shall replace all broken or missing buttons with buttons of similar appearance, quality, color and colorfastness.

4.13 LABELS. All labels required by the Department of Health of the State in which the work is performed must be furnished by the supplier.

4.14. VISUAL INSPECTION. Cleaned garments shall be capable of being spotted with clear water without the appearance of visible rings. Finished garments shall be free of dust, solvent, chemical odors, and spots or stains, except those determined as being unremovable without injury to the color or fabric.

4.15 SANITATION. All work shall be performed under good sanitary conditions. The plant of the supplier shall be open to sanitary inspection by the Government.

4.16 WORKMANSHIP. All workmanship shall be performed in accordance with the best practices of the drycleaning industry. It is intended that services shall include all processes necessary for the drycleaning of the articles even though every step of the operation or every item involved is not specifically mentioned.

5. DETAIL REQUIREMENTS

5.1 SERVICES

5.1.1 TYPES. Types I, II, III, IV, V, and VI shall comply with the general dry cleaning requirements specified in 3.1 through 3.12 where applicable.

5.1.2 CLASSES

5.1.2.1 CLASS 1. For dark and medium colored fabrics.

5.1.2.2 CLASS 2. For white and light colored fabrics.

MIL-STD-666B

5.1.2.3 CLASS 3. For fugitive colored fabrics.

5.1.2.4 CLASS 4. For fragile fabrics.

5.1.3 PRESPOTTING. Prespotting, if necessary, should be made to the spots or stains before or during the cleaning operation. Extreme care shall be exercised in the removal of spots by the use of any organic solvents, such as drycleaning solvents or any other spotting agent containing organic solvents.

5.1.4 WASHING AND RINSING. The solvent level in the washer must be at the correct height after the filter has been filled. For approximate solvent level allow 1 gallon of solvent per 1-1/4 pounds of garments, or level solvent at one-fourth the cylinder for silks and one-third the cylinder for woolens. Never allow solvent level to be high enough to float garments.

5.1.5 EXTRACTING. Extracting shall be performed in accordance with the speed chart established by the manufacturer. For most fabrics it is 3 or 4 minutes, silks 1 minute, and heavy woolens no longer than 3 minutes. Excessive extraction causes wrinkling and creasing of the garments.

5.1.6 DRYING. When drying woolens or silks, the temperature of the drier shall not be so high as to cause injury or damage to the fabrics.

5.1.7 WATER-REPELLENTS. Water-repellents used in many fabrics during manufacture must be replaced if they have been removed during dry cleaning.

(Copies of specifications, standards, drawings and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

Custodians:

Army - GL
Navy - SA
Air Force - 82

Preparing activity:

Army - GL
Project No. 8400-0013

Review activities:

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

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION

MIL-STD-666B

Military Standard Dry Cleaning of Clothing and Equipage

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

 DIRECT GOVERNMENT CONTRACT SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

 YES NO (If "yes", in what way?)

4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)

SUBMITTED BY (Printed or typed name and activity - Optional)

DATE

DD FORM 1426
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.