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Specification No. IND/TC/4180 (b)

Supersedes Specification No. IND/TC/4180 (a)

Drawing sheet attached : One

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19.4.16, ref S/32

G/8005/TC-3 pt V



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16-10-18

भारत सरकार

रक्षा मंत्रालय

गुणता आश्वासन महानिदेशालय

GOVERNMENT OF INDIA
MINISTRY OF DEFENCE

DIRECTORATE GENERAL QUALITY ASSURANCE

कैप ग्लेशियर

के लिए विशिष्ट

SPECIFICATION
FOR

CAP GLACIER

डिफेन्स स्टोर्स कैटलोग नंबर:

DEFENCE STORES CATALOGUE NO:

8415-002558 to 8415-002560

द्वारा जारी किया / Issued by

नियंत्रक

गुणता आश्वासन नियंत्रणालय (कपड़ा एवं वस्त्र)

अशोक पथ, कानपुर - 208004

CONTROLLER
CONTROLLERATE OF QUALITY ASSURANCE
TEXTILES AND CLOTHING
ASHOK PATH,
KANPUR - 208 004

वर्ष/Year:

मार्च 2016

मूल्य/Price:

SANDEEP PATHAY
Lt Col
Dy Controller
CQA(T&C), KANPUR

RECORD OF AMENDMENTS

AMENDMENT No.	DATE	DETAILS OF AMENDMENT	AMENDMENT CARRIED OUT BY & DATE
1-	16-10-18	Attached and No 1	

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SANDEEP PATHAK
 Lt Col
 Dy Controller
 COA(T&C), KANPUR

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0.0 **FOREWORD**

0.1 This specification containing fifteen numbers of pages, has been prepared by Controller, Controllerate of Quality Assurance (Textiles and Clothing), DGQA Complex, Ashok Path, Kanpur on behalf of the Director General of Quality Assurance, Ministry of Defence, New Delhi.

0.2 This specification has been revised on the basis of MGO Branch letter No. B/82222/I/PI(Cap)MGO/EM(GS&C) dated 11 Sep 2015 & B/82222/Cap Glacier/MGO/EM (ECC&E) dated 19 Oct 2015.

0.3 This specification supersedes the Specification No. IND/TC/4180(a) and any other important relevant information on the store.

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

0.5 The Quality Assurance Authority for the store covered by this specification is the Controller, Controllerate of Quality Assurance (Textile & Clothing), DGQA Complex, Ashok Path, Kanpur-208004. Enquiries regarding this specification related to technical particulars shall be referred to the QA authority mentioned in the tender or contract.

0.6 Any deviation from this specification will not be resorted to without the explicit written sanction of the QA Authority viz. The Controller, Controllerate of Quality Assurance (Textile & Clothing), DGQA Complex, Ashok Path, Kanpur-208004 or his authorised representative.

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

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

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

1.0 **SCOPE**

1.1 This specification covers the requirements of the Cap Glacier sizes i.e. Small, Medium & Large against defence requirements and provides guidance to contractors/ suppliers, manufacturers, QA agencies and Indenters etc.

1.2 The cap Glacier is intended to be used by army personnel in snow bound areas. It is multilayer Cap, covering head, neck and cheeks of wearer.

2.0 **RELATED SPECIFICATIONS/REFERENCES**

2.1 Reference is made in this specification to:-

Sr No.	SPECIFICATION No.	NOMENCLATURE
i.	IS: 4229-1992, Amd-1, RA-2008	Nylon Sewing Thread for Aerospace purposes
ii.	IS : 8156 - 1994, RA- 2009	Fasteners for consumer goods- synthetic hook and loop tape, specification
iii.	IS:4905-2015/ISO 24153:2009 (First Revision)	Method of Random Sampling & Randomizations Procedures
iv.	IND/TC/0160	Fabric Nylon 220 GSM White Water and Oil Repellent
v.	IND/TC/0161	Fabric Nylon Knitted Aluminised.
vi.	IND/TC/1208	Double Layer Bonded Polyester Fleece (Various Shades) 150cm Width
vii.	IND/TC/4697	Cloth Shirting Angola Drab Polywool 152cm
viii.	IND/TC/PMS/2008, Amendment No.3	Packing & Marking Schedule

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

2.2 Copies of IS specifications can be obtained on payment from Bureau of Indian Standards, 9, Bahadur Shah Jafar Marg, New Delhi or from BIS website Website-<http://www.bis.org.in>.

2.3 Copies of CQA (T&C) & CQA (GS) specifications i.e. IND/TC & CQA(GS) series can be obtained on payment from Controllerate of Quality Assurance (T&C) & Controllerate of Quality Assurance (GS), Ashok Path, Kanpur-208004.

2.5 Copies of JSS specifications may be obtained from The Director, Directorate of Standardisation, Ministry of Defence, Standardisation Documentation Centre, Room No. 13, 'H' Bolck, DHQ PO, New Delhi on payment.

3.0 TERMINOLOGY DEFINITIONS AND SYMBOLS

3.1 For the purpose of this specification, the standard, the definitions and terminology and symbols given in the IS: 14281:2004, RA 2010 and relevant standards should apply.

4.0 STANDARD PATTERN

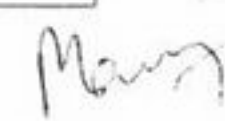
4.1 The standard pattern of Cap Glacier as approved by MGO Branch letter No. B/82222/Cap Glacier/MGO/EM (ECC&E) dated 19 Oct 2015 is held in the custody of Controller CQA(T&C), Kanpur and shall constitute the standard as regards any particulars/properties not noted/defined in this specification.

5.0 MATERIALS & COMPONENTS

5.1 The various components of Cap Glacier shall be manufactured from the materials as per details given below: -

COMPONENTS	MATERIALS	PARTICULARS
(a) Crown	i. Cloth Shirting Angola Drab Polywool 152cm wide.	IND/TC/4697 ✓
	ii. Fabric Nylon Knitted Aluminised.	IND/TC/0161 ✓
	iii. Double Layer Bonded Polyester Fleece White 150 cm Width	IND/TC/1208 ✓
	iv. Thermal Bonded Batting Polyester 100 GSM, 150 cm	As per Appendix 'C' of this specification
	v. Fabric Nylon 220 GSM White Water and Oil Repellent	IND/TC/0160 ✓
(b) Neck Flap	i. Double Layer Bonded Polyester Fleece White 150 cm Width	IND/TC/1208 ✓
	ii. Thermal Bonded Batting Polyester 100 GSM, 150 cm	As per Appendix 'C' of this specification
	iii. Fabric Nylon 220 GSM White Water and Oil Repellent	IND/TC/0160 ✓
(c) Peak	i. Double Layer Bonded Polyester Fleece White 150 cm Width	IND/TC/1208 ✓
	ii. Thermal Bonded Batting Polyester 100 GSM, 150 cm	As per Appendix 'C' of this specification
	iii. Fabric Nylon 220 GSM White Water and Oil Repellent	IND/TC/0160 ✓
(d) Fastener Hook & Loop Tape	Fastener Hook & Loop Tape Synthetic 38 mm White.	IS : 8156-1994, RA- 2009
(e) Sewing Thread	Nylon Sewing Thread for Aerospace purposes, White, Variety L2	IS: 4229 - 1992, Amd-1 RA-2008


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 Dy Controller


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 Dy Controller

6.0 **MANUFACTURE/ PROCESSING**

6.1 The Cap Glacier shall be manufactured to the shape and design as illustrated in the drawing attached to this specification. The Cap shall be manufactured in combination of three parts viz Crown, Neck Flaps and Peak. The Cap shall be manufactured as described in the succeeding Paras.

6.2 **Crown.** Material combination shall be as given below:-

- | | | | |
|-------|-----------------------------|---|--------------------------------------------------------------------------------|
| (i) | First layer
(Inner most) | - | Cloth Shirting Angola Drab Polywool |
| (ii) | Second layer | - | Fabric Nylon Knitted Aluminised
keeping Aluminised surface towards
head. |
| (iii) | Third layer | - | Double Layer Bonded Polyester
Fleece White 150 cm Width |
| (iv) | Fourth layer | - | Thermal Bonded Batting Polyester
100 GSM, 150 cm |
| (v) | Fifth layer | - | Fabric Nylon 220 GSM White Water
and Oil Repellent |

6.3 **Neck Flap.** Material combination shall be as given below:-

- | | | | |
|-------|--------------|---|------------------------------------------------------------|
| (i) | First layer | - | Double Layer Bonded Polyester
Fleece White 150 cm Width |
| (ii) | Second layer | - | Thermal Bonded Batting Polyester
100 GSM, 150 cm |
| (iii) | Third layer | - | Fabric Nylon 220 GSM White Water
and Oil Repellent |

6.4 **Peak.** Material combination shall be as given below:-

- | | | | |
|-------|--------------|---|------------------------------------------------------------|
| (i) | First layer | - | Double Layer Bonded Polyester
Fleece White 150 cm Width |
| (ii) | Second layer | - | Thermal Bonded Batting Polyester
100 GSM, 150 cm |
| (iii) | Third layer | - | Fabric Nylon 220 GSM White Water
and Oil Repellent |

6.5 **Assembly.**

6.5.1 All the four panels of crown neck flap and peak of outermost layer of fabric viz. Nylon fabric shall be joined together with plain seam. Crown panels, neck flap and peak of remaining material, as described above shall be joined together with plain seam. This assembly shall then be joined with outermost layer with plain seam, bagged-out. Two rows of stitching 7mm apart are provided at the junction of crown with neck flap and peak, as per sealed sample.

6.6 **Fasteners Hook & Loop Synthetic Tape:**

6.6.1 Fastener Hook Synthetic Tape of 12.0 cm in length & 38 mm wide shall be sewn at right neck flap on outer surface over Fabric Nylon 220 GSM Water and Oil Repellent at the centre and at a distance of 1.0 cm from the bottom of neck flap. Similarly, Fastener Loop Synthetic Tape of 12.0 cm in length & 38 mm wide shall be sewn at left neck flap on inner surface over Double Layer Bonded Polyester Fleece White at the centre and at a distance of 1.0 cm from the bottom of neck flap, as per sealed sample and drawing plate attached to this specification.

6.7 **General Stitching.**

6.7.1 The Cap shall be assembled through out with lock stitches regulated at 35 to 40 stitches per decimeter with even tension. The ends of the Threads shall be securely fastened off and loose threads shall be trimmed-off.

7.0 **DIMENSIONS AND TOLERANCES**

7.1 The Cap Glacier shall conform to the dimensions and tolerances as given in the Appendix 'A' to this specification. The Cap Glacier shall conform to the shape, design and dimensions as also given in the drawing of the specification.

8.0 **WORKMANSHIP AND FINISH**

8.1 The general workmanship and finish of Cap Glacier shall be of high standard and similar to approved/sealed sample of CQA (T&C) Kanpur. The Cap Glacier shall be free from stitching defects like uneven stitch, puckering, gathering of threads, cuts & holes, stains and any other spots affecting the aesthetic appearance. All components of the Cap Glacier shall also be compatible in fitment, workmanship and finish when worn by user.

9.0 **ADVANCE SAMPLE**

9.1 Advance sample clause is applicable only if it is mentioned in the contract.

9.2 In case of its applicability as per contract, Manufacturers / Contractors 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/tests have been carried out on the stores tendered and the same are fit for inspection and test report shall be rendered along with the challan. The declaration shall include the method followed in pre-inspection showing features checked/tested and the test reports be submitted along with challan.

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 random samples taken from any portion of the consignment or during surveillance inspection shall conform to the requirement when tested in accordance with the method mentioned against each in the specification.

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

11.0 **SAMPLING PROCEDURE**

12.1 The maximum lot size is restricted to 35,000 Nos.

12.2 The supplier shall offer the homogeneous store serially numbered, in bundles of three-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.

12.4 Sampling Officer will select sample unit randomly and select one item from each sample unit i.e., one Cap Glacier per Bundle/Box so as to make desired sample size as given in Col. (2) for visual examination and QAIR will be prepared by him.

12.5 On having been satisfied with the samples drawn for examination during sampling, if required the samples 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 RA 2011/ISO: 2859-1999

Lots Size in Nos.	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	Acceptance No.		Sample Size	Acceptance No	Sample Size	Acceptance 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
10001-35000	125	10	315	50	5	8	1

- Note:**
- (i) The Sampling shall be done randomly as per IS:4905-2015/ISO 24153:2009.
 - (ii) Samples for lab testing will be drawn from the samples drawn and mentioned in Col No. 2 only.
 - (iii) Samples for chemical test (Col. No.7) shall be drawn out of Physical test samples (Col. No.5).
 - (iv) Total Acceptance No. mentioned in Col. No. 6 for physical Parameter is inclusive of Acceptance No. mentioned at Col. No.8 for Chemical Parameter

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 conform 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 Cap Glacier shall be stitched with a white cloth taffeta printed label of size 6.0 cm x 6.0 cm folded in double layer and securely stitched on inner most layer at back centre of the crown & neck flap joining seam. The label shall be legibly printed with the following details in Hindi letters at top side and in English letters at back side:-

- (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 shall be put on each accepted store on inner most layer of crown of the Cap Glacier near the size label and as per instruction issued from time to time by Controller CQA (T&C), Kanpur.

16.0 PACKAGING AND 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/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 STORES CATALOGUE NUMBER

STORE	SIZES	CAT / PART NUMBER
CAP GLACIER	Small Medium Large	8415-002558 8415-002559 8415-002560

20.0 DRAWINGS/SKETCHES

20.1 One drawing sheet of Cap Glacier is attached to this specification.

21.0 SUGGESTION FOR IMPROVEMENT

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

THE CONTROLLER
CONTROLLERATE OF QUALITY ASSURANCE
(TEXTILES AND CLOTHING)
ASHOK PATH
KANPUR - 208 004
e-mail: cqatc-dgqa@ nic.in

दिनांक/DATE: 16 मार्च 2016


नियंत्रक /CONTROLLER

गुणता आश्वासन नियंत्रणालय (कपड़ा एवं वस्त्र)
Controllerate of Quality Assurance (Textile & Clothing)
कानपुर / KANPUR - 208004

DETAILS OF ABBREVIATIONS USED

AHSP	: Authority Holding Sealed Particulars
Amdt	: Amendment
A/T	: Acceptance of Tender
CQA	: Controllerate of Quality Assurance
DGQA	: Director General Quality Assurance
D.S.Cat No.	: Defence Stores Catalogue Number
T&C	: Textiles & Clothing
IND	: Indian
I/Note	: Inspection Note
IS	: Indian Standard
Kg	: Kilogram
cm	: Centimeter
No.	: Number
QA	: Quality Assurance
Qty	: Quantity
Rev	: Revision
SS	: Supplementary Schedule

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SIZE SCALE OF CAP GLACIER

Size	Internal circumference at crown (A)	Length of neck flap edge to edge (B)	Width at centre of neck flap (C)	Height of neck flap at ear point (D)	Width of flap at centre of ear side (E)	Dimensions of peak			Length of a panel at crown base (F)	Height of a panel to crown base (G)
						Length at lower periphery	Length at upper periphery	Height of peak at sides		
1	2	3	4	5	6	7	8	9	10	11
SMALL	60.0	48.0	10.0	28.0	14.0	22.0	21.0	4.0	16.5	16.5
MEDIUM	62.0	50.0	11.0	30.0	15.0	22.0	21.0	4.0	17.0	17.5
LARGE	64.0	52.0	12.0	32.0	16.0	22.0	21.0	4.0	17.5	18.5
Tolerances ±	1.0	0.5	0.5	0.5	0.5	0.5	0.5	-	0.5	0.5

Note: All dimensions are in cms.

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By Controller
CQA(T&C), KANPUR

Appendix 'B'**CAP GLACIER****MATERIAL COMBINATION**

Crown		Neck flap/peak	
1.	First layer (inner most)- Cloth Shirting Angola Drab Polywool 152 cm wide	1.	-
2.	Second layer- Fabric Nylon Knitted Aluminised, Keeping Aluminised surface towards head	2.	-
3.	Third layer- Double Layer Bonded Polyester Fleece White 150 cm Width	3.	First layer (inner most)- Double Layer Bonded Polyester Fleece White 150 cm Width
4.	Fourth layer- Thermal Bonded Batting Polyester 100 GSM, 150 cm	4.	Second layer- Thermal Bonded Batting Polyester 100 GSM, 150 cm
5.	Fifth layer (outer most)- Fabric Nylon 220 GSM White Water and Oil Repellent	5.	Third layer (outer most)- Fabric Nylon 220 GSM White Water and Oil Repellent

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 CQA(T&C), KANPUR

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1.1 In the manufacture of batting polyester the fibre used shall be crimp, staple, virgin hollow polyester fibre of denier 3 to 6. The batting polyester hollow cylindrical siliconised & non siliconised fibre shall be mixed in equal proportion.

2. PROCESSING/ MANUFACTURE :

2.1 During manufacture batting polyester for the bonding of polyester fibre a low melting point polyester fibre shall be used. This low melting point polyester fibre shall be mixed homogeneously with virgin polyester fibre of 3 to 6 denier. The content of low melting point polyester fibre shall not exceed 20% and shall not be less than 5% in the total weight of batting. The low melting point polyester fibre shall be melt at around 1200C and after melting this low melting polyester fibre act as thermal bonding agent. The low melting point polyester and normal polyester shall be blended in such a way that the thermally bonded batting shall meet the performance of the store.

3. REQUIREMENTS AND TOLERANCES:

3.1 The batting polyester shall conform to following particulars and shall withstand the test as described.

S.NO.	PARTICULARS	REQUIREMENTS	METHOD OF TEST
1.	Mass g/m ²	100 + 15 -10	IS : 15891 (Pt-I)
2.	Width in cm	150 + 1 or as agreed	IS:1964
3.	Nature of Material	100% Polyester	IS:667
4.	Count of Fiber (In denier)	3-6	IS:10014 (Pt -2)
5.	Thickness, mm under pressure of 0.5 g/cm ²	5 mm (Minimum)	ISO :9073-2- 1995 (E)
6.	Compressional recovery "%" (Min)	90 %	As per Appendix "D"
7.	Resistance to blocking	The batting shall not stick and the surface shall open out clearly	As per Appendix "E"

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Appendix 'D'**DETERMINATION OF COMPRESSIONAL RECOVERY**

Initially the thickness of the thermally bonded batting polyester is determined under 0.5 gm/cm² pressure on a 9 cm x 9 cm specimen. The specimen is then subjected to a compressional force of 700 gms/cm² pressure for 60 seconds after which it is allowed to relax for 300 seconds. The thickness of the test specimen is again measured under 0.5 gms/cm² of pressure. The percentage recovery is calculated as under:-

Thickness of the specimen
after compression

Percentage Compressional Recovery = ----- x 100

Thickness of the specimen
Before compression

Appendix 'E'**DETERMINATION OF RESISTANCE TO BLOCKING**

The specimen 20 cm x 20 cm in size folded double face, then back to back making 10 cm x 10 cm square is placed in between two glass plates (Approx 11 cm x 11 cm) and a two Kg weight is placed on the top. The specimen then exposed for 30 minutes at a temperature of 82 + 20C. At the end of exposed period the test assembly is removed from between the glass plates and allowed to cool for five minutes. The sample is then slowly unfolded and carefully examined for evidence of adherence or peeling. The batting shall not stick and surface shall open out clearly.

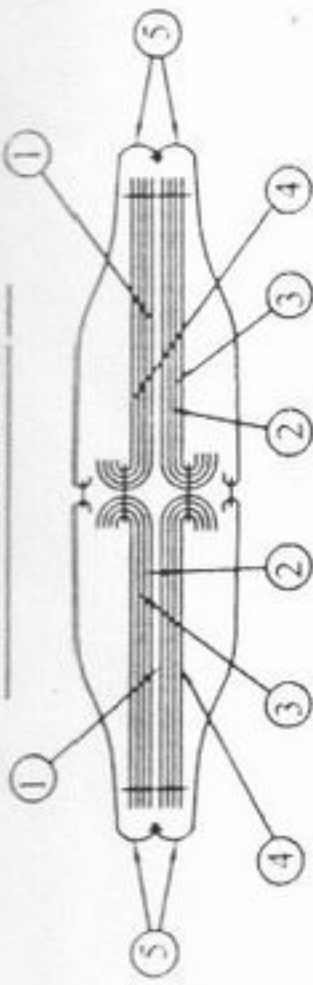
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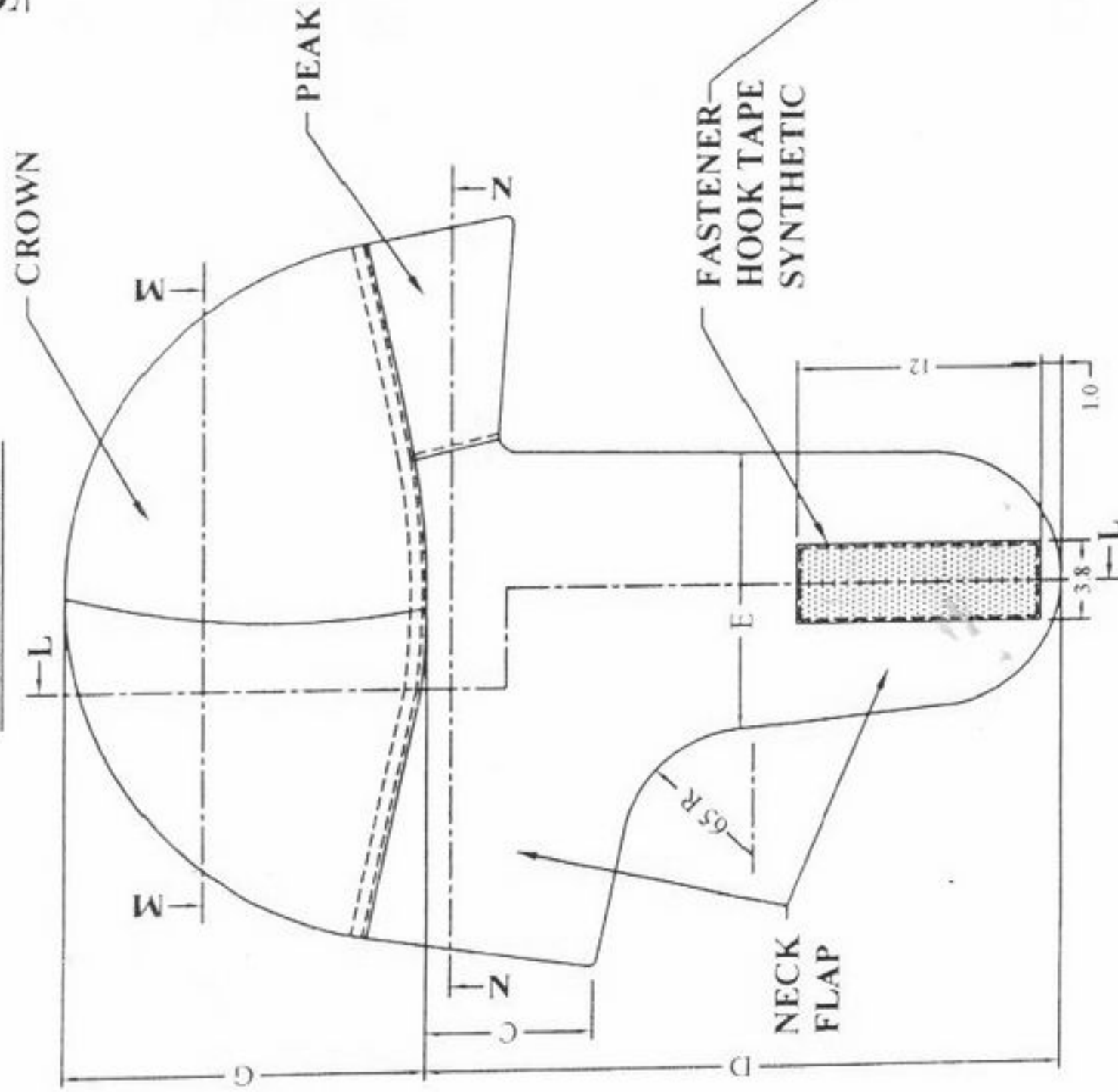
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PLATE ATTACHED TO SPECN. NO. IND/TC/4180 (b)

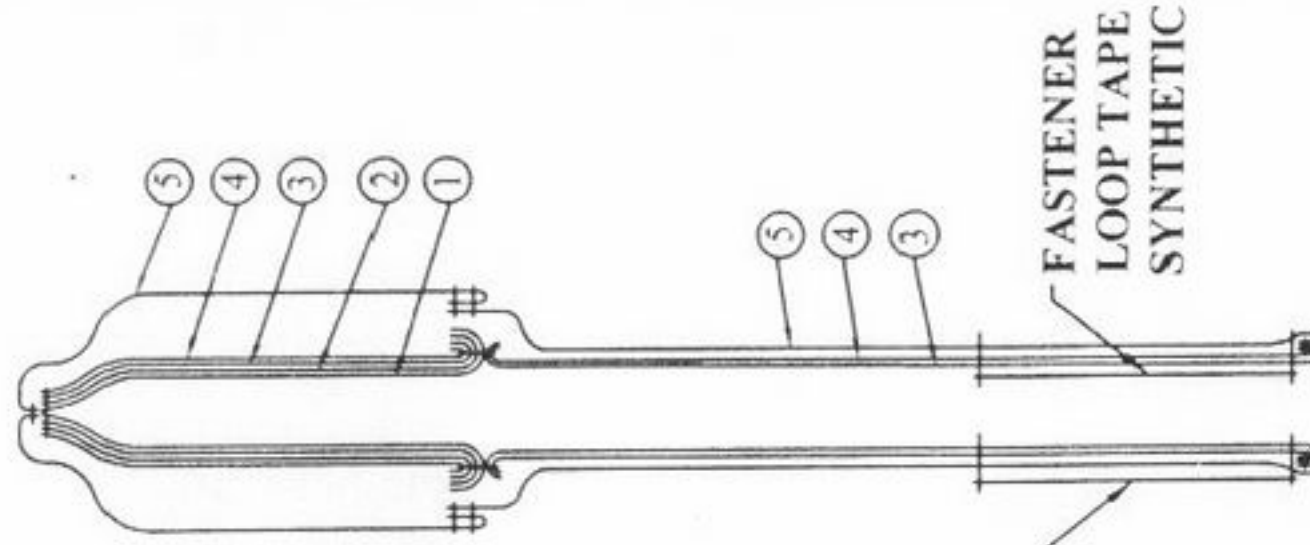
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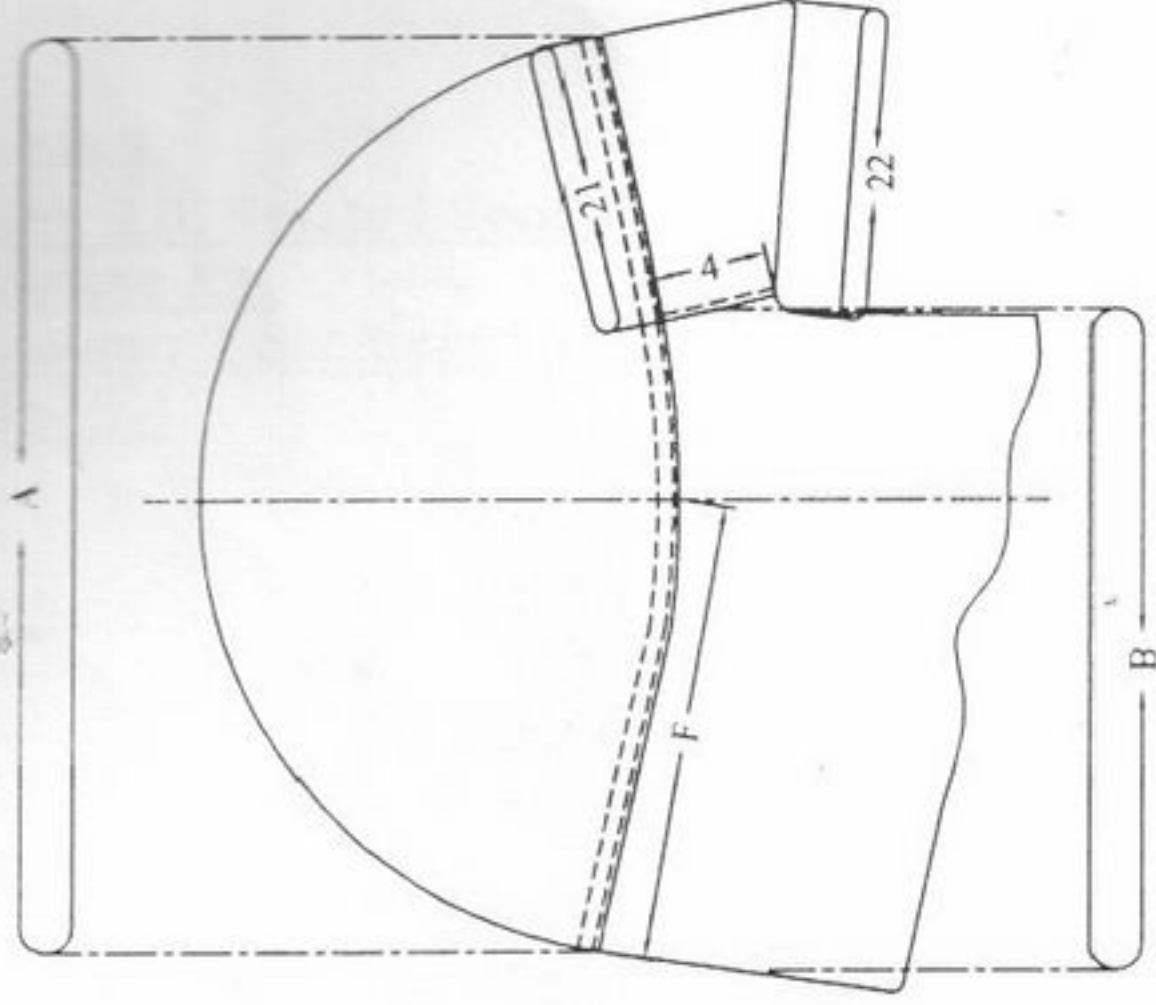
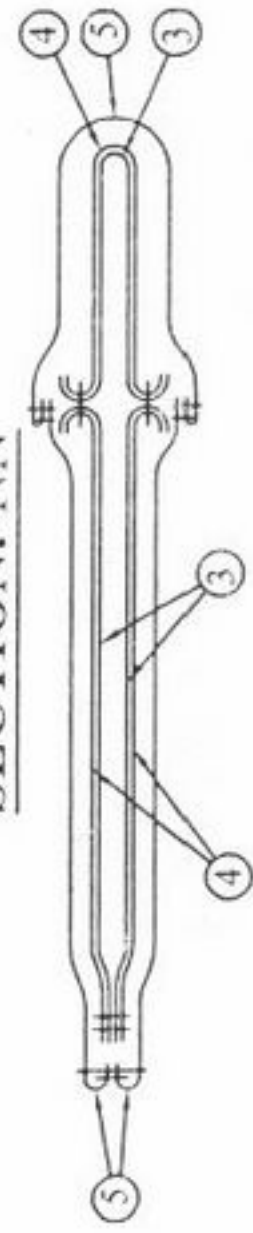
FRONT VIEW



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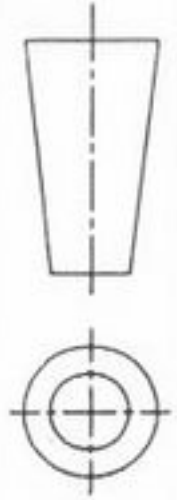


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DGN.	DATE	NAME
AJAY KUMAR		AJAY KUMAR
JTO (D)		AJAY KUMAR
CHD		
TRD		
COMP.		
PASSED BY: <i>[Signature]</i>		SCALE: ---
APPROVED BY: <i>[Signature]</i>		

CAP GLACIER



CONTROL: ERATE OF QUALITY ASSURANCE (TEXTILE & CLOTHING), MINISTRY OF DEFENCE (DGOA) KANPUR

ALL DIMENSIONS IN CENTIMETER

PLATE ATTACHED TO SPECN. NO.

AMENDMENT NO.1 TO SPECIFICATION NO. IND/TC/4180 (b) FOR ITEM
CAP GLACIER

1. At Page No.2
Clause No. 2.0. Related Specifications/References
Under Clause 2.1.
Under column 'Specification No.'
At Srl. No. (iv)

For - IND/TC/0160

Read - IND/TC/0160 except test parameters; Water Vapour
Transmission & Air Permeability not to be tested.

2. At Page No. 3,
Clause No.5.0 'Materials & Components'
Under Clause 5.1
Under Column Particulars
At Srl. (a) (v), (b) (iii), (c) (iii)

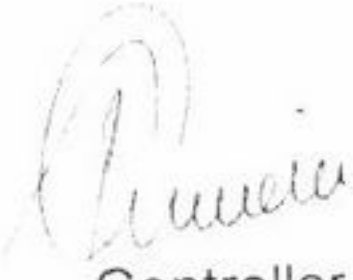
For - IND/TC/0160

Read - IND/TC/0160 except test parameters; Water Vapour
Transmission & Air Permeability not to be tested.

3. All other contents shall remain unchanged.

4. This Amendment No.1 shall be kept with the Specification No. IND/TC/4180 (b).

Dated: Oct 2018


Controller
CQA (T&C)
Kanpur