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SPECIFICATION NO. IND/TC/4678
Supersedes Prov Specn No. DMSRDE/T&GS/2000/447
Drawing Sheet Attached: 02

कार्यकारी प्रति
WORKING COPY



GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DGQA ORGANISATION

**SPECIFICATION
FOR
TROUSERS WIND CHEATER**
DEFENCE STORES CATALOGUE NO. :
8405-004617 TO 8405-004619

ISSUED BY

CONTROLLER
CONTROLLERATE OF QUALITY ASSURANCE
TEXTILES AND CLOTHING
POST BOX NO. 294
KANPUR 208 001

YEAR: 2015

PRICE: Rs.

R.K. Boruah
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RECORD OF AMENDMENTS

AMENDMENT NO.	DATE	DETAILS OF AMENDMENT	AMENDMENT CARRIED OUT BY (NAME &DATE)

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0.0 **FOREWORD**

0.1 This specification containing 15 No. of pages, has been prepared by Controller, Controllerate of Quality Assurance (Textiles and Clothing), Post Box No. 294, Kanpur on behalf of the Director General of Quality Assurance, Ministry of Defence, New Delhi.

0.2 This specification supersedes the Provisional Specification No. DMSRDE/T&GS/2000/447 and any other important relevant information on the store.

0.3 This specification shall be used for procurement, manufacture and Quality Assurance of the item covered by this specification.

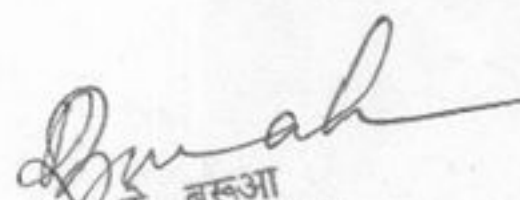
0.4 The Quality Assurance Authority for the store covered by this specification is the Controller, Controllerate of Quality Assurance (Textile & Clothing), P. B. No. 294, Kanpur-208001. Enquiries regarding this specification related to technical particulars shall be referred to the QA authority mentioned in the tender or contract.

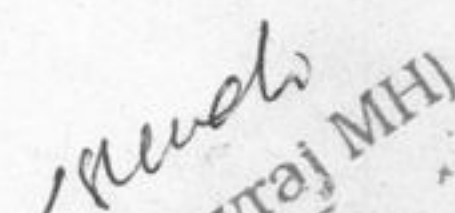
0.5 Any deviation from this specification will not be resorted to without the express written sanction of the QA Authority viz. The Controller, Controllerate of Quality Assurance (Textile & Clothing), P. B. No. 294, Kanpur-208001 or his authorized representative.

0.6 This specification is liable to amendment at any time and therefore is applicable only to specific enquiry made at any time. For any subsequent enquiry, a fresh copy of the specification is to be obtained.

0.7 Copies of any other reference document such as specification/drawing can be obtained from AHSP or from respective agencies.

0.8 The store must conform in all respects with this specification and other particulars issued with it.


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1.0 SCOPE

1.1 This specification covers the requirement of Trousers Wind Cheater in three Sizes i.e. Small, Medium and Large against defence requirements and provides guidance to contractors/suppliers, manufacturers, QA agencies and indentors etc.

1.2 The Trousers Wind Cheater is intended to be used by Army personnel in snow bound areas as over-garment.

2.0 RELATED SPECIFICATIONS / REFERENCES

2.1 Reference is made in this specification to: -

Sl.No.	SPECIFICATION NO.	NOMENCLATURE
(a)	IND/TC/0157	Fabric Nylon, 75 GSM White, PU Coated
(b)	IS 14181 (Pt 1 to 3):2002 Amdt No.2 Reaffirmed 2013	Synthetic (Plastic) Slide Fasteners-special purpose-Closed end, Medium
(c) X	IS:8156:1994 Reaffirmed 2009	Fasteners Hook & Loop Tape Synthetic 25 mm White
(d)	IS:9686-1980 Amd-1 Reaffirmed 2012	Tape Elastic 25 mm wide, White
(e)	IS:4229:1992 Amd-1, Reaffirmed 2008	Nylon Sewing Thread for Aerospace purposes White (Variety L2)
(f)	JSS:4020-9-2013 (Revision No.3)	Cord Nylon 1785 N Undyed/White
(g)	IS:9543-1980 Reaffirmed 2010	Spun Polyester Sewing Thread
(h)	IND/TC/PMS/2008 with Amendment No.3	Packing & Marking

2.2 Copies of IS specifications can be obtained on payment from Bureau of Indian Standards (BIS), Manak Bhawan, 9 Bahadur Shah Jafar Marg, New Delhi or from its website www.bis.org.in

2.3 Copies of CQA (T& C) Kanpur specifications i.e. IND/TC series can be obtained on payment from Controllerate of Quality Assurance (T&C), DGQA Office Complex, Napier Road, Kanpur Cantt, Kanpur-208004.

2.5 Copies of JSS specifications may be obtained from The Director, Directorate Of Standardisation, Ministry Of Defence, Standardisation Documentation Center, Room No. 15, 'H' Block, DHQ PO, New Delhi on payment.

3.0 TERMINOLOGY, DEFINITIONS & SYMBOLS

3.1 For the purpose of this specification, the standard, definitions, terminology and symbols referred in the relevant IS are applicable.

4.0 STANDARD PATTERN

4.1 The standard pattern of Trousers Wind Cheater held in the custody of the Controller CQA (T&C), Kanpur shall constitute the standard as regards to any particulars/properties not noted/defined in this specification.

5.0 MATERIALS

5.1 The Trousers Wind Cheater shall be manufactured from the materials as per details given below:-

Sl. No.	Component	Material	Particulars
(a)	Body & other Component	Fabric Nylon, 75 GSM White, PU Coated	IND/TC/0157
(b)	PSF	Synthetic (Plastic) Slide Fasteners-special purpose-Closed end Medium	IS:14181 (Pt 1-3);2002 Amdt No.2 Reaffirmed 2013
(c)	Fasteners Hook & Loops	Fasteners Hook & Loop Tape Synthetic 25 mm, White	IS:8156:1994 Reaffirmed 2009
(d)	Tape Elastic	Tape Elastic 25 mm wide, White	IS:9686-1980 Amd-1 Reaffirmed 2012
(e)	Sewing Thread	Nylon Sewing Thread for Aerospace purposes, White, Variety L2 (23Tex X 3)	IS:4229:1992 Amd-1, Reaffirmed 2008
(f)	Overlock Thread	Spun Polyester Sewing Thread for over locking Variety No.1 (85d tex x 3)	IS:9543:1980 Reaffirmed 2010
(g)	Tying Cord & Hanger	Cord Nylon 1785 N Undyed/White	ISS:4020-9-2013 (Revision No.3)
(h)	Tip used at the end of Tying Cord	Detachable Cap Plastic Cord Lock Stop End White	Best Trade Quality

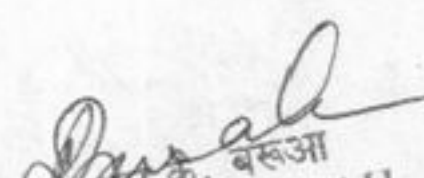
Note: All specifications referred to in this specification for any tender or contract shall mean the edition current on the date of such Tender or Contract.

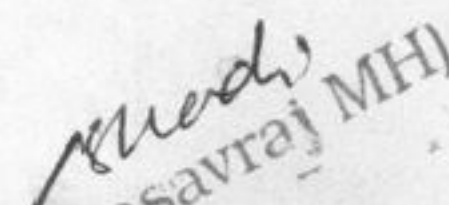
6.0 DIMENSIONS & TOLERANCES

6.1 The Trousers Wind Cheater, shall conform to the dimensions laid down in Appendix 'A' attached to this specification.

7.0 MANUFACTURE / PROCESSING

7.1 The Trousers Wind Cheater shall be cut, make, trim and finished in Pyjama style using materials mentioned in clause No. 5 of this specification placing coated side of the nylon fabric inside i.e. towards body and shall be manufactured as per Drawing Sheet attached to this specification.


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7.2 FRONT AND BACK PANEL

7.2.1 Each leg of the trousers shall be in two pieces, i.e., front side and back side. Each front side and back side shall be joined together at leg and sides by one row of machine stitching. Both the legs shall then be joined together at front rise and seat (back rise) by single row of machine stitching, as per the sealed sample.

7.3 FALSE POCKET OPENING WITH FLAP

7.3.1 The trousers shall be provided with false pocket opening (slit) on both sides. The pocket slits are finished with 4.0 cm wide double layered flaps of self material for free access to the trousers pocket underneath. The ends of the flaps shall be tacked by two rows of machine stitching 7.0 mm apart.

7.4 WAIST

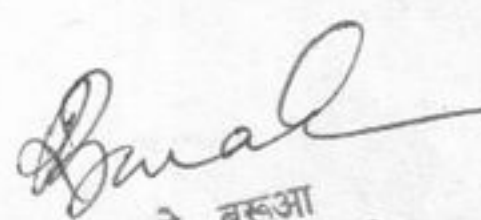
7.4.1 Tape Elastic: The waist of the trousers shall be provided with a 25mm wide (white) tape elastic. The ends of the tape elastic shall be joined together by cross and box type stitching. The tape elastic shall be stitched with two rows of lock stitches along with nylon fabric, at about 7.0 mm away from either edge of the waist, so as to form a tunnel for passing a tying cord. The lower edge of the waist of the Trousers Wind Cheater shall be stitched with 3 threads over lock stitches. Further, two holes at front, centre shall be provided at waist for entry and exit of the tying cord towards the body. The entry and exit holes shall be of about 8.0 mm dia and neatly finished by stitching the edges of the holes. The entry and exit holes shall be 3 cm away from each other.

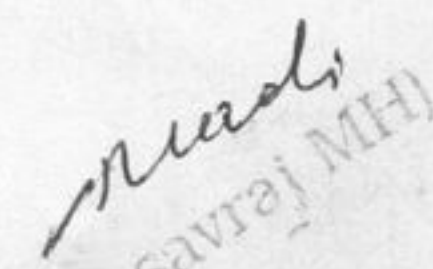
7.4.2 The excess length of the nylon fabric at waist is to be gathered uniformly through out the waist circumference while stitching the tape elastic.

7.4.3 Tying Cord: A tying cord of Nylon braided 1785N shall be inserted in the middle of the waist as per drawing attached. Detachable Cap Plastic Cord Lock Stop End White shall be provided at each free end of Tying Cord. The core/sheath of Cord Nylon shall not protrude out of the tips ends. The length of tying cord shall be 160 cm + 5cm for size small, 170 cm + 5cm for size medium and 180 cm + 5cm for size Large.

7.5 HANGER

7.5.1 Cord Nylon Braided shall be attached to the trousers, both ends of which shall be caught in between the top hem at center back to form a 6.0 cm long loop, as per the sealed sample.


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7.6 BOTTOM OPENING

7.6.1 Each trousers leg shall be provided with an opening at the bottom in the continuity of the side seam. Plastic slide fasteners shall be stitched at the opening by two rows of machine stitching, as per the sealed sample. The slide fasteners shall be operable for closure from top to downwards and puller shall not cross the bottom end when extended from the bottom closing end of zipper.

7.7 BOTTOM HEM

7.7.1 The bottom of leg shall be hemmed 4.0 cm wide with raw edges turned in, by single row of stitching, as per the sealed sample.

7.8 ADJUSTABLE TAB AT BOTTOM

7.8.1 Each leg of trousers shall be provided with a adjustable tab of double layer of self fabric measuring 12.0 cm X 3.5 cm stitched 2.0 cm away from the opening edge, by two rows of stitching 7.0 mm apart, workable towards underside and free end of the tab shall be mitered, as per sealed sample.

7.8.2 The free ends of tab shall be stitched with 8.0 cm X 2.5 cm fastener hook tape longitudinally. The corresponding fastener loop tape 25 cm X 2.5 cm stitched 7.0 cm away from the opening edge, as per the sealed sample.

7.9 GENERAL STITCHING

7.9.1 The Trousers Wind Cheater shall be assembled throughout with lock stitch regulated at 35 to 40 stitches per decimeter with even tension. Back tacking of 1.5 cm shall be done at ends of stitching and loose threads shall be trimmed off.

7.9.2 While stitching the Trousers Wind Cheater, the uncoated side of Fabric Nylon 75 GSM White PU Coated should be kept on the face side and coated side of fabric should be kept inside of the made-up garment.

7.10 OVER LOCKING

7.10.1 The raw edges at sides, leg, front and seat seams shall be finished with over lock stitching, as per sealed sample.

8.0 WORKMANSHIP AND FINISH

8.1 The general workmanship and finish shall be of high standard and similar to approved/sealed sample of CQA (T&C) Kanpur. The Trousers Wind Cheater shall be free from stitching defects like uneven stitch, puckering, gathering of threads, cuts & holes, tackiness, sticky or patchy coating, stains and any other spots affecting the aesthetic appearance. Further Trousers Wind Cheater shall be compatible as a

component of a system in respect of fitment and workmanship & finish when worn as over garment.

9.0 ADVANCE SAMPLE

9.1 Manufacturers / Contractors who have not supplied this store during the last three years have to submit advance samples manufactured from specified materials for inspection, testing and trial / clearance by AHSP / concerned SQAE(GS) of that area prior to commencement of bulk production. Number of samples required for material, dimensional check and test / proof shall be two or as laid down in the contract.

10.0 PRE-INSPECTION BY MANUFACTURER

10.1 Manufacturers/Contractors must satisfy themselves first that the store manufactured are in accordance with the contract and fully conform to the specification, by carrying out thorough pre-inspection of each store of the lot/batch before actually tendering the same for inspection to the Quality Assurance Officer nominated under the terms of the contract.

10.2 A declaration by the Contractor that necessary pre-inspection has been carried out on the stores tendered and the same are fit for inspection and tests carried out shall be rendered along with the challan. The declaration shall include the method followed in pre-inspection showing features checked/tested and will have the test certificate attached to the challan/declaration.

10.3 If the Quality Assurance officer finds that pre-inspection of the consignment as required above has not been properly carried out, the consignment is liable for rejection.

11.0 QUALITY ASSURANCE

11.1 On examination of samples taken from any portion of the consignment or during surveillance inspection shall conform to the requirement when tested in accordance with the methods mentioned against each in this specification.

11.2 The store should be of the latest manufacture, conforming to the current production standard and having 100% defined life at the time of delivery.

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12.0 SAMPLING PROCEDURE

12.1 The maximum size of the lot is restricted to 10,000 Pairs only.

12.2 The supplier shall offer the store in packed condition (in bundles of '5'), as stipulated in clause 16, serially numbered and arranged in such a manner that the entire lot is easily accessible to the sampling officer.

12.3 Based on the lot size offered for Quality Assurance, sample units for visual examination and dimensional check at the time of sampling be drawn as per column (2) & Bulk Inspection as per column (4) of the table given below using technique of random sampling as per IS: 4905.

12.4 On having been satisfied with the preliminary examination, samples if required for laboratory test /examination shall be drawn as per column 5 of the table given below:

**TABLE FOR SCALE OF SAMPLING AND PERMISSIBLE NUMBER
BASED ON 4% AQL IS: 2500 (Pt 1) -2000/ ISO: 2859-1999 (Pt-I)**

Lots Size in Nos./ pairs	Sampling Plan for						
	Visual examination/ dimensional check at the time of sampling(L-1)		Sample size for detail check at Bulk QA stage (L-II)	Physical Parameters (for laboratory tests) (S-4)		Chemical Parameters (for laboratory tests) (S-2)	
	Sample Size	Accepta nce No.		Sample Size	Acceptan ce No	Sample Size	Accepta nce No
1	2	3	4	5	6	7	8
Upto 280	13	1	32	13	1	5	0
281 - 500	20	2	50	13	1	5	0
501 - 1200	32	3	80	20	2	5	0
1201 - 3200	50	5	125	32	3	8	1
3201-10000	80	7	200	32	3	8	1

Note:-

- Sampling shall be drawn randomly as per IS: 4905-1968, Reaffirmed 2011, Amend-1.
- Samples for lab testing will be drawn from the samples drawn and mentioned in column (2) only.
- Samples for chemical test (Column No.7) shall be drawn out of physical test samples (Column No.5).
- Total acceptance No. mentioned in the physical parameter (Column-6) is inclusive of Chemical Parameter Acceptance No. (Column-8)

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13.0 CRITERIA FOR CONFORMITY

13.1 The lot shall be considered to be in conformity to the specification if the samples drawn for lab test, static and dynamic QA and on visual examination are found conformed to the requirement of this specification.

14.0 TEST METHOD

14.1 The basic cloth and garniture used shall be pre-inspected and conform to the specification requirements when tested as per method laid down in the relevant specification.

14.2 The test methods quoted in the relevant specification is only to be followed for repeatability and reproducibility of test results.

15.0 MARKING OF STORE

15.1 Each Trousers Wind Cheater shall be provided with a white cloth taffeta Synthetic printed label of Size 7.5 cm x 6.0 cm, stitched at one side only in waist stitching, 5.0 cm away from seat seam towards right side. The label shall be printed with the following details:-

- (i) Manufacturer's name / initials or recognized trade mark.
- (ii) Year of manufacturing
- (iii) Brief nomenclature of store
- (iv) Cat/Part No. & Size of store

15.2 The Acceptance Mark of QA Officer is to be put on each accepted store as per instruction issued from time to time by Controller CQA(T&C), Kanpur preferably on inside layer of false pocket slit where double layer of self-material is used.

16.0 PACKAGING & MARKING

16.1 Packing and Marking shall be as per CQA (T&C) Kanpur Packing & Marking Schedule No. IND/TC/PMS/2008 with Amendment No.3.

17.0 TECHNICAL LITERATURE AND DOCUMENTS

17.1 Refer clause 2.0 of this Specification.

18.0 WARRANTY

18.1 All stores to be supplied should be free from all defects and faults in material workmanship and manufacture. The store should be of the highest grade and consistent with established and generally accepted standards for material of the type used and in full conformity with the specifications, drawings or samples and shall, if operable,

operate properly. The seller shall be bound to furnish a clear written warranty regarding the same. In the event of the ultimate consignee in India not finding the stores in accordance with the order, the seller will be required to replace them free of cost inclusive of all freight and handling charges. Such replacements will be done within 90 days of the claim report raised by the purchaser. The standard conditions will also apply in respect of replaced stores. This warranty shall remain valid for 18 months after delivery or 12 months after their arrival at the ultimate destination in India, whichever is earlier, or as specified in the contract.

19.0 DEFENCE STORE CATALOGUE No.

19.1 The store covered by this specification shall bear the following DS Cat. No.

<u>Store</u>	<u>DS Cat Part NO.</u>
Trousers Wind Cheater	
Size Small	8405-004617
Size Medium	8405-004618
Size Large	8405-004619

20.0 DRAWINGS/SKETCHES:-

20.1 Two drawing sheets attached to this specification.

21.0 SUGGESTIONS FOR IMPROVEMENT

21.1 This specification is a live document and subject to change / updation. Any suggestions for improvement of this document may be sent to: -

CONTROLLER
CONTROLLERATE OF QUALITY ASSURANCE
(TEXTILES AND CLOTHING)
POST BOX No. 294,
KANPUR 208 001
E-mail -cqatc-dgqa@nic.in

DATE: 24 April 2015


CONTROLLER
CQA (T&C)
KANPUR

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APPENDIX-ADIMENSION AND SIZE CHART OF TROUSERS WIND CHEATER

Sl No.	Size	Side Length	Leg Length	Round Measurement at			Length of Elastic Tape at waist	Bottom (round)
				Waist (fully stretched)	Seat	Knee		
1.	Small	110	75	130	136	76	68	56
2.	Medium	115	78	140	146	78	72	58
3.	Large	120	80	150	156	80	76	60
Tolerance(±)		2.0	1.0	2.0	2.0	1.0	1.0	0.5

Note : All dimensions are in cm

GENERAL DIMENSIONS

- | | | |
|--|---|---------|
| i) Length of Zip at bottom | | |
| a) Small | - | 35.0 cm |
| b) Medium | - | 40.0 cm |
| c) Large | - | 45.0 cm |
| ii) Length of pocket slit for all sizes | - | 20.0 cm |
| iii) Width of pocket slit | - | 4.0 cm |
| iv) Length of tab at bottom | - | 12.0 cm |
| v) Width of tab at bottom | - | 3.5 cm |
| vi) Waist hem | - | 3.0 cm |
| vii) Bottom hem | - | 4.0 cm |
| viii) Length of fastener hook tape underneath of tab | - | 8.0 cm |
| ix) Length of fastener loop tape on bottom hem | - | 25.0 cm |
| x) Length of hanging loop | - | 6.0 cm |

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TROUSERS WIND CHEATER

ENLARGE VIEW OF 'X'

FRONT VIEW

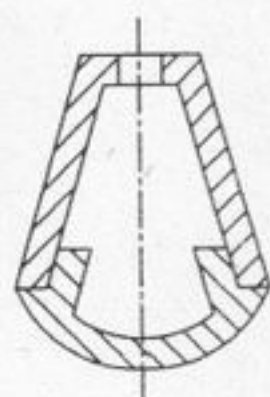
SECTION:-CC (ENLARGE VIEW)

ELASTIC TAPE
SIZE 25 mm WIDE
(WHITE)

SLIT OPENING AT
INSIDE, FRONT

TYING CORD
(WITH DETACHABLE
CAP PLASTIC)

DETACHABLE CAP (ENLARGE VIEW)



WAIST

HANGER

SIZE LABEL

FALSE
POCKET
OPENING

POCKET OPENING
FLAP

7.0 mm

HANGER AT
CENTER BACK

BOTTOM HEM

SYNTHETIC
(PLASTIC) SLIDE
FASTENER

PULLER

SECTION:-BB (ENLARGE VIEW)

FASTENER LOOP
SIZE 25x250 mm

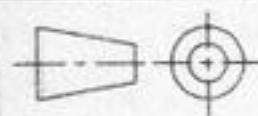
SECTION:-AA (ENLARGE VIEW)

MACHINE STITCHING

WIND CHEATER
CLOTH

SCALE:-

DIMENSIONS ARE IN MILLIMETER



DRN. *Ajay Kumar*
AJAY KUMAR
JTO (D)

CHD. *Ajay Kumar*
AJAY KUMAR
JTO (D)

PSD. *Ajay Kumar*
GO/TC-15

APD. *Ajay Kumar*
DC/TC-15

TC-4/30/2013

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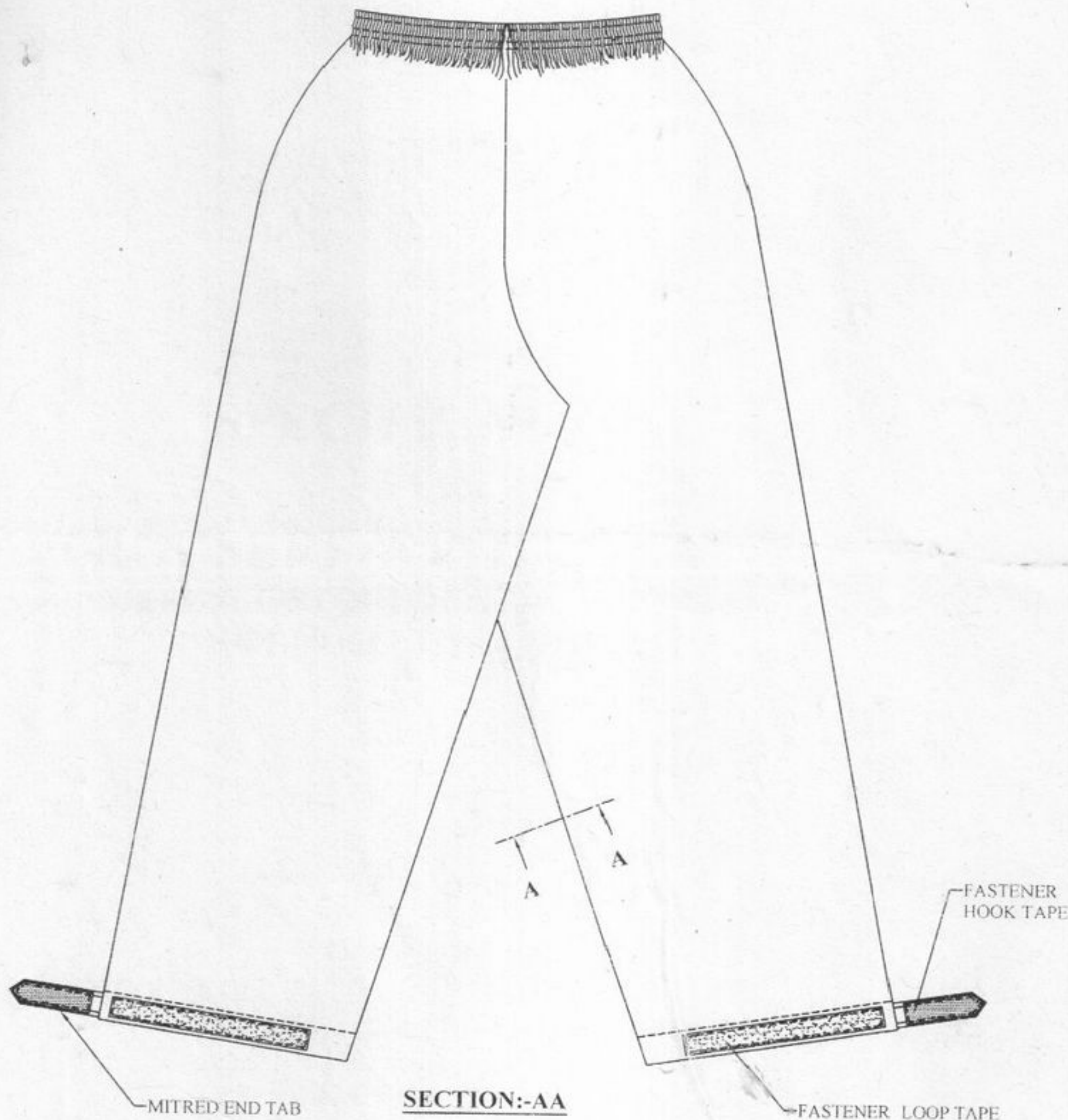
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SPECIFICATION No. IND/TC/4678

TROUSERS WIND CHEATER

BACK VIEW



SECTION:-AA
(ENLARGE VIEW)

SCALE:- --- DIMENSIONS ARE IN MILLIMETER

DRN. AJAY KUMAR JTO (D)	CHD. AJAY KUMAR JTO (D)	PSD. GO/TC-15	APD. DC/TC-15
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