

INCH-POUND

MIL-C-44034C  
 INTERIM AMENDMENT 1 (GL)  
15 October 1990

## MILITARY SPECIFICATION

## CLOTH, TWILL, CAMOUFLAGE PATTERN, COTTON AND NYLON FOR DESERT UNIFORM

This interim amendment is approved for use within the Department of the Army, with MIL-C-44034C dated 28 March 1986.

PAGE 1

1.2, under "Class 2": Add the following:

"Class 3 - Camouflage pattern (3 color) for desert uniform  
 Class 3A - Camouflage pattern (3 color) for desert uniform, quarpel treated"

PAGE 2

2.1, under DRAWINGS: Delete in its entirety and substitute the following:

"U.S. ARMY NATICK RESEARCH, DEVELOPMENT AND ENGINEERING CENTER

2-1-1540 - Pattern for Nighttime Desert Grid - 45 inches (class 2)  
 2-1-1540A - Pattern for Nighttime Desert Grid - 60 inches (class 2)  
 2-1-1884 - 6 Color Desert Pattern 48 & 60 inch pattern (classes 1 and 1A)  
 2-1-2240 - 3 Color Desert Pattern 48 & 60 inch pattern (classes 3 and 3A)"

PAGE 4

Under "3.4.1": Add the following new paragraph:

"3.4.1 Classes 3 and 3A. The cloth shall be dyed to a ground shade approximating Light Tan 492. The three color Desert Camouflage pattern shall be obtained by roller or automatic screen printing using two or three rollers or screens as appropriate for the Light Tan 492, Light Brown 493 and Light Khaki 494 areas of the pattern. The use of two rollers or screens is appropriate when the ground shade matches Light Tan 492. The dyeing of the ground shade (Light Tan 492) and the printing of the cloth shall be accomplished with organic colorants (see 6.6.1.1) to provide a match to each of the three shades of the pattern and to provide the spectral reflectance levels specified in table IA. Each dyed and printed color area shall match the specific color on the standard sample (see 6.3). Resin bonded pigment printing will not be permitted."

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3.4.5: Delete in its entirety and substitute the following:

"3.4.5 Colorfastness. The printed and finished cloth shall show fastness to light (after 40 standard fading hours), laundering (after 3 cycles) and perspiration equal to or better than the standard sample or equal to or better than a rating of "good" for each of the pattern areas. The classes 3 and 3A cloths shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating not lower than 3.5 for all the pattern areas. The classes 1, 1A and 2 cloths shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating not lower than 3.5 for all the pattern areas, except Black 383 which shall not be tested. The Light Tan 372 shall be tested for crocking on the back side. Testing shall be as specified in 4.4.3."

3.5, paragraph identifier: Delete "Pattern execution, classes 1 and 1A" and substitute "Pattern execution, classes 1, 1A, 3 and 3A"

After the last sentence: Add "When a standard sample is not referenced for pattern execution, a pattern drawing shall be provided and the pattern of the finished cloth shall match that of drawing 2-1-1884 for classes 1 and 1A and 2-1-2240 for classes 3 and 3A (see 2.1 and 6.3)."

Table I: Delete in its entirety and substitute the following:

"TABLE I. Spectral reflectance requirements classes 1 and 1A

Wavelengths nanometers	Reflectance values (percent)					
	Light Tan 379		Tan 380 and Khaki 384		Light Brown 381 and Dark Brown 382	
	(min)	(max)	(min)	(max)	(min)	(max)
700	38	53	25	44	19	41
720	38	54	25	45	20	41
740	39	55	25	46	20	42
760	40	56	26	47	21	42
780	41	57	27	48	21	42
800	43	58	28	50	22	43
820	45	59	30	52	23	45
840	48	62	33	55	24	46
860	50	65	36	58	25	48"

Add the following new paragraph and table:

"3.5.1.1 Spectral reflectance, classes 3 and 3A. The spectral reflectance factors for Light Tan 492, Light Brown 493 and Light Khaki 494 for the three color camouflage pattern shall conform to the corresponding requirements specified in table IA, when tested as specified in 4.4.3.

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TABLE IA. Spectral reflectance requirements classes 3 and 3A

Wavelengths nanometers	Reflectance values (percent)					
	Light Tan 492		Light Brown 493		Light Khaki 494	
	(min)	(max)	(min)	(max)	(min)	(max)
700	38	53	19	41	25	44
720	38	54	20	41	25	45
740	39	55	20	42	25	46
760	40	56	21	42	26	47
780	41	57	21	42	27	48
800	43	58	22	43	28	50
820	45	59	23	45	30	52
840	48	62	24	46	33	55
860	50	65	25	48	36	58"

3.6, table II, under "Class": Delete "1&2" and substitute "1, 2 & 3", also delete "1A" and substitute "1A & 3A".

PAGE 6

3.7, line 3, after "The": Delete "class 1A" and substitute "classes 1A and 3A".

3.7.2, in the paragraph identifier: Delete "(class 1A)" and substitute "classes 1A and 3A)".

Line 1, after "The": Delete "class 1A" and substitute "classes 1A and 3A".

TABLE III, in the title: Delete "(class 1A)" and substitute "classes 1A and 3A)".

3.7.2.2, line 1, after "finished": Delete "class 1A" and substitute "classes 1A and 3A".

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4.4.2.1.1, line 13: Delete "(classes 1 and 1A)" and substitute "(classes 1, 1A, 3 and 3A)".

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4.4.3: Delete the fourth sentence and substitute: "The sample unit shall be 3 continuous yards full width of the finished cloth (for classes 1, 2 and 3) or 4 continuous yards full width of the finished cloth (for classes 1A and 3A), for all physical and chemical tests except dimensional stability (see 4.4.3.1)."

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Table IV, under the characteristic for "Spectral reflectance": Delete "Classes 1 and 1A" and substitute "Classes 1, 1A, 3 and 3A".

After the characteristics for "Water repellent, Hydrostatic pressure, Dynamic absorption, Spray rating and Liquid repellency": Delete "(class 1A)" and substitute "(classes 1A and 3A)".

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4.5.1, in the paragraph identifier: Delete "(classes 1 and 1A)" and substitute "(classes 1, 1A, 3 and 3A)".

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4.5.3, line 2, after "all": Add "three or".

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4.5.4.2.7: Delete and substitute:

"4.5.4.2.7 Measuring device (see 6.15). An 18 inch plastic ruler or 18 inch metal tape, graduated to give percent change directly in 0.2 percent increments and read to the nearest 0.1 percent. (Based on an original 18 inch marking.)"

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6.1: Delete and substitute:

"6.1 Intended use. The class 3 cloth is intended for use in both the Daytime and Nighttime Desert Camouflage Uniforms. Class 3 cloth is a replacement for both class 1 and 2 cloths. Class 3A cloth is the replacement for class 1A cloth and is intended for use in both Daytime and Nighttime Desert Camouflage Uniforms which require a water repellent treatment."

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6.6.1: Delete in its entirety and substitute the following:

"6.6.1 Dye information, classes 1 and 1A. The areas of the pattern have been found to be satisfactory when dyed or printed with various combinations of the following dyes for 6 colored areas:

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Light Tan 379 (Ground Shade)

Vat Brown 1  
Vat Black 25

Tan 380

Vat Yellow 1  
Vat Yellow 33  
Vat Brown 1  
Vat Brown 57  
Vat Black 25

Light Brown 381

Vat Yellow 1  
Vat Yellow 33  
Vat Brown 1  
Vat Brown 57

Dark Brown 382

Vat Yellow 1  
Vat Yellow 33  
Vat Brown 1  
Vat Brown 57

Black 383

Sulfur Black 6/Vat Black 14  
Cibanone Black R

Khaki 384

Vat Yellow 1  
Vat Yellow 33  
Vat Brown 1  
Vat Black 25"

Add the following new paragraph:

"6.6.1.1 Dye information, classes 3 and 3A. The Light Tan 492 (Ground Shade), Light Brown 493 and Light Khaki 494 areas of the 3 color Camouflage pattern have been found to be satisfactory when dyed or printed with the various combinations of dyes for Light Tan 379, Light Brown 381 and Khaki 384 respectively as specified in 6.6.1."

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6.15: Delete and substitute:

"6.15 Measuring device, stamping device and ink. The measuring device, stamping device and indelible ink may be obtained from the Sanforized Co., 433 River Street, Troy, NY 12180."

Preparing activity:

Army - GL

(Project 8305-A412)