

V-T-280C
August 15, 1975

SUPERSEDING

Fed. Spec. V-T-280B
March 29, 1966

FEDERAL SPECIFICATION

THREAD, GIMP, COTTON, BUTTONHOLE

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers requirements for cotton gimp used in the manufacture of clothing.

1.2 Classification.

1.2.1 Types and sizes. The gimp shall be of the following types and sizes as specified (see 6.2):

Type I - Soft finish.
Type II - Glazed finish.
Size No. 8.
Size No. 10.
Size No. 12.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specification:

PPP-P-50 - Packaging and Packing of Thread for Domestic
and Overseas Shipment.

Federal Standard:

Fed. Test Method Std. No. 191 - Textile Test Methods.

FSC 8310

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(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers, at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Ft. Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

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Military Standard:

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

Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publication. The following document forms a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

Color Association of the United States, Inc.

Department of Defense Standard Shades for Sewing Thread 1968

(Application for copies should be addressed to the Color Association of the United States, Inc., 200 Madison Avenue, New York, NY 10016.)

3. REQUIREMENTS

3.1 The requirements specified in 3.7.2, 3.8, 3.9 (and related provisions of sections 4 and 5) apply only to gimp purchased directly by the Government. All

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other requirements apply both to gimp purchased by a supplier as a component for an end item and to gimp purchased directly by the Government.

3.2 Standard sample. When a standard sample is established (see 6.3), the gimp shall match the standard for shade, and dyed shades shall be equal to or better than the standard sample with respect to all characteristics specified and for which the standard is referenced.

3.3 Material. The gimp shall be made of cotton.

3.4 Color. The color (shade) shall be as specified in the end item specification or as set forth in the contract or order (see 6.2). Shade designations by letter (e.g. - Olive Drab S-1) and related cable numbers (e.g. - CA 66022) refer to the DOD Standard Shades For Sewing Threads 1968 (see 2.2).

3.4.1 Matching. The shade of the end item thread, after removal of finish shall match the specified applicable approved shade standard (see 6.3), when tested as specified in 4.2.4.

3.4.2 Sulfur content. The use of dyes and compounds containing elementary sulfur capable of oxidation to sulfuric acid is prohibited. The dyestuff shall be chosen and applied so that the dyed and finished thread shall contain no more labile sulfur than shown by the standard sample when tested as specified in 4.2.4. When a standard sample is not available, the dyed and finished thread shall show not more than a slight trace of labile sulfur as defined in the test method when tested as specified in 4.2.4.

3.4.3 Colorfastness. The colorfastness of dyed finished gimp shall be as specified in the applicable end-item specification or as set forth in the contract or order (see 6.2), except that when requirements are not stated or referenced to a standard sample for colorfastness, the gimp shall show "good" colorfastness to laundering (after 3 cycles). When a standard sample for colorfastness is referenced, the gimp shall be equal to or better than the standard sample for the specified colorfastness properties or (when specific properties are not specified) for colorfastness to laundering (after 3 cycles). Tests for colorfastness (including tests for wet drycleaning, when specified) shall be as specified in 4.2.4, as applicable.

3.5 Finish. The gimp shall have a soft or a glazed finish as indicated for the type as specified in the applicable end item specification or procurement document (see 6.2). The finish shall conform to the applicable requirements of 3.5.1 through 3.5.3.

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3.5.1 Type I. Type I gimp shall have a soft (natural) finish having no consistency or luster other than that inherent to the cotton material.

3.5.2 Type II. The type II gimp shall be polished and lustrous and shall have a smooth glazed surface with no protruding fibers.

3.5.3 Additional finish. Except as specified or approved by the contracting officer, the gimp shall have no chemical finish or treatment other than normal to comparable commercial gimp. If gimp intended for delivery has a finish or treatment other than the above, the supplier shall provide the contracting officer with a list of materials to be used. If any of these materials has been shown by past experience to have a deleterious effect on the thread in prolonged storage, such finish or treatment shall be prohibited. No chemical finishes or treatments shall be applied to specifically increase the breaking strength.

3.6 Direction of twist. Unless otherwise specified, the direction of final twist shall be "S" (see 6.2).

3.7 Physical requirements. The finished gimp shall conform to the requirements of table I and 3.7.1 when tested as specified in 4.2.4.

TABLE I. Physical requirements

Size (ticket number)	Ply (minimum)	Type I		Type II	
		Length per pound (minimum)	Breaking strength (minimum)	Length per pound (minimum)	Breaking strength (minimum)
		Yards	Pounds	Yards	Pounds
8	3	2,200	6.5	2,120	6.8
10	4	1,650	9.0	1,590	9.4
12	5	1,320	11.3	1,270	11.8

3.7.1 Maximum length per pound. The maximum length per pound of sizes 10 and 12 gimp shall be the specified minimum for sizes 8 and 10 of the same type, respectively. For size 8 gimp, the maximum shall be 12.5 percent greater than the minimum specified.

3.7.2 Knots and splices. The gimp shall have an average of not more than one thread knot or splice per 500 yards.

3.8 Put-up. Unless otherwise specified (see 6.2), the gimp shall be put up on a nominal weight per holder basis on new commercial spools or tubes (hereinafter referred to as holders) as specified in the contract or order. The gimp shall be put up in one continuous length per holder and shall be so wound that

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each turn and layer is free from entanglement. A minus 3.0 percent tolerance will be permitted on the nominal weight per holder when determined as specified in 4.2.2.

3.8.1 Weight per holder. The nominal weight of gimp per holder shall be 2 ounces for spools and 16 ounces for tubes. The average weight per holder shall be not less than the specified nominal amount minus 3.0 percent tolerance when examined (on a 10 holder basis) as specified in 4.2.2.

3.9 Identification marking. Except when acceptance of commercial identification markings is indicated in the invitation for bids (see 6.2), each holder shall have a label attached in such manner as to remain in place and be clearly legible until all gimp has been removed. The label shall be printed with the information as specified below:

Stock number.
Net weight (ounces).
Color.
Size and ply.
Type.
Nomenclature.

3.10 Workmanship. The gimp shall be clean, of uniform color, and free of odor, and shall conform to the quality established by this specification. The occurrence of defects shall not exceed the applicable acceptable quality levels (AQLs).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Certificate of compliance. Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.2 Quality conformance inspection. Sampling and inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

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4.2.1 End item examination.

4.2.1.1 Gimp on the holder. The gimp shall be examined on the holder and the defects listed in table II shall be counted. The sample unit for this examination shall be one wound holder, and the lot size shall be expressed in units of one holder each. The AQL shall be 4.0 defects per 100 units and the inspection level shall be S-3 of MIL-STD-105.

TABLE II. Defect of gimp on holders

Examine	Defect
Identification label	Missing, incorrect, incomplete, illegible, or insecurely attached.
Type of holder	Other than specified.
Surface condition	Louse or unattached ply. Cut, tear, chafe, slip, affecting strength of gimp or interfering with easy location of end and initial unwinding.
Color	Other than specified. Uneven, apparent on successive layers or end to end.
Cleanmess	Dirt, spot, or stain, clearly noticeable.
Finish	Other than specified. Uneven, lumpy, bare or thin spots. Not smooth and lustrous (type II).

4.2.1.2 Gimp as unwound. The gimp shall be examined by unwinding, the defects listed in table III shall be counted regardless of their proximity to each other. The sample unit for this examination shall be one holder, and the lot size shall be expressed in units of one holder each. The AQL shall be 4.0 defects per 100 units and the inspection level shall be S-3 of MIL-STD-105.

TABLE III. Defects of gimp as unwound

Examine	Defect
Continuous length	Not in continuous length.
Knots and splices	Thread knots or splices in excess of one per 500 yard average.

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TABLE III. Defects of gimp as unwound (cont'd)

Examine	Defect
Winding	Improperly or not firmly wound, resulting in kinks, knots, entangling or slippage during unwinding or otherwise affecting free unwinding of the gimp.
Tackiness or adhesion	Strands adhere to each other or to holder, affecting unwinding tension.

4.2.2 Examination for weight. The sample unit for this examination shall be 10 wound holders, taken at random from the lot under test. The sample size shall be one sample unit regardless of lot size. The holders shall be weighed individually and the weight of gimp determined. The values obtained shall be averaged and this average shall represent the net weight per holder in the lot. The lot shall be unacceptable if the net weight per holder is less than the minimum specified minus the 3.0 percent tolerance (see 3.8.1).

4.2.3 Examination of preparation for delivery requirements. An examination shall be made in accordance with the provisions of PPP-P-50 to determine whether packaging, packing, and marking comply with section 5 requirements.

4.2.4 Testing of the end item. The methods of testing specified in FED-STD-191, wherever applicable and as listed in table IV shall be followed. The physical and chemical values specified in section 3 apply to the results of the determinations made on a sample unit for test purposes as specified in the applicable test methods. All test reports shall contain the individual values utilized in expressing the final result. The AQL for each characteristic shall be 6.5 test failures per 100 units and the inspection level shall be level S-1. The sample unit shall be one holder or sufficient holders to provide enough gimp for the applicable tests. The lot shall be expressed in units of one holder each.

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TABLE IV. Test methods

Characteristic	Requirement paragraph	Test method
Cotton-identification	3.3	1200 <u>1/</u>
Shade match	3.4.1	4.2.4.1 and 9010
Presence of labile sulfur	3.4.2	2020
Colorfastness (as applicable) to:		
Laundering (after 3 cycles)	3.4.3	5610 <u>2/</u> <u>3/</u>
Wet drycleaning	3.4.3	5622
Finish:		
Type <u>4/</u>	3.5	Visual
Normal commercial, or as specified or approved	3.5.3	<u>1/</u>
Direction of final twist	3.6	4050
Number of plies	3.7	Visual <u>5/</u>
Length per pound	3.7	4010
Breaking strength	3.7	4100

- 1/ Unless otherwise specified, a certificate of compliance shall be submitted and will be acceptable for the stated requirement.
- 2/ The specimens must be dried after each of the 3 laundering cycles.
- 3/ On the color transfer cloth evaluation, only the stain on the cotton fibers of the color transfer cloth shall be evaluated.
- 4/ To be performed in lieu of applicable examination under 4.2.1 when gimp is furnished by the supplier as a component.
- 5/ One determination, and the result reported as "pass" or "fail".

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4.2.4.1 Shade evaluation.

4.2.4.1.1 Removal of finish. Before evaluation for shade matching, the gimp shall be wet drycleaned in accordance with Method 5622 (disregarding references to the standard sample). Excess solvent shall be removed by centrifuging or wringing. The sample shall then be rinsed in distilled water at 120° to 160°F., and dried at a temperature not exceeding 180°F. The dried sample shall then be conditioned for a minimum of 4 hours prior to evaluation for shade match according to the procedure of Method 9010.

5. PREPARATION FOR DELIVERY

5.1 Put-up and packaging. Put-up and packaging shall be level A, B, or C as specified (see 6.2).

5.1.1 Levels A, B, and C. The gimp shall be put up and packaged in accordance with the applicable requirements of PPP-P-50.

5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2).

5.2.1 Levels A, B, and C. The gimp shall be packed in accordance with the applicable requirements of PPP-P-50.

5.3 Marking. In addition to any special marking required by the contract or order, shipments shall be marked in accordance with the requirements of PPP-P-50.

6. NOTES

6.1 Intended use. The cotton gimp is intended for use as the reinforcing cord for eyelet-end buttonholes.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Type, size of gimp required (see 1.2).
- (c) Color (shade) required (see 3.4).
- (d) Colorfastness properties required (see 3.4.3).
- (e) Finish required (see 3.5).
- (f) Direction of twist, if other than specified (see 3.6).
- (g) Put-up required (see 3.8).
- (h) When commercial identification markings are acceptable (see 3.9).
- (i) Selection of applicable levels of put-up and packaging and packing (see 5.1 and 5.2).

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6.3 Standard sample. For military shades, the standards for shade reference are those contained in the standard color card for the Official Standardized Shades of Sewing Threads (see 2.2 and 3.4). For other shades, address the procuring office issuing the invitation for bids or request for proposal. Standard samples frequently used by the military (directly or for components of end items) have been made available to normal suppliers as basic reference for the establishment of the supplier's secondary standards conforming to the characteristics of the official standards. The basic shade standards are those appearing in the DOD Color Card. Prime thread manufacturers who inadvertently have not been furnished standards for establishment of their colorfastness standards in accordance with this specification may obtain samples for this purpose from the US Army Natick Development Center Natick, MA 01760, ATTN: AMQM VTC.

6.4 Dye formulations. Suggested but not mandatory formulations for the shades indicated are as follows:

Olive Drab Shade S-1 Cable No. 66022

Vat Black 27, C.I. 69005

Vat Green 3, C.I. 69500/1

Vat Yellow Brown 3G, PR 125

Vat Brown G, (as required) PR 380

Green Shade E Cable No. 66034

Vat Green 3, C.I. 69500/1

Vat Black 27, C.I. 69005

Vat Blue 18, C.I. 59815

Khaki Shade P-1 Cable No. 66019

Vat Brown G, PR 380

Vat Black 27, C.I. 69005

Vat Yellow Brown 3G, PR 125

6.5 Colorfastness guidelines. Normally, colorfastness requirements for gimp are to be specified in keeping with those specified for the basic material into which the gimp will be sewed (see 3.4.3). Typical examples are:

Use

Gimp for wool clothing which is drycleaned.

Gimp for wool clothing which is laundered.

Gimp for cotton clothing which is laundered.

Colorfastness

Good colorfastness to wet drycleaning.

Good colorfastness to laundering.

Good colorfastness to laundering (after 3 cycles).

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Navy - SA
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Review activities:

Navy - MC
Air Force - 82

Preparing activity:

Army - GL

Civil Agency Coordinating Activities:

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HEW-NIH
JUS-FPI
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Project No. 8310-0078

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 35 cents each.

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