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Government of India
Directorate General of Supplies & Disposals
5 Jeevan Tara Building, Sansad Marg
New Delhi -110001.

**SPECIFICATION
FOR
JERSEY WOOLEN' V' NECK DYED**

SPECIFICATION No G/TEX/W/69-Rib/2010.

1. FOREWARD.

This specification is prepared taking assistance of specification no G/TEX/W-69/1992, AIR HQ/JDQAS/AC-017 & IS: 2360-1977 and the experience gained by the department during the past years.

2. Scope.

This specification caters to the need of paramilitary forces and various police organization. This standard prescribes the constructional details & other particulars of jersey woolen V neck dyed.

3. MATERIAL.

3.1. Jersey shall be manufactured from the following materials.

SI NO	COMPONENTS	MATERIALS	PARTICULARS
a	Body & Sleeves	Basic knitted fabric	Worsted yarn 55 tex X 2.
b	Reinforcement of sleeves, shoulder straps & pen pockets.	Cloth polyester Cotton Gaberdine dyed.	AS PER Appendix (C)
c	Stitching.	Thread sewing spun polyester 145 d tex x 4 variety no .7	IS: 9543-1980.
d	Linking	Worsted yarn 55 tex x2.	-
e	Over locking	Worsted yarn 55 tex x2	-
f	Buttons	Button plastic 13 mm.	IS:1461-1984

4. Manufacture.

4.1. The body and sleeves shall be knitted independently from worsted yarn of 55 Tex /2 in 2x2 rib knit. The cuff and bottom rib shall be knitted integrally and tightly to achieve the desired rib effect.

The fabric shall be uniform in shade, texture, and appearance and free from knitting flaws. The cuff and bottom rib shall contain at least two strengthening rounds.

4.2 The Jersey shall be fabricated to the required size and dimensions as given in appendix 'B'. The shape and design of the jersey shall be as shown in the drawing attached (Fig. 1 & 2) to the specification. The total rib cuff shall be 17 cms in length and shall be joined on upper side by flat - lock linking machine and shall be free from protrusions and looseness.

4.3 The neck opening shall be 'V' shape overlapping at the bottom keeping the left side welt on upper side at above 45 degree angle. The neck welt shall be of 2x2 rib knit of body material and shall be 3 cm wide in double fold. The welt shall be secured to the body linking.

4.4 The jersey shall be provided with two shoulder straps. The seam of shoulder (Inside top portion) shall be made with over lock stitching and finally with seam covering machine throughout the shoulder seam. In case the neck welt is secured with linking the over lock stitching of the shoulder shall be completely covered with reinforcement material for strengthening. The shoulder seam and arm pit shall be strengthened with polyester viscose cloth of required shade. Button plastic provided on shoulder at 2 cm away from the neck welt and a button hole shall also be provided one on each shoulder strap 6 mm away from the edge of open end.

4.5 Two pen pocket on the upper arm base of left sleeve shall be provided with polyester viscose cloth of required shade. The base of these pockets shall be 15.5 cm in length and 6 cm in width. The pockets shall be straps joint.

4.6 The shoulder and sleeves at elbow shall be reinforced with polyester Cotton cloth as shown in the drawing. The shoulders reinforcement shall be extended on front and back equally to a depth of 11 cm and shall be in one piece without seam /joint on shoulder top. One side of each shoulder reinforcement piece shall be stitched along wit joint of body and sleeves.

4.7 Stitching of shoulder reinforcement m, sleeves reinforcement. Shoulder straps and pen pockets shall regulate at 4-5 stitch per cm.

4.8 Overlook stitching/ linking and seam covering shall be done with one worsted thread as used for knitting in conjunction two threads of thread sewing spun polyester. The stitching tension shall be even throughout with all loose ends fastened and trimmed off. The number of stitches per centimeter shall not be less then 5 at any place.

5.9 The seams and joints shall withstand stitching in all direction to the full extent of the knitted fabric without breaking of allowing the loop of knitted fabric to run.

5 REQUIREMENTS

5.1 Jersey shall conform to dimensions and mass as per appendix 'B'. Other requirements shall be as per follows.

S.No	Characteristic.	Requirements.	Tolerance.	Method of test
a	Composition.	All Wool		IS:2006-1998(ON DRY MASS)
b	Wool quality (when determined from finished jersey)	64 S as per IS: 5911-1977.		IS: 744-1977.
c	No of Wales/DM on either surface.	i-Body 30(15x2 visible rib) ii-Cuffs & bottom rib -40 (20x2) visible rib)	-	As pr clause A-4 of IS: 2360.-1977
d	No of courses/DM on either surface	i-Body 56 or more. ii-Cuffs & bottom rib 64 min.	-	As pr clause A-4 of IS: 2360.-1977
e	Scouring loss %	3	Max.	As pr clause A-6 of IS: 2360.-1977
f	Dimensional change (due to relaxation)%	5.0	Max	As pr clause A-5 of IS: 2360.-1977
g	PH Value.	4 to 7.5.	-	IS: 1390.-1983(cold method)
h	Colour fastness to (i) light (ii) Washing.	4 or 5. 3 or 4.	-	IS: 2454.-1985. IS: 3361.-1979.(test 2)
i	Breaking load of yarn worsted 55 tex x2 taken out of knitted fabric (50 cm between grips) in gms.	550.0	Min	IS: 1567.-1991

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5.2 Sealed Sample- If in order to illustrate or specify the indeterminable Characteristics such as general appearance, colour, feel and type of finish

a Sample has been agreed upon and sealed; the supply shall be in conformity With the sample in such respect.

5.3 Custody of the sealed samples shall be a matter of prior agreement between the buyer and the seller.

6. Marking.

6.1 A suitable cloth label, white in ground, shall be securely attached to each jersey on the inside of the neck opening (back side) on which the following details shall be woven with a fast dyed thread of contrasting shade.

- a) Name of the material.
- b) S size.
- c) Fiber composition.
- d) Manufactures name, initials or trade mark, if any, and.
- e) Any other information as required by the buyer.

7. Preservation.

7.1 The Jersey shall be preserved with naphthalene using a minimum of 5 kg per cubic meter of volume of the bale.

8. Packing.

8.1 Jersey of the same size shall only be packed in dew dry and clean condition in fiber board box.

8.2 Each jersey suitable folded and preserved with naphthalene balls shall be packed in a self sealing poly bag of minimum 0.05 mm thickness. Five unit packs shall be tied by placing one over the other with twine. Ten such bundles shall be placed in suitable size of corrugated box after wrapping them completely with polythene film 0.04 mm thickness. The open ends of the box shall be sealed with water proof cellophane tape and strip bound at three places (Two in length and one in width with polypropylene strapping. The boxes shall be made compact and secured by wrapping them with HDPE cloth. The boxes shall be of gross weight approximately 40 Kgs each

9. SAMPLING

9.0. The sampling procedure given below shall give desired protection to the buyer and the seller provided that the lot submitted for inspection is homogeneous. To achieve this manufacturer shall maintain a system of process control at all stages of manufacture and shall ensure that the jerseys tendered by him for inspection comply with the requirements of this standard in all respect.

Note -For effective process control the use of statistical quality control techniques is recommended and a helpful guidance may be obtained in this respect from IS: 397 (Part I) 1972 .9.1 LOT. In any consignment all jerseys of same size, colour and composition of fibers delivered to a buyer against one dispatch note shall constitute a lot.

9.1.1 The conformity of the lot to the requirements of this specification shall be determined on the basis of the test carried out on the samples selected from it.

9.2 Unless other wise agreed to between the buyer and the seller the number in accordance with col 2 of appendix A.

Appendix (A)

**NUMBER OF JERSEYS TO BE SELECTED FROM A LOT AND
PERMISSIBLE NUMBER OF NON-CONFORMING JERSEYS**
(Clauses 9.2 and 9.3)

NUMBER OF JERSEYS IN THE LOT	NON-DESTRUCTIVE TESTING		DESTRUCTIVE TESTING	
	Number of Jer to be Selec	Permissible Nu of Non-conform Jerseys	Number of Je to be Selec	Permissible Numb Non-conformin Jerseys
1	2	3	4	5
Up to 300	10	1	2	0
301 to 500	20	1	3	0
501 to 1000	30	2	5	0
1001 to 3000	50	3	8	0
3001 and above	80	5	13	1

9.3 The sample size and criteria for conformity for various characteristics shall be as follows:

Characteristic	Number of Tests	Criteria for Conformity
Freedom from defects, Dimensions and Number of Wales and courses.	All the jerseys selected according to col 2 of Appendix (A)	Non-conforming jerseys not to exceed the corresponding number given in col 3 of Appendix (A)
Mass	Do	Each observed value to satisfy the specified requirement.
Specification for wool tops, breaking load of knitting yarn, dimensional change, scouring, pH value, colour fastness to washing, alkali solubility and fiber composition.	All the jerseys selected according to col 4 of Appendix (A)	Non-conforming jerseys not to exceed the corresponding number given in col 5 of Appendix (A)
Colour fastness to light	one in case of lot size of 500 jerseys two above that	Each jersey to satisfy the Specified requirement.

APPENDIX "B"

DIMENSIONS AND MASS

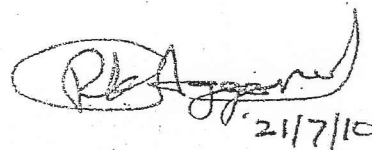
ALL MEASUREMENTS IN CENTIMETERS

SIZE	Round chest	Length of body	Total length Of sleeves Including Turned up Cuff.	Width Of arm hole	Width Of neck Opening.	Depth of neck opening	Width Across Shoulder (Top)	Length of Turned Up Cuff.	Depth of Bottom Rib.	Mass of Jersey in Grams.
	A	B	C	D	E	F	G	H	I	
85	75	64	48	20	16	15	36	8.5	6.5	560
90	80	68	51	21	16	15	38	8.5	6.5	590
95	85	70	54	22	16	15	40	8.5	6.5	620
100	90	72	57	23	16	15	42	8.5	6.5	650
105	95	74	60	24	16	15	44	8.5	6.5	680
110	100	76	63	25	16	15	46	8.5	6.5	710
115	110	78	66	26			38	8.5	6.5	740
Tol. in %	+4 -2	+2 -1	+2 -1	+2 - 0.5	+1 - 1	+1 - 1	+ 1.5 - 1.5	- -	- -	+4 -2

Appendix (C)

Particulars for Cloth polyester Cotton Gaberdine dyed Cloth polyester Cotton Gaberdine dyed.

Sr No	Characteristics.	Requirements.	Method of Test.
1	Composition Polyester Cotton	67 $\pm$ 2% 33 $\pm$ 2%	IS: 3416-1988.
2	Threads/cm. Warp. Weft.	40 min.* 40 min.	IS: 1963-1981.
3	Breaking Load in "N" Warp. Weft.	1050 min. 800 min	IS: 1969-1985.
4	Mass in grams per sq mtr.	180. min	IS: 1964-1970
5	Weave	Gaberdine	---
6	Colour fastness to. Light. Washing.	Rating better than 5. Rating 4 or better.	IS: 2454-1985. IS: 765-1979. 1992. Test 4.
7	Ph Value	5.5 to 8.	IS: 1390-1983
8	Scouring loss. %	2 max.	IS: 2360-1977
9	Colour (Shade)	As per spectrum:	


21/7/10

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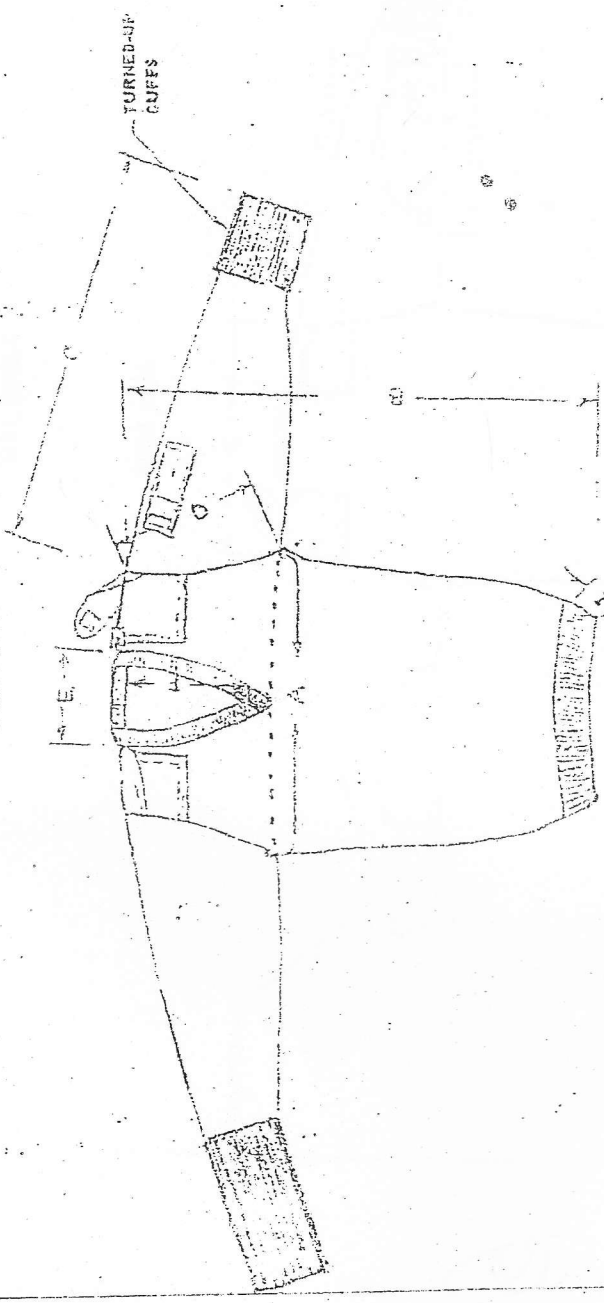
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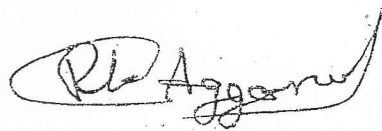
FRONT VIEW

TURNED-UP
CUFFS

QA/TEX/045

Fig. 1





21/7/10

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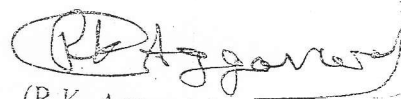
Amendment No.1 dated 19.08.2010

Subject: Specification No.G/TEX/W-69-Rib/2010 dated 21.07.2010 for Jersey
Woolen 'V' Neck Dyed.

Following amendment is authorized in subject specification:

Sl.No.	Reference Clause of Specification	For	Read
1.	Cl.-4.4 at page-2	Polyester Viscose Cloth	Cloth Polyester Cotton Gaberdine dyed
2.	Cl.-4.5 at page-2	Polyester Viscose Cloth	Cloth Polyester Cotton Gaberdine dyed
3.	Cl.-4.6 at page-2	Polyester Viscose Cloth	Cloth Polyester Cotton Gaberdine dyed
4.	Cl.-4.1 at page 1	55 Tex/2	55 Tex x 2
5.	Cl.-5.1(h) at page 3 Colour fastness to (i) Light (ii) Washing	4 or 5 3 or 4	5 or better 4 or better
6.	Appendix 'C' at page 8	Colour fastness to light – Better than 5	5 or better
7.	S.No.9 at page 8 of Appendix 'C'	Colour Shade – as per spectrum	Deleted

All other entries will remain unaltered.


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Amendment No.2 dated 17.10.2011

Subject: - Specification No.G/TEX/W-69-Rib/2010 dated 21.07.2010 for Jersey Woolen
'V' Neck Dyed.

Following amendment is authorized in subject specification:

Sl.No.	Reference Clause of Specification	For	Read
1.	CL .2 of appendix (C)	Threads/cm Weft 40 min.	Threads/cm Weft 30 min

All other entries will remain unaltered.


(A. TIRKEY)
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