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BRADFORD DYEING ASSOCIATION, INC.

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FREIGHT TO
WORKS AT
BRADFORD, R. I.

AD-A250 136



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MAR 18 1992
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A001 Contract DAAK60-85-C-0019, per DD Form 1423,
Manufacturing Methods Report.

1. A sufficient quantity of 50/50 Nylon/Cotton Twill was prepared in a continuous manner, in accordance with MIL-C-44034.
2. Prepared cloth was vat dyed continuously to the ground shade, as described in MIL-C-44034.
3. Cloth was then overprinted with the vat colors listed in Section 6 of MIL-C-44034 to produce shades in accordance with the standards supplied by R. Cowan of the U.S. Army Natick R & D Center, and using screens made from patterns supplied by Mr. Cowan, per contractual requirements.
4. Cloth was then developed continuously in an atmospheric, saturated steam ager, oxidized, washed, and dried.
5. Cloth was finished and shrunk mechanically, so as to meet the requirements of the specification.
6. MIL-I-45208A Inspection Systems Requirements were followed throughout all processing steps. 47

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92-06775



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QAL #1960
 BRADFORD DYING ASSOCIATION, INC.
 P. O. BOX 539
 WESTERLY, RHODE ISLAND
 TEST REPORT

CUSTOMER: U.S. Army Natick, Research & Development Center
 DESCRIPTION: 50/50 Nylon Cotton Twill, Daytime Desert Pattern
 SPECIFICATION: MIL-C-44034A and Natick Contract DAAK-60-85-C-0019
 ORDER NO: 78152
 DATE: August 23, 1965
 LOT NO: 0019
 YDGE: 5,866 greige yards

Test Report #85385

Availability Codes
 Distribution/
 By
 Test Location
 Method Used
 Date
 Time
 Special
 Dist

Test, Unit of Measure		Results			Requirements	
SAMPLES	Pattern #1	Pattern #2				
	1	2	3	1	2	3
Tensile Strength (5100) Warp	208	215	221	238	205	216
	215	218	224	231	198	220
	213	226	219	235	218	218
	222	220	223	230	225	211
	224	231	230	237	227	209
	216	222	221	234	215	215
Filling	143	129	143	148	140	146
	140	130	143	151	140	148
	136	140	137	143	137	139
	139	134	141	150	142	142
	149	138	142	141	135	144
	141	134	142	147	139	144
Tear Strength (D 1424) Warp	12.6	12.2	12.4	12.3	12.1	12.9
	12.4	11.7	12.1	13.4	11.6	12.9
	12.2	12.3	12.2	12.9	11.9	12.2
	12.3	12.1	13.0	13.2	12.3	12.6
	12.9	12.4	12.1	12.3	12.0	13.0
	12.3	12.1	12.4	12.9	12.0	12.7
Filling	9.3	9.3	11.1	12.3	10.6	11.6
	10.1	9.2	10.7	11.7	10.4	9.9
	10.5	10.0	9.7	11.0	10.1	10.1
	9.2	9.9	9.9	12.0	10.6	11.2
	9.6	9.6	10.3	12.4	9.9	10.3
	9.7	9.6	10.4	11.9	10.5	10.6
Pattern Report		15-3/8	15-1/4	15-3/8	27-1/4	27-3/8

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Test, Unit of Measure	Results			Requirements		
	Pattern #1	Pattern #2	Pattern #3	Pattern #1	Pattern #2	Pattern #3
SAMPLES	1	2	3	1	2	3
Count (5070) Warp	86 85 86 85 86 86	86 85 86 86 86 86	85 86 85 85 86 85	86 86 86 86 85 86	86 85 86 85 86 86	86 86 86 85 85 86
Filling	55 55 55 55 55 55	55 56 55 55 55 55	56 55 55 56 55 55	55 55 55 55 55 55	55 54 54 54 54 54	55 55 54 54 54 54
Porosity (5450)	19 17 17 19 17 18	20 17 16 17 16 18	15 14 14 16 15 15	22 21 21 23 22 22	18 19 17 17 19 18	15 17 18 17 15 16
Seam Efficiency (5110)	87 90 85 89 86 88	81 86 86 83 89 87	89 83 90 87 89 85	84 86 86 88 85 87	89 90 88 86 84 87	83 83 86 85 84 86
Weight (5041)	7.20 7.20 7.00 7.10 7.10 7.1	7.05 7.10 7.10 7.00 7.05 7.1	7.15 7.20 7.20 7.15 7.20 7.2	6.85 6.90 7.10 7.05 6.95 7.0	7.00 7.10 7.10 7.05 7.10 7.1	7.05 7.00 6.90 7.20 7.20 7.1
Width	61	60-7/8	60-1/2	61	61	61
						60" min.

Test, Unit of Measure	Results			Requirements
SAMPLES	Pattern #1	Pattern #2	Pattern #3	
pH (2011)	1	2	3	
	6.6	6.5	6.5	
	6.6	6.5	6.5	
	6.6	6.5	6.5	5.0 - 8.5
Nonfibrous Materials (2011)	1.2	1.3	1.1	
	1.2	1.1	1.1	
	1.2	1.1	1.1	2.04 max.
Mercerized	pass	pass	pass	pass
Weave (visual)	pass	pass	pass	pass
Singed	pass	pass	pass	pass
Desized	pass	pass	pass	pass
Cotton Identification (1205)	pass	pass	pass	pass
Nylon: Identification (1330)	pass	pass	pass	pass
Luster	pass	pass	pass	pass
Denier	pass	pass	pass	pass
Nylon Content (2530)	pass	pass	pass	pass
Cotton Content (2530)	pass	pass	pass	pass
Presence of Labile Sulfur (2070)	pass	pass	pass	pass
Infrared Reflectance:				
Sea				
Black				
Brown				
Colorfastness to:				
Light (500)	pass	pass	pass	pass
Wash	pass	pass	pass	pass
Acid	pass	pass	pass	pass
Alkali	pass	pass	pass	pass
Solvent	pass	pass	pass	pass
Shall contain no more labile sulfur than shown in the std. at				

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Requirements

Test, Unit of Measure

Results

SAMPLES

Pattern #1

Pattern #2

1 2

3

1

3

Colorfastness to:
Laundering (3 cycles/
5610)

Tan
Khaki
Brown

pass pass
pass pass
pass pass

pass
pass
pass

pass pass
pass pass
pass pass

pass
pass
pass

Perspiration (5680)

Tan
Khaki
Brown

pass pass
pass pass
pass pass

pass
pass
pass

pass pass
pass pass
pass pass

pass
pass
pass

Crocking (5601)s

Tan
Khaki
Brown

pass pass
pass pass
pass pass

pass
pass
pass

pass pass
pass pass
pass pass

pass
pass
pass

We certify that the requirements of para. 3.5 have been complied with.

Shrinkage (5556) (A/I)

Warp

1.6
1.6
1.5
1.6

1.1
1.0
1.2
1.1

1.6
1.6
1.7
1.6

2.2
2.2
2.1
2.2

2.3
2.2
2.4
2.3

1.7
1.7
1.8
1.7

3.0% max.

Filling

2.2
2.2
2.1
2.2

2.4
2.4
2.3
2.4

2.8
2.8
2.8
2.8

2.0
2.0
1.9
2.0

2.0
1.9
2.1
2.0

1.7
1.8
1.6
1.7

3.0% max.

* 50/24 - 3.0% weight - Comb. Lawn

78132

INFRARED
REFLECTANCE

	#1-1	#1-2	#1-3	#2-1	#2-2	#2-3
ST						
FCO						
WL	%R	%R	%R	%R	%R	%R
700.0	43.82	48.37	44.38	47.71	48.88	47.29
720.0	44.51	48.85	44.70	47.88	48.97	47.47
740.0	45.41	49.28	45.30	48.41	47.48	47.94
760.0	46.58	50.16	46.35	48.26	48.44	48.79
780.0	48.10	51.45	47.83	50.52	49.71	50.03
800.0	49.86	53.04	48.56	52.16	51.37	51.60
820.0	51.85	54.86	51.55	53.93	53.23	53.38
840.0	53.82	56.86	53.69	55.80	55.16	55.27
860.0	56.03	58.57	55.88	57.70	57.18	57.24
880.0	58.08	60.32	57.92	59.48	59.09	59.05
900.0	59.82	61.80	58.78	61.17	60.81	60.68
ERR=31						
*ST						
FCO						
WL	%R	%R	%R	%R	%R	%R
700.0	33.73	34.98	33.54	41.50	41.08	40.86
720.0	34.12	35.11	33.67	41.67	41.21	40.97
740.0	34.81	35.66	34.17	42.34	41.85	41.54
760.0	35.70	36.43	34.89	43.40	42.88	42.55
780.0	36.90	37.55	36.16	44.90	44.37	43.99
800.0	38.48	39.05	37.71	46.82	46.21	45.91
820.0	40.38	40.97	39.58	49.03	48.40	48.08
840.0	42.54	43.08	41.73	51.41	50.70	50.44
860.0	44.88	45.35	44.12	53.79	53.17	52.93
880.0	47.19	47.62	46.45	56.12	55.45	55.28
900.0	49.43	49.78	48.76	58.26	57.52	57.53
ERR=31						
*ST						
FCO						
WL	%R	%R	%R	%R	%R	%R
700.0	28.69	28.92	28.08	30.10	30.15	29.81
720.0	29.06	29.10	28.29	30.37	30.36	30.04
740.0	29.43	29.36	28.46	30.98	30.94	30.63
760.0	29.75	29.61	28.67	32.03	31.93	31.63
780.0	30.21	30.00	29.04	33.58	33.42	33.15
800.0	31.02	30.75	29.79	35.58	35.38	35.14
820.0	32.12	31.85	30.87	37.89	37.72	37.48
840.0	33.48	33.16	32.16	40.56	40.39	40.19
860.0	35.02	34.84	33.64	43.49	43.35	43.19
880.0	36.53	36.12	35.18	46.51	46.27	46.26
900.0	38.18	37.74	36.82	49.40	49.21	49.30
ERR=31						

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I certify that the above tests were performed under my supervision and in accordance with the specification test requirements and that the reported results are true, valid, and applicable to the samples tested. I further certify that these samples were the only samples tested from the lot of end items identified above. I certify that these samples were randomly selected and represent the lot of components identified above.

Signed

James H. Badger

James H. Badger - Technical Director
BRADFORD DYEING ASSOCIATION, INC.