



PAKISTAN NAVY SPECIFICATION No.20/ 2021
PROMULGATION DATE: FEB 22

KHAKI UNIFORM (PNP, FIRE BRIGADE, BOAT POOL PERSONNEL)

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PROMULGATION ORDER

1. This specification is hereby approved and promulgated for information, guidance and compliance by the relevant person.
2. The details contained in the specification are to be studied, interpreted and implemented with due regards to the interest of the Service.

SUGGESTIONS FOR AMENDMENT

1. The specification has been prepared to bring the test methods and procedures in line with up-to-date PN requirements and facilities held in Pakistan. CINS may request to amend any test requirement/ test procedure in light of the experience emanating from its inspection history, through the feedback form placed at Annex H. However, such an alteration will be effective when the amendment is promulgated by this Directorate, and will be effective on the contracts which materialize after the promulgation date of respective amendment.

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PN SPECIFICATION 20/ 2021 (KHAKI UNIFORM)

0101. **DESIGNATION**

1. Stitched Khaki Uniform (For PNP, Fire Brigade & Boat Pool Personnel).

0102. **USAGE**

1. Stitched Khaki Uniform will be used by PNP, Fire Brigade & Boat Pool Personnel.

0103. **INTRODUCTION**

1. This specification is promulgated by Directorate of Indigenous Technical Development, Naval Headquarters Karachi to provide necessary guidance to the potential manufacturers/ suppliers of the items mentioned herein. This specification is to be used for testing and deciding upon acceptance, or otherwise, of the items mentioned. Any alteration/ addition in this specification can be suggested to ITD Wing. However, it cannot be implemented/ amended without prior approval from NHQ (NS Dte). This specification supersedes/ replace PN/UNIFORM/07/2000, and PN/FB UNIFORM/07A & 07B/2019 & PN Police Uniform Specifications TD/L & T/32 A & B /2004 Dated 12 Aug 2004, respectively and all other specifications / Technical details promulgated earlier in relation to the items mentioned herein.

2. This specification includes **08** Annexes and consists **27** pages, including the cover.

0104. **SCOPE**

1. This specification covers the requirements of stitching of Khaki uniform from approved Khaki Cloth and Manufacturing, Inspection, Stowage & Packaging details of stitched khaki uniform of PNP, Fire Brigade & Boat Pool Personnel. This specification lays down the standards to which the store shown under designation above should conform to. It defines and lays down the quality, standards and details of materials, manufacturing, workmanship and finish. It also lays down the details of testing, inspection (acceptance & rejection), marking, packing and delivery, etc. of stitched Khaki uniform.

2. The supplier/ manufacturer shall comply in every respect with the terms of this specification and ensure that the stores conform to it, in all respects.

0105. **RELATED DOCUMENTS**

1. The latest standards and documents that have been referred and relevant to in this specification are:

a.	Khaki Fabric	PN Specifications 11/2021 Dated 31 Aug 21 (Khaki Cloth for Dress Khaki)
b.	AATCC 20 A	Analysis of fiber
c.	AATCC 133	Color fastness to hot pressing
d.	ASTM D 2061	Strength of zippers
e.	ASTM D 2062	Operability of Zippers
f.	ASTM D 5171	Plastic sew through Flange impact resistance
g.	ASTM D 2060	Zippers dimensions
h.	ASTM D 2057	Durability of finished zippers to laundering

j.	ASTM D 6322	Test Method associated with Textile Care Procedures
k.	ASTM D-3990	Standard terminology related to fabric defects.
l.	ASTM D 5430	Method for Visually inspecting and grading of fabric
m.	ASTM D 4846	Operability (open /close) of Hook and Eye.
n.	ASTM D 1683	Failure in Sewn Seams of Woven fabrics.
p.	BS 3320	Seam Slippage
q.	BS EN ISO 6330	Domestic Washing and Drying procedure
r.	BS EN ISO 25077	Dimensional Change in washing and drying
s.	ISO 2859-1	Sampling Procedure for Inspection by attributes
t.	ISO 3801	Weight per Sq. mtr
u.	ISO 7768	Smooth Appearance
v.	ISO 7211/2	Threads per inch
w.	ISO 7770	Appearance of seam
x.	ISO 11469	Generic identification of plastic

0106. **TERMS & DEFINITIONS**

1. Definitions for the terms used in this standard are given at Annex A.

0107. **TECHNICAL DETAILS OF STITCHED KHAKI UNIFORM**

1. The technical details of stitched Khaki uniform are enclosed at Annex B.

0108. **SCHEDULE OF MEASUREMENT**

1. All measurement schedule of stitched Khaki uniform are given at Annex C.

0109. **TECHNICAL DRAWINGS**

1. Technical drawing of stitched Khaki uniform is given at Annex D and E.

0110. **MANUFACTURING GUIDE LINES OF STITCHED KHAKI UNIFORM**

1. Khaki Uniform is to be developed with Khaki Cloth manufactured i.a.w PN Specifications 11/2021 Dated 31 Aug 21 (Khaki Cloth for Dress Khaki).
2. Khaki Uniforms is to be manufactured as per measurement schedule and drawing at Annex C, D and E, respectively.
3. The shoulder and pocket flaps shall be made of same fabric (Khaki fabric of uniform) with fused buckram in it.
4. The shoulder flaps shall be attached/ stitched at crown of sleeve such that center of the flaps shall be secured with buttons on the other end near neck.
5. Shoulder straps button shall be stitched 01 inches distance from the collar tack.
6. Size of shoulder strap may vary according to the size of the dress.

7. Buttonholes are to have at least 22 stitches per 2 cm and to be bar-tacked or taper barred.
8. All uniforms are to be made to a high standards and sound tailoring production techniques are to be applied in their construction.
9. Stitches per inch for sewing and over locking thread is 7/8 stitches.
10. All joints at trouser and shirts have single needle stitching with overlock.
11. The sewing thread should match with the main fabric.
12. Unsaturated Polyester Buttons used should be Mat finished, 4 holes, 12.5 mm (outer dia) with 2.5 mm thickness for shirts, and 15 mm (outer dia) with 4 mm thickness for trousers, and should be Khaki in color (match with base fabric).
13. 08 buttons shall be used at distance of 3.25 -3.75 inches w.r.t sizes in shirts. Distance between first two buttons is 3.25 inches
14. The button is to be fastened with same matching color thread with cross sewing neatly.
15. Reinforcement stitching (less No of stitch per inch) will be applied at collar end, button placket, flaps and cuff.
16. On trouser side pockets end, back pockets and waist loops are to be reinforced with suitable mean of stitching (less No. of stitch per inch).
17. Good quality of buckram/ fusing shall be used in collar, pocket flaps and also in cuff.
18. All joints of shirts and trousers will be secured through single needle stitching and over locked.
19. The collar is to be free from distortion.
20. Two spare buttons each for shirt and trouser be provided/ stitched on the garment at suitable place.
21. Zippers is made of polymeric coil chain of YKK or equal brand.
22. Care label instruction shall be attached with shirts and trousers.
23. Strict compliance of Quality Control and Quality Assurance parameters will be implemented through Internal/ External audit teams, before commencement of PN Inspection.

0111. **QUALITY OF WORKMANSHIP AND FINISH**

1. Workmanship and finish of the uniform shall be equal to the reference/ approved sample/ sealed pattern. It shall be the best of its class and to entire satisfaction of the INS.

2. The stitched Khaki uniform shall confirm the parameters define at Annex B of this specification.

3. All properties and qualities which may not be defined in this specification i.e. feel/ finish etc. should be as per reference/ sealed/ approved sample. Reference/ sealed/ approved sample is to be obtained from DNS/ PNCSD and held with DNS/ PNCSD/ CINS, for future reference/ inspection/ stock sample etc.

0112. **TESTING:**

1. The material shall be subjected to tests laid down at Annex B of this specification and related documents. Accessories used for manufacturing of stitched Khaki uniform will be required to complete all the tests mentioned at Annex B of this specification. The material may also be subjected to such tests which are deemed necessary by the Inspection Authority in order to determine their suitability. Inspecting authority reserves the right to get any B/R samples tested from any reputable Laboratory other than PN. However, any test considered important by Inspecting Authority other than Annex B. e.g. seam strength, zipper strength, buttons strength, etc. or the test laid down in Annex B may also be conducted in order to check its suitability/ quality. Firm is liable to pay all the testing charges.

0113. **BATCH/ LOT SIZE AND NO OF SAMPLE**

1. Samples of stitched Khaki uniform drawn from bulk quantity/ offered store are as per instruction of Inspecting Officer or according to Annex G.

0114. **ADVANCE / PRE-PRODUCTION /TENDER SAMPLES**

1. Advance sample or pre-production sample, when required, shall be submitted in accordance with terms of the contract for inspection and testing as per Annex B and approved by CINS.

2. Whenever Tender, Advance or pre-production sample is not required, the suppliers/ manufacturer are advised in their own interest to submit to the Inspecting Officer or his representative an initial delivery of 01 % of the contract.

3. For each contract following material shall be supplied by the manufacturer at the time of advance samples/ preproduction / tendering:

a.	Finished Uniform	05x Nos
b.	Zipppers	10x Nos
c.	Stitching Thread and over locking	50x Grams/ 01 reel
d.	Care Label/ Washing Instruction	10x Pieces
e.	Buttons	10x pieces
f.	Hook & Retainers	10 x samples each
g.	Buckram/ fusing	05 x meters

4. The approval of the sample, authorizes the commencement of bulk production but does not relieve the suppliers/ manufacturers from compliance with all the provisions of this specification.

5. One approved sample after rectification of all observations highlighted by Inspecting Officer/ end user shall be properly sealed by INS and returned to the firm for guidance; rest of the approved sample shall be retained by INS for future use in bulk inspection.(If deemed necessary).

6. The Pre-production sample shall be manufactured by the manufacturer with the same facilities which will be used for manufacturing of the bulk items.

7. Firm shall provide advance sample along with quality verification reports from an accredited laboratory, whenever asked/ required by Inspecting authority to ensure compliance of quality assurance parameters during production/ final internal inspection.

0115. **INSPECTION**

1. **Bulk representative sample.** B/R random sampling will be carried out as per rules in vogue.

2. **Bulk Inspection.** Bulk inspection will be carried out after satisfactory completion of Visual Examination and Testing of B/R Sample.

3. **Inspection of Stitched Khaki Uniform.** 100% of the offered store shall be inspected as per procedure in vogue **OR** predefine Stage inspection **OR** as per Annex G (AQL).

4. **Inspection/ Acceptance and Rejection of Stores.** Inspection/ acceptance is to be carried out to the entire satisfaction of Chief Inspector of Naval Stores and also as per instruction/ procedure laid down in Official unit order instruction.

5. Common defects in garments is enclosed as Annex F for consultation/ guideline. However these guide lines may be considered by Inspecting officer in addition to Unit Instruction Order or as per order of Inspecting Authority.

6. The Stitched Khaki uniform shall be examined for the correctness of material, shape, design, dimension, size, workmanship and finish.

7. CINS reserves the right to reject the whole supply in case, upon examination, material or packing of any sample or portion of the consignment is found NOT CONFORMING the parameters laid down in this specification or the quality of product does not seems up to the mark.

8. If on examination of 5% of any delivery, 20% of those examined from bulk supply are found NOT CONFORMING to this specification in respect of the pattern, dimensions, workmanship and finish, the whole consignment may be rejected without any compromise.

9. All stores and packing NOT fully in accordance with this specification shall be rejected.

10. **Responsibility for Compliance.** The inspection set forth in this specification shall become a part of the supplier's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the

responsibility of ensuring that all products or supplies submitted to PN for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements. However, this does not authorize submission of known defective material, either indicated or actual, nor does it commit PN to acceptance of defective stores (material).

11. **Responsibility of Contractor.** The contractor is responsible for the performance of all inspection requirements (inspection/ examination and test) as specified here in. except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for performance of the inspection requirements

12. **Replacement by the Contractor.** The supplier/ manufacture is responsible for replacement of the consignment or any part there of whenever it is found to be not conforming to this specification or does not curtain its quality till the useful life of an item. The supplies so tendered in replacement, shall be subjected to testing/ Inspection and acceptance by the Inspecting Officer.

13. **Responsibility for Safety.** The supplier/ manufacture is wholly responsible for the safety of supplies during inspection, storage at firm's premises, proper packing, dispatch and delivery up to consignee.

14. The CINS is the authority in all matters pertaining to Inspection.

15. **Stamping of Accepted/ Rejected Stores by the Inspector.** Following instructions are to be followed:

a **Stamping of Accepted Stores.** Each acceptable uniform shall be stamped with Inspector's Individual Acceptance mark or as per Instructing of Inspecting Authority. The stamping shall be legible.

b **Stamping of Rejected Stores.** The rejected uniform shall be marked with Inspector's Rejection marked at the back/ visible place of uniform to avoid re-submission by the supplier.

0116. **SPECIAL INSTRUCTIONS**

1. **Care Instructions.** Care instructions in English and Urdu shall be attached with each Uniform as indicated in the drawing and have minimum requirement as follows:

- a. Ironing Procedure.
- b. Washing/ Dry cleaning procedures.
- c. Any Prohibition i.e. do not use bleach/ chlorinated water.

0117. **PACKING DETAILS**

1. The store when ordered to be delivered 'PACKED' shall be packed as per following instructions:

- a. Each Stitched Khaki uniform shall be properly folded length wise.

- b. The Stitched Khaki uniform shall be packed in a neat, dry and clean condition in polyethylene bag of thickness of 0.06mm (± 0.01 mm) and suitable size.
- c. 10 trouser and shirts shall be further packed, separately in a thick Carton Boxboard/ Corrugated Carton / Flouting.
- d. Each Carton shall be securely and properly packed.
- e. Carton consist of following parameters:
 - (1) Carton of 05 ply is used for packing.
 - (2) Weight of outer ply is 180 ± 5 gm.
 - (3) Inner paper ply weight /m² 180 ± 5 gm.
 - (4) Corrugated paper weight/m² 120 ± 5 gm.
 - (5) Paper pasted with corrugated sheet 120 ± 5 gm.
- f. Each Carton shall consist of same size.

0118. **IDENTIFICATION LABEL**

- 1. Each Stitched Khaki uniform shall bear following minimum information attached with Stitched uniform:
 - a. Item name/ item description with NSN/Pattern No.
 - b. Material Composition.
 - c. Contract number and Date.
 - d. Year of manufacture.
 - e. Contractor's name, initials, or trade mark.
 - f. Batch No/ Bar code
 - g. Identification of face at suitable places
 - h. Size sticker

0119. **PACKING LIST**

- 1. Firm is bound to provide a packing list of store offered for inspection along with the challan and each packed box giving full, which include complete details about the store i.e. Pattern No., Description of Store, size, quantity, Contract No, & date, challan No & date, I/Note No. or Voucher No. with date, Consignee, Firm's Name, Date of packing, Packer's Signature and Stowage/ Stacking Instruction.

0120. **MARKING OF STORES**

- 1. In addition to any special marking required by contract or order, the marking of packages shall be stenciled with quick drying Black ink/ Paint in accordance with Specification No. NS/MISC/002/80 with clearly defined characters as described below:
 - a. On Front and Top:
 - (1) Consignee Address.
 - (2) Contract No and date.
 - (3) Description of Stores Packed and NSN/Patt no.
 - (4) Stowage / Stacking Instruction.
 - (5) Quantity of the Item/ Stitched Khaki uniform packed.

(6) Weight of the Carton

b. On Back:

- (1) Manufacturers name / Firm's name.
- (2) Voucher No. or Inspection Note No. and date.
- (3) The No. of individual Package and the total No of Packages in the consignment joined by the word 'of 'e.g. 2 of 300.
- (4) Weight of the package.
- (5) Month and year of packing.

0121. **DELIVERY**

1. The consignment of store will be delivered in accordance with the terms of contract.
2. The store shall be delivered in brand new, clean and dry condition.
3. The contractor / manufacturer is fully responsible for the safety of the supplies during inspection, storage at firms and consignee premises proper packing, dispatch and delivery up to consignee.

Annexes:

MUHAMMAD AFSAR
 Captain Pakistan Navy
 DID

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ANNEX A TO
PN SPECIFICATION NO 20/2021
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TERMS & DEFINITIONS

1. **CINS:** Chief Inspector of Naval Stores
2. **PNCTA:** Pakistan Navy Central Testing Authority
3. **PNCSD:** Pakistan Navy Clothing Store Depot
4. **DNS:** Directorate of Naval Store.
5. **INSPECTOR:** The term inspector shall include the “Inspection Authority”, inspecting officer and their representatives, duly authorized for the purpose of discharging inspection duties involved.
6. **INSPECTION AUTHORITY:** Chief Inspector of Naval Stores (CINS). His verdict in respect of Sealed Inspection matters is to be taken as final.
7. **INSPECTING OFFICER:** An officer nominated by the CINS for carrying out inspection of stores supplied by the supplier, against a specified contract or order, in accordance with the particulars stipulated therein.
8. **SEAT SEAM:** Width of trouser, 20 cm below the waist.

ANNEX B TO
PNSPECIFICATION NO 20/2021
PROMULGATION DATE FEB 22

TECHNICAL DETAIL OF STITCHED KHAKI UNIFORM

S. No	Item	Standards	Requirement
1.	<u>Khaki Fabric</u>	PN Specifications 11/2021 Dated 31 Aug 21 (Khaki Cloth for Dress Khaki)	
2.	<u>Khaki Uniform</u> (Appearance after 05/10 cycles at 60/40 °C of laundering)	BS EN ISO 6330	
	a. Color	Visual Analysis	TCX: 16-0726 GS 4 or better
	b. Wrinkles/ smooth appearance	ISO 7770	SA 4 or better
	c. Seam	Visual Analysis	No pucker
	d. Buckram/ fussing		No detachment of bond, bubbles and cracking observed
	e. Buttons		No detachment and discoloration observed
	f. Zippers		No discoloration, distortion, corrosion observed and no removal of any protecting coating observed
	g. Hook/ retainers		No corrosion observed
	h. Seam Strength	ASTM D 1683	240-260 lbs.
3.	<u>Sewing Thread</u> (For stitching/ Over locking)		
	a. Material	AATCC 20 A	100 % Polyester
	b. No of stitches per inch(SPI)	Visual/ Manual	7/8
	c. Shade		TCX: 16-0726/ Match with base fabric
	d. Construction		Spun Thread
4.	<u>Zippers (YKK or Equivalent)</u>		
	a. Tape Material	AATCC 20 A	Polyester
	b. Color	Visual	TCX: 16-0726/ Match with base fabric
	c. Elements/ coil zippers	ISO 11469	Polymeric material
	d. Zipper parts (1) Top stop (2) Open parts (3) Zipper slider	Chemical analysis	Brass Aluminum Zinc Alloy
	e. Operating force (N)	ASTM D 2061 & 2062	3.9 N
	f. Cross wise (N)		350N

	g.	Top Stop Strength		60N
	h.	Bottom stop strength		50N
	j.	Slider Lock Strength		15 N
	k.	Slider Mouth and pull holding strength		80N
	l.	Puncture (N)		200N
	m.	Durability		500 cycles
5.	<u>Retainer Hook</u>			
	a.	Material	Chemical analysis	Stainless steel
	b.	Resistance to corrosion	ISO 16151	No corrosion / removal of coating
6.	<u>Buckram/ Fusing</u>			
	a.	Material	AATCC 20 A	Cotton
	b.	Wt./ Sq. mtr	ISO 3801	162 g/m ² ± 5
	c.	Threads / 2.5cm	ISO 7211/2	66 ± 3 53 ± 3
	(1)	Warp		
(2)	Weft			
7.	<u>Buttons</u>			
	a.	Material	ISO 11469	Unsaturated polyester resin
	b.	Color	Visual Analysis	Match with base fabric
	c.	Impact test (67mm)	ASTM D 5171	No cracks, chips or breakage
	d.	Size (Outer dia)	Visual/ Manual analysis	12.5 mm 15 mm
	(1)	For shirt		
	(2)	For trouser		
	e.	Thickness	Visual/ Manual analysis	2.5 mm 4 mm
(1)	For Shirt			
(2)	For trousers			

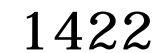
MEASUREMENT SCHEDULE

1. KHAKI UNIFORM (SHIRT) IN INCHES (CPO's AND SAILORS)														
S. No	Description	32	34	36	38	40	42	44	46	48	50	52	54	TOL
	Sizes	1	2	3	4	5	6	7	8	9	10	11	12	
a.	Length from center back.	30	30	30	30	32	32	32	34	34	34	34	34	1
b.	Chest .full	38	40	42	44	46	48	50	52	54	56	58	60	1
c.	Waist.	37	39	41	43	45	47	49	51	53	55	57	59	1
d.	Bottom.	38	40	42	44	46	48	50	52	54	56	58	60	1
e.	Shoulder.	16.5	17	18	18.5	19	19.5	20	21	21	21	21.5	21.5	0.5
f.	Sleeve Length.	24	24	24	25	25	25	26	26	26	26	26	26	0.5
g.	Sleeve opening.	N/A												
h.	Arm hole.	8	2.5	8.5	8.75	9	9.25	9.5	9.75	10	10.25	10.5	10.75	0.25
j.	Cuff height.	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.15
k.	Front flap width.	4.375	4.375	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	0.15
l.	Front flap height.	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	0.25
m.	Front pocket length including flap.	5.25	5.25	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	0.15
n.	Front pocket width	4.35	4.35	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	0.15
p.	Front pocket placement from shoulder seam	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.25
q.	Front pocket hem.	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.15
r.	Collar.	14.5	15	15.5	16	16	16.5	16.5	17	17.5	17.5	18	18.5	0.25
s.	Collar height from center back.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.15
t.	Collar corner width	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
u.	Shoulder loop width	2	2	2	2	2	2	2	2	2	2	2	2	0.15
v.	Shoulder loop length	5.75	6	6.25	6.5	6.5	6.5	6.5	6.5	6.5	7	7	7	0.25
w.	cuff width/ length	9	9.5	9.5	10	10	10.5	10.5	10.5	11	11	11	11	0.25
x.	Front Button Distance	3.25	3.25	3.25	3.25	3.5	3.5	3.5	3.75	3.75	3.75	3.75	3.75	0.5
y.	First Button Distance	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	0.5

2. TROUSER KHAKI UNIFORM IN INCHES (CPO's AND SAILORS)

		XXS	XSL	SL	ML	LL	XLF	XLL	XXL	XXL1	XXL2	XXL3	XXL4	TOL
S. No	Description	28	30	32	34	36	38	40	42	44	46	48	50	
	Sizes	1	2	3	4	5	6	7	8	9	10	11	12	
a.	Waist.(full)	28	30	32	34	36	38	40	42	44	46	48	50	1
b.	Hip (8in from belt) (full)	35	37	39	41	43	45	47	49	51	53	55	57	1
c.	Thigh	24	25	26	27	28	29	30	31	32	33	34	35	1
d.	Knee on 13" from crouch.(full)	18	18	18.5	18.5	19	19	20	20	20.5	20.5	21	21	0.5
e.	Bottom (full)	16	16	16.5	16.5	17	17	17.5	17.5	18	18	18.5	18.5	0.5
f.	Inseam	35.5	35.5	35	35	34.5	34.5	34.5	34.5	34	34	34	33.5	1
g.	Front rise including belt	11	11.25	11.5	11.75	12	12.25	12.5	12.75	13	13.25	13.5	13.5	0.5
h.	Back rise	16	16.25	16.5	16.75	17	17.25	17.5	17.75	18	18.25	18.5	18.5	0.5
j.	Side pocket opening	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	0.25
k.	Side pocket outer length	11	11	11	11	11	11	11	11	11	11	11	11	0.5
l.	Side pocket depth(inner)	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	0.25
m.	Side pocket width (inner)	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	0.25
n.	Back pocket width	5	5	5	5	5	5	5	5	5	5	5	5	0.25
p.	Back pocket depth (inner)	6	6	6	6	6	6	6	6	6	6	6	6	0.25
q.	Waist belt	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	0.25
r.	Belt loop length	2	2	2	2	2	2	2	2	2	2	2	2	0.25
s.	Belt loop width	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25
t.	Placement of loop at belt	02 at side seam and 01 at center back												
u.	Fly width	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.25
v.	Fly length full	6.5	7	7	7	7	7.5	7.5	7.5	8	8	8	8	0.25
w.	Zip	6	6.5	6.5	6.5	6.5	7	7	7	7.5	7.5	7.5	7.5	0.25
x.	Length	46												0.5

ANNEX D TO
PN SPECIFICATION NO 20/2021
PROMULGATION DATE: FEB 2022



DITD KARACHI

SHIRT FOR DRESS KHAKI

(MAIN BODY)

DIMENSION:	INCHES
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SCALE:	NTS
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FINALIZED BY

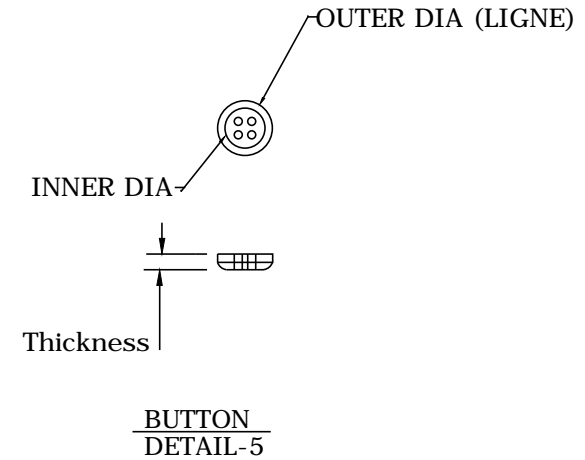
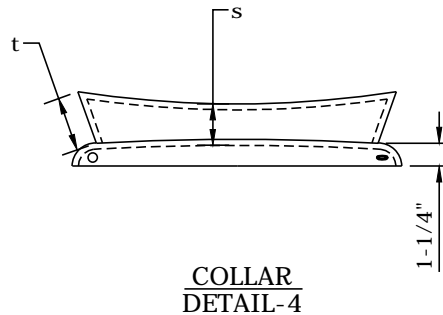
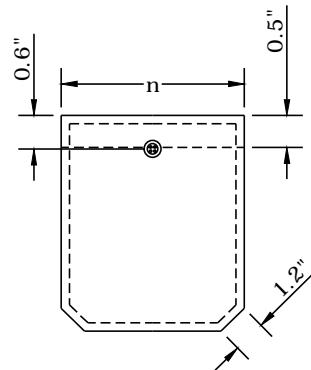
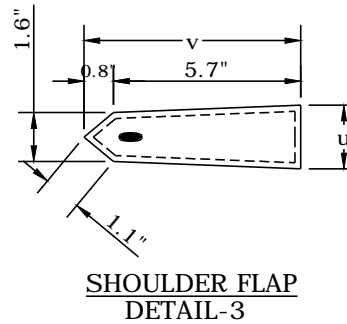
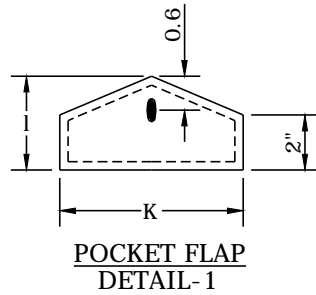
xx SD xx

CAPTAIN
MUHAMMAD AFSAR
DID

y	FIRST BUTTON DISTANCE
x	FRONT BUTTON DISTANCE

TECHNICAL DRAWING SHIRT(SMALL PARTS)

APPENDIX I TO ANNEX D TO
PN SPECIFICATION NO 20/2021
PROMULGATION DATE: FEB 2022



1423

DITD KARACHI		
TITLE: - SHIRT FOR DRESS KHAKI (SMALL PARTS)		
DWG NO: TD-2615/2021	DIMENSION: INCHES	
DATE: 10-12-2021	SCALE: NTS	
DRAWN BY xx SD xx	CHECKED BY xx SD xx	FINALIZED BY xx SD xx
HDM M.ASGHAR I/c DWG	LT CDR SANA KANWAL SO TEXTILE	CAPTAIN MUHAMMAD AFSAR DID

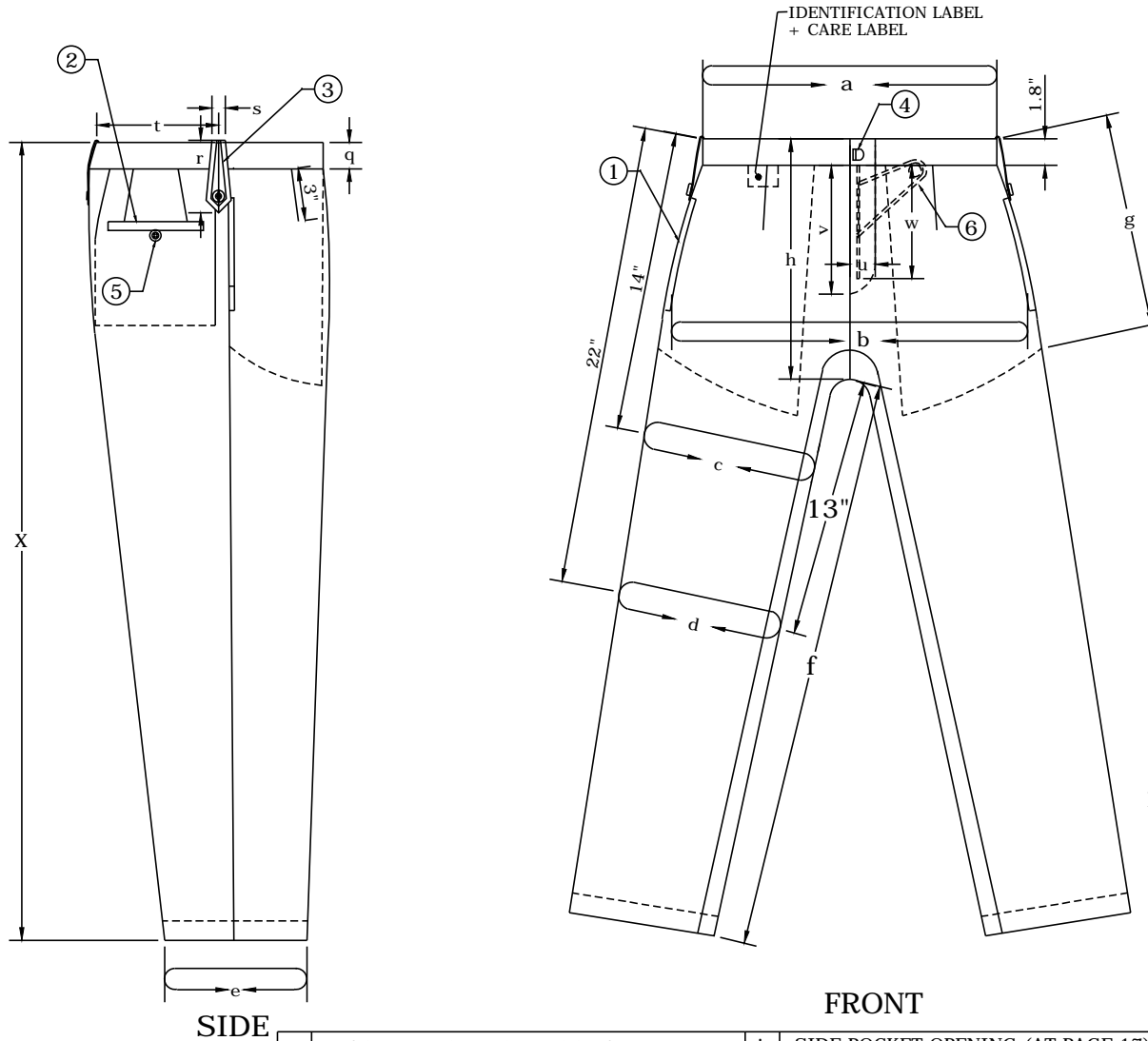
NOTE: -
FOR FURTHER DETAILS SEE STOCK/APPROVED SAMPLE.

TECHNICAL DRAWING TROUSER

ANNEX E TO

PN SPECIFICATION NO 20/2021

PROMULGATION DATE: FEB 2022



1424

NOTE: -
FOR FURTHER DETAILS SEE STOCK/APPROVED SAMPLE.

DITD KARACHI

TITLE: -

TROUSER FOR DRESS KHAKI

(MAIN BODY)

DWG NO: TD-2616/2021 DIMENSION: INCHES

DATE: 13-12-2021 SCALE: NTS

DRAWN BY

CHECKED BY

FINALIZED BY

xx SD xx

xx SD xx

xx SD xx

HDM
M.ASGHAR
I/c DWG

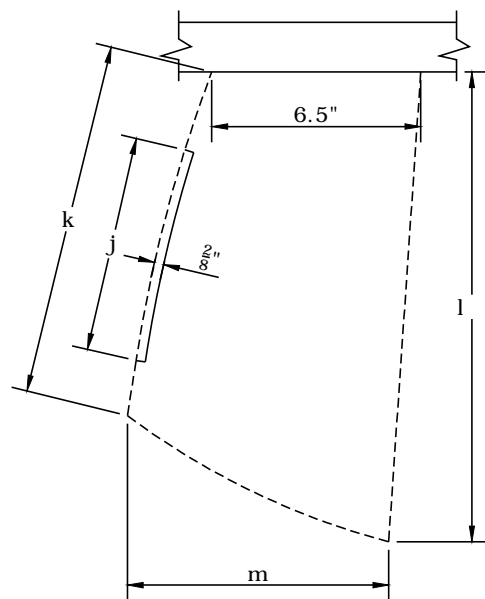
LT CDR
SANA KANWAL
SO TEXTILE

CAPTAIN
MUHAMMAD AFSAR
DID

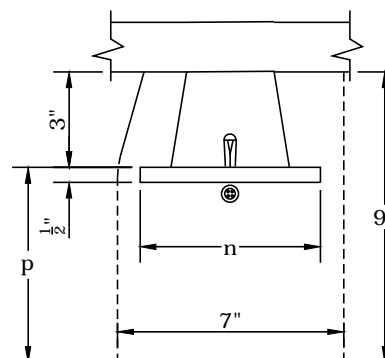
X	LENGTH	t	PLACEMENT OF FRONT LOOP AT BELT	j	SIDE POCKET OPENING (AT PAGE 17)
w	ZIP	s	BELT LOOP WIDTH	h	BACK RISE
v	FLY LENGTH (FULL)	r	BELT LOOP LENGTH	g	FRONT RISE INCULDED BELT
u	FLY WIDTH	q	WAIST BELT	f	INSEAM
		p	BACK POCKET DEPTH INNER (AT PAGE 17)	e	BOTTOM
		n	BACK POCKET WIDTH (AT PAGE 17)	d	KNEE ON 13" FROM CROUCH (FULL)
		m	SIDE POCKET WIDTH (AT PAGE 17)	c	THIGH
		l	SIDE POCKET DEPTH INNER (AT PAGE 17)	b	HIP
		k	SIDE POCKET OUTER LENGTH (AT PAGE 17)	a	WAIST (FULL)

TECHNICAL DRAWING TROUSER (SMALL PARTS)

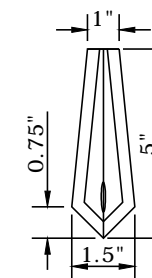
APPENDIX I TO ANNEX E TO
PN SPECIFICATON NO. 20/2021
PROMULGATION DATE: FEB 2022



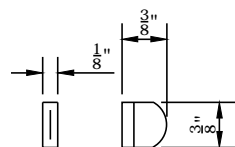
FRONT POCKET
DETAIL-1



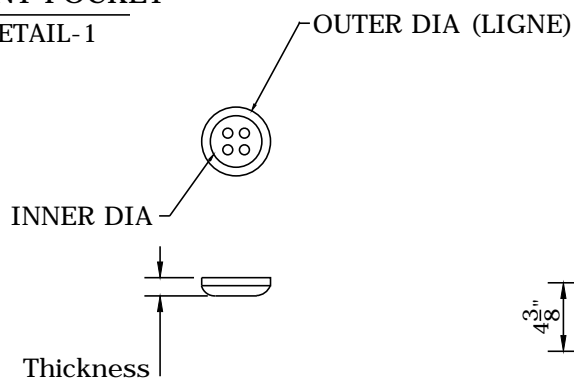
BACK POCKET
DETAIL-2



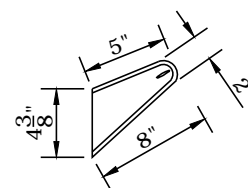
BELT LOOP
DETAIL-3



HOOK
DETAIL-4



BUTTON
DETAIL-5



INNER FLAP
DETAIL-6

1425

DITD KARACHI		
TITLE: - TROUSER FOR DRESS KHAKI (SMALL PARTS)		
DWG NO: TD-2617/2021	DIMENSION: INCHES	
DATE: 13-12-2021	SCALE: NTS	
DRAWN BY	CHECKED BY	FINALIZED BY
xx SD xx	xx SD xx	xx SD xx
HDM M.ASGHAR I/c DWG	LT CDR SANA KANWAL SO TEXTILE	CAPTAIN MUHAMMAD AFSAR DID

NOTE: -
FOR FURTHER DETAILS SEE STOCK/APPROVED SAMPLE.

COMMON DEFECTS IN GARMENTS

<u>S.No</u>	<u>Defects</u>	<u>Major</u>	<u>Minor</u>
1.	Needle hole	Major	
2.	Skipped stitches		
3.	Threads break		
4.	Broken stitches		
5.	Seam pucker		
6.	Pleated/ defected seam	major <1cm	minor> 1cm)
7.	Wrong stitch density	Major at front	Minor at back
8.	Uneven stitch density		
9.	Oil stains/ marks		
10.	Reserved garments parts	Major	
11.	Wrong shade of thread used.		
12.	Open seam		
13.	Stitch end		Minor
14.	Asymmetry	major	
15.	Any missing accessories Dimension color are 4 different		
16.	Malfunction of zippers		
17.	Button inside out		
18.	Damaged button		
19.	Button hole too small		
20.	Omitted button hole		
21.	Uncut/ partial cut button hole		
22.	Ragged edges of button hole		minor
23.	Broken button hole stitches	Major	
24.	Misaligned/ misplaced button and holes		
25.	Malfunction of zippers		
26.	Zipper slider running not smoothly		

27.	Missed zipper teeth		
28.	Missed zipper puller		
29.	Wavy zippers		
30.	Gap at zippers top and bottoms		
31.	Fussing bubbles/ wrinkles on buckram		Minor (if it's too small)

ACCEPTABLE QUALITY LEVELS (AQL)

1. Acceptable Quality Level (AQL) is maximum average defective items in a lot or limit / percentage of defective items in product /offered store. It is expressed in a percentage. Number of average defective items is determined by following formula:

$$\text{Average defective item} = \frac{\text{No.of defective item found during inspection}}{\text{Total no.of item to be inspected}} \times 100$$

2. AQL process: it is used for inspection of finished product / garment by the QC professionals. AQL standard is depend on the quality of the product to be inspected, random sampling, and experience of inspector. Normally lower figure AQL standard e.g. 01% is used for high quality products/ narrow width fabric and high figure AQL standard e.g. 10% for low quality product/ garment. AQL standard 2.5% means that allowable limit of defective item is 2.5 % of total items inspected .Usually AQL 2.5% is used for major defects, AQL 4.0 % is used for minor defects and AQL 6.5% is used for slight defects, however zero acceptance for critical defects Allowable limit of Major defects are less than minor defects and it depends upon nature of item /offered store. It can be less than 01% or greater than 10%. .Following AQL table is used to determine lot size/ offered store quantity, least No. of sample to be inspected, AQL %, and acceptance & rejection points:

<u>SINGLE SAMPLING PLAN FOR NORMAL INSPECTION OR AS PER ORDER OF INSPECTING OFFICER.</u>											
Lot size	Least No. of sample to be Inspected	Allowable Quality levels(AQL) %									
		<ul style="list-style-type: none"> • Acceptable/ Allowable defective sample (Ac) • Rejected /Exceed allowable limit of defective item (Re) 									
		1.5%		2.5%		04%		6.5%		10%	
		Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
281-500	20-80	1-3	2-4	1-5	2-6	2-7	3-8	3-10	4-11	5-14	6-15
501-1200	32-125	1-5	2-6	2-7	3-8	3-10	4-11	5-14	6-15	7-21	8-22
1201-3200	50-200	2-7	3-8	3-10	4-11	5-14	6-15	7-21	8-22	10-21	11-22
3201-10000	80-315	3-10	4-11	5-14	6-15	7-21	8-22	10-21	11-22	14-21	15-22
10001-35000	125-500	5-14	6-15	7-21	8-22	10-21	11-22	14-21	15-22	21	22
35001-150000	200-800	7-21	8-22	10-21	11-22	14-21	15-22	21	22	21	22
150001-500000	315-1250	10-21	11-22	14-21	15-22	21	22	21	22	21	22
500001-above	500-2000	14-21	15-22	21	22	21	22	21	22	21	22

3. If the inspector have time constrain then AQL is beneficial/ helpful in inspection of whole lot/ offered store. It save time, cost and give effective/ statistical result of product /offered store e.g. If inspector needs 5 minutes to check the item , the quantity to be inspected is 2,500 items then it took 208 hours to check the whole consignment/ offered store.it means 26 days approx. for one store. Calculation is as follows:

$$\frac{5 \text{ min} \times 1 \text{ hr}}{1 \text{ item} \times 60 \text{ min}} \times 2,500 \text{ items} = 208.33 \text{ hrs} \cong 26 \text{ days}$$

After Implementing AQL standard so the sample taken from the lot/ offered store is 200 items/ sample:

$$\frac{5 \text{ min} \times 1 \text{ hr}}{1 \text{ item} \times 60 \text{ min}} \times 2,00 \text{ items} = 16.66 \text{ hrs} \cong 02 \text{ days}$$

4. Quality parameters/ AQL limits may be defined by Inspecting Authority (if deemed appropriate) and communicate to the manufacturer, so the manufacturer set their quality levels (AQL limits) accordingly for their internal audit. Therefore, good quality product is ready for inspection.

FEEDBACK FORM

Unit Name: _____

Item Description#: _____

Issue/Problem occurred: _____

PN SPEC #: _____

Possibility to resolve Issue: _____

Any Other Remarks: _____

Note:

- It's good to give feedback for improvement in any clothing Item.
- Recurring problem will also be intimated through this form.

Name Stamp

COUNTERSIGNED By CO/Admin Authority
Name Stamp

PN SPECIFICATION 20 /2021