महानिदेशालय, भा.ति.सी.पु. बल/Directorate General, ITBP Force
संभरण निदेशालय-एम.एण्ड एस. डैस्क/Provisioning Dte-M&S Desk)
गृह मंत्रालय-भारत सरकार/MHA-Government of India.
खण्ड-2, के. स. का. परिसर/Block-2, CGO Complex
लोधी रोड, नई दिल्ली/Lodhi Road, New Delhi-03
(Fax 011-24364267, Email: digprov@itbp.gov.in)

No. IV-17012/21/2025/Prov(M&S)- 5731 Dated the 08, August 25

To

1. The Dy. Inspector General (Prov),
   Dte Gen, CRPF/BSF/CISF/SSB/AR/NSG

2. Dy. Director (Mod),
   BPR&D, NH-48, Mahipalpur, New Delhi – 37

Sub: **Uploading of approved QRs/Specifications and TDs of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel".**

In terms of MHA Order No. IV-11012/02/2009-Fin-I/Prov-I-17 dated 02-01-2018, QRs/Specifications and TDs of **"Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel"** has been approved by DG, CRPF (Nodal Authority) vide CRPF Directorate letter No. U.II-98(QRs/Tds)/2025-26-Prov-14 dated 07.08.2025.

2. Hence, the approved QRs/Specifications and TDs of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel" are enclosed herewith further needful action please.

Encl: a.a.

रघुवंशी 8/8/25

उप महानिरीक्षक (संभरण)/Dy. Inspector General (Prov)
महानिदेशालय, भा.ति.सी.पु. बल/Dte Gen, ITBPF

Copy forwarded to:-

1. The SO (IT), North Block, MHA, with request to upload the approved QRs/Specification and TDs of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel" on MHA website. (E.mail ID: soit@nic.in)
2. The ACEO (GeM), Govt. of India, Ministry of Commerce and Industries, Government e-marketplace, Jeevan Tara Building, 5-Parliament Street, New Delhi – 110001 with request to upload the approved QRs/Specification and TDs of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel" on GeM Portal. (E.mail ID: yk.pathak@gem.gov.in)
3. The DIG (IT), Dte Genl, CRPF – with request to upload the approved QRs/Specification of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel" on CRPF Website.
4. The Second-in-Command IT Cell, Dte Gen, ITBP – with the request to upload the approved QRs/Specification and TDs of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP personnel" on ITBP Website.

By Hand/Through Mail

Director General CRPF
Block No. 1 CGO Complex, New Delhi-110003
(Govt. of India/Ministry of Home Affairs)
(Phone / Fax- 011-24360155)
(E-Mail- digprov@crpf.gov.in)

No.U.II-98(QRs/TDs)/2025-26-Prov-14 Dated, the 7th August'2025

To

The DIG (Provision)
Directorate General, ITBP
CGO, Complex, Lodhi Road
New Delhi

Subject: **Forwarding of Finalized QRs & TDs for "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP Personnel"**

Please refer to your letter No. IV–17012/21/2025/Prov(M&S)-5316 dated 24th July 2025 on the subject cited above.

2. The draft Qualitative Requirements (QRs), Technical Details (TDs), and related documents pertaining to the item "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) for ITBP Personnel" were examined and processed as per the extant guidelines of the Ministry of Home Affairs (MHA), including the conduct of sub-group meetings and inviting stakeholder feedback through an Expression of Interest (EOI).

3. After due deliberation and consensus in the sub-group meeting held on 14.07.2025, the finalized QRs and TDs, along with the relevant proceedings and documents, were submitted for approval of the Director General, CRPF, being the designated Nodal Force.

4. The same have now been approved by the DG, CRPF.

5. Accordingly, the finalized QRs, TDs, and relevant documents are hereby forwarded to your office for further necessary action at your end.

Encl: As above

7/8/25

(Shahnawaz Khan)
DIG (Provision), Drectorate, CRPF

QRS/SPECIFICATION OF "CLOTH LFCD DISRUPTIVE DIGITAL PATTERN UNIFORM (REGULAR) FOR ITBP PERSONNEL [COTTON, POLYESTER AND SPANDEX (80 : 19 :1)]"

1.0 SCOPE

1.1 The specification prescribes the requirement of "Cloth LFCD Disruptive Digital Pattern Uniform (Regular) (with ITBPF logo)" for ITBPF herein referred as "Cloth disruptive"

1.2 This specification does not specify the design/pattern and stitching of uniform from the "Cloth Disruptive".

1.3 This specification does not specify general appearance; feel etc of the "Cloth disruptive".

2. REFERENCES

The standards listed in Annexure – A contain provisions, which through reference in this text, constitute provisions of this standard. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in 'Annexure – A'.

3. MANUFACTURE

3.1 The Disruptive Pattern cloth shall have Plain Rip Stop weave. It shall be made from uniform blend of 80% Cotton, 19% Polyester and 01% Spandex. The selvedges shall be firm and straight. The cloth shall be well singed. The fabric shall be 'Heat set' and fully shrunk. The blend composition of the cloth shall conform to the requirements given in the Table 1.

3.2 The disruptive pattern may be obtained by repeats of the design of 21 cm±5% in warp direction and 21 cm±5% weft direction (see Figure 1). Figure 2 indicates various colours of the disruptive pattern cloths. The pattern shall be printed using dyes having fastness properties as given in Table 1. The various areas of the pattern shall be properly registered in relation to each other and shall present definite sharp demarcations with a minimum of feathering or spew. Each pattern shall show solid coverage.

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Dyes used in the dyeing and printing shall be free from banned amine (Test method IS 15570).

3.3 The fabric should be supplied in the minimum width of 150cm. The length of each piece shall be 40 meters or as agreed between supplier and purchaser.

3.4 Freedom from Defect: The cloth shall be free from major flaws (defects) which shall not exceed 10 per 100 meters length (see Note). A list of major flaws (defects) is given in Appendix-A of IS: 14466. The allowance for providing extra length of cloth in lieu of the flaws (defects) not exceeding the permissible limit may be agreed between the buyer and seller. It shall also be free from dyeing defects such as streaks, stains and uneven dyeing and improper printing in case of printed design etc. The finished cloth shall be free from sizing, filling and dressing materials and substance liable to cause subsequent tendering.

The Disruptive Pattern cloth shall be free from any other defect which may significantly mark the appearance or serviceability.

Note - The number of defects shall be determined on all pieces under test and converted into number of defects per 100 meter length. (See 6.4)

3.5 **Cloth should have woven Selvedge on both side of the fabric with inscription "FOR ITBP ONLY" through jacquard weaving.**

4.0 WORKMANSHIP AND FINISH

The "Cloth disruptive" shall be free from workmanship defects i.e. texture, weaving, dyeing flaws etc. The "Cloth disruptive" shall not have missed threads, hole, cut, oil stains or any other defect which may significantly affect the appearance or serviceability of "Cloth disruptive".

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5.0 REQUIREMENTS

5.1 The Disruptive Pattern Uniform cloth shall conform to the requirements given in Table 1. Specification for colour used in printing shall be as given in Table 2A, 2B, 2C and 2D.

5.2 Sealed Sample: In order to illustrate or specify the indeterminable characteristics such as general appearance, luster, feel and print design of the Disruptive Pattern cloth, a sample has been agreed upon and sealed; the supply shall be conformity with the sample in such respects.

5.3 The custody of the sealed shall be a matter of prior agreement between the buyer and seller.

Table 1 : Requirement of Cloth Disruptive Digital Print

Sl.	Characteristics	Requirements	Test Method
1.	Material	Cotton + Polyester + Spandex	-
2.	Count of yarn - Warp - Weft	 2/32 2/32 + 16 Spandex	 IS 3442 : 1980
3.	Weave Weave Pattern	PLAIN RIP STOP Warp : 24 + 3 Weft : 12+ 2	Visual
4.	Blend Composition (%)	Cotton : Polyester : Spandex (80:19:1) Cotton : 77.6% – 82.4% Polyester : 18.43% – 19.57% Spandex : 0.97% – 1.03%	IS 3416 (Pt 1) : 1988
5.	End/dm	330±5% (313.5 – 346.5)	IS 1963 : 1981
6.	Picks/dm	190±5% (180.5-199.5)	IS 1963 : 1981
7.	Width, cm (Minimum) (Excluding selvedge)	150 (Minimum)	IS 1954 : 1990

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8.	Mass, gm/m²	205±5% (194.75-215.25)	IS 1964 : 2001
9.	Breaking strength Newton (Minimum) - Warp-wise - Weft-wise	 700 280	IS 1969 : 2018 (Part-1) (5 cm x 20 cm between grip)
10.	Tearing Strength, Newton (Minimum) - Warp-wise - Weft-wise	 30 17	IS 6489 (Part-1): 2011
11.	Colour fastness to washing after 20 washes - Change in colour - Staining on cotton fabric	 4 or better 4 or better	IS/ISO 105 C10 C (3) : 2006 (Repeated four times)
12.	Colour fastness to perspiration - Change in colour - Staining on adjacent fabric	 4 or better 4 or better	IS/ISO 105-E04 : 2013
13.	Colour fastness to rubbing -Dry -Wet	Rating 4 or better for all colours i) 3-4 or better for dark colours ii) 4 or better for light colours	IS/ISO 105-x12 : 2016
14.	Colour fastness to light	4 or better	IS/ISO 105-B02 : 2014
15.	Dimensional Change due to relaxation, both direction, percentage maximum	3.0%	IS 2977 : 1989

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16.	Dimensional stability to dry heat (both direction) percentage, maximum	3.0%	IS 12170 : 1987 Temperature 150±2°C
17.	pH value of aqueous extract	6.0-8.5	IS 1390 : 2022 (Cold method)
18.	Water soluble matter, % Maximum	1	IS 3456 : 2022
19.	Pilling resistance, Grade, Minimum	4	IS 10971 : 2022 (Part-I)
20.	Air permeability cc/sec/cm^2, Minimum	7	IS 11056 : 2013
21.	Drape Co efficient %	60-70	IS : 8357 : 1977
22.	Water Vapour permeability, mg/cm^2/hr, Minimum	15	ASTM E-96,/E96M : 2016 (Water method), Temperature : (32±2) degree Celsius, RH : 50±2% (Upright method) Air Velocity = 0.5-2.5m/sec
23.	Identification of dye for printing	Vat	IS 4472 (Part I) : 2021

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	Identification of dye for base fabric	Disperse + vat	
24.	Colour difference (ΔE) For base colours For other colours	 ≤1.2 ≤1.5	See Tables 2A 2B, 2C and 2D (Also see Fig. 2)
25.	Anti-microbial finish	99% Anti-bacterial activity (protection) after 20 laundry washes	AATCC 100 as per ISO 6330 at 40° C, Tumble dry

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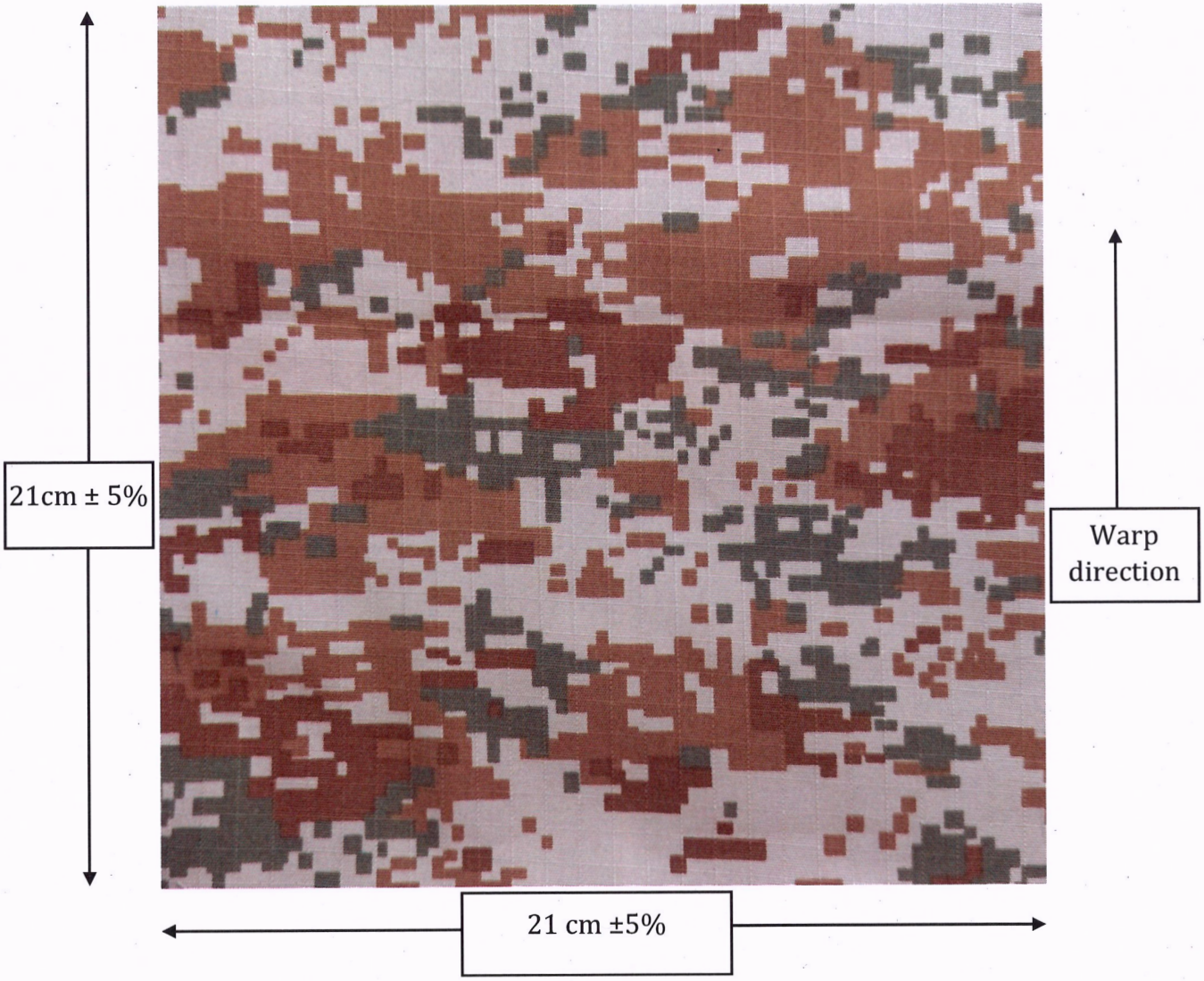

Fig. 1 : Disruptive Pattern Print – One repeat of the design
(For true colours refer sealed fabric sample)

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INDO-TIBETAN BORDER POLICE FORCE (ITBPF)

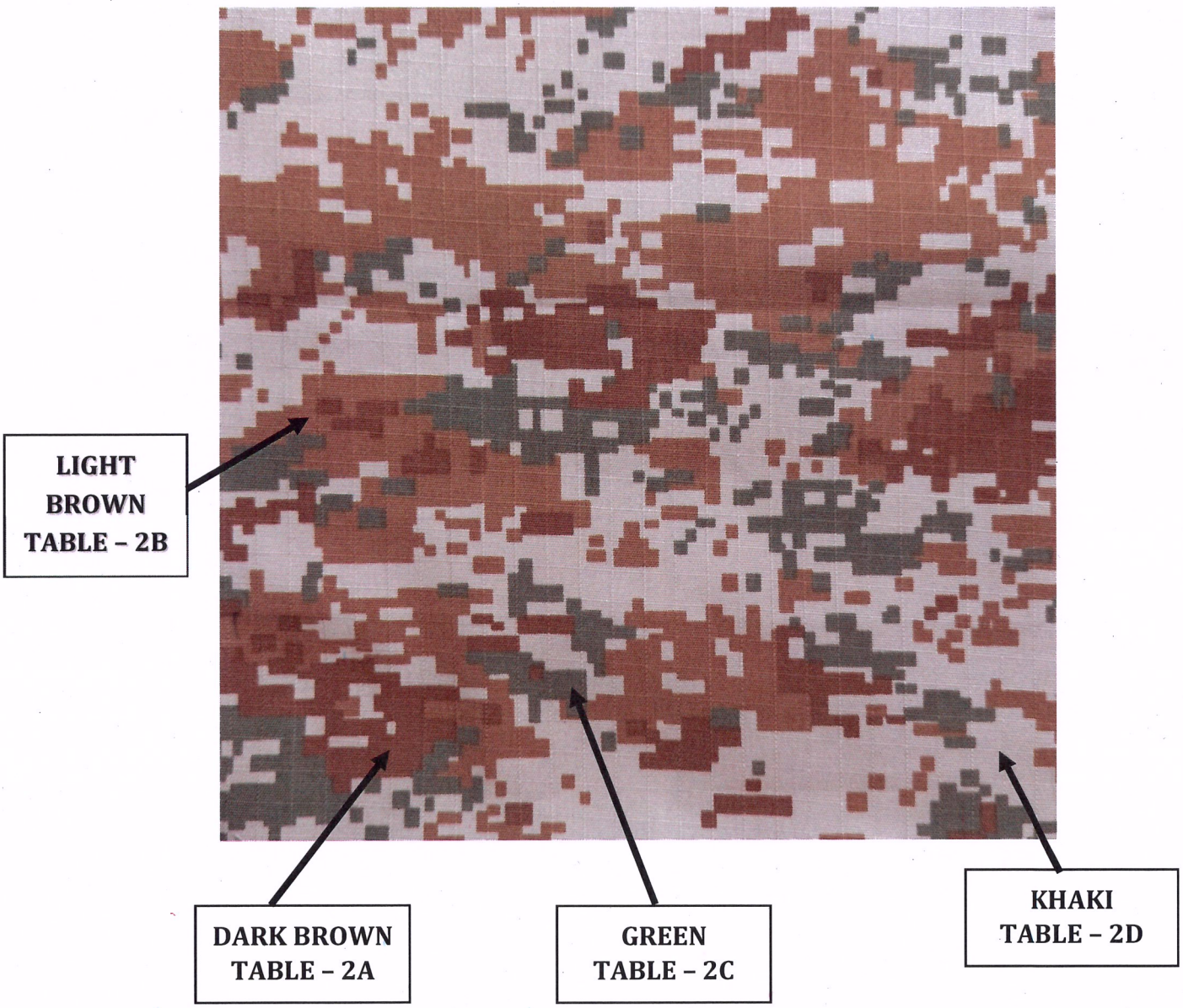

Fig. 2 Cloth Disruptive Pattern Print – Colour Specification for ITBPF

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Table-2A : Specification of colour Disruptive Digital Pattern– (Dark Brown)
(Guideline of AATCC Test Method 173 : 2015 & AATCC Evaluation Procedure-7:2015)

Colour	:	**DARK BROWN**
System	:	CIE LCH
Illuminant Observer	:	D-65
Standard Observer	:	10 Degree

Tristimulus Values :

X	Y	Z
11.506	9.575	4.979

LCH :

L	C	H
37.069	27.198	46.172

CMC (l:c) : 2 : 1

Colour Difference, ΔE_{eme} : ≤ 1.5

Interpretation of Results:

i) If ΔE_{eme} is less than or equal to 1.5, then sample is acceptable.

ii) If ΔE_{eme} is greater than 1.5, the sample is unacceptable.

Note-1 : Absorbance/ reflectance/ transmittance are affected by surface characteristic features of the substrate. Therefore comparison should be made between sample of same type i.e identical fabric construction parameters and filament/fiber composition.

Note-2 : Test should be carried out after proper conditioning as per AATCC 173 using Defuse (sphere) geometry spectrophotometer.

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Table-2B : Specification of colour Disruptive Digital Pattern– (Light Brown)
(Guideline of AATCC Test Method 173 : 2015 & AATCC Evaluation Procedure-7:2015)

Colour	:	**LIGHT BROWN**
System	:	CIE LCH
Illuminant Observer	:	D-65
Standard Observer	:	10 Degree

Tristimulus Values :

X	Y	Z
16.069	14.169	7.318

LCH :

L	C	H
44.474	27.695	54.506

CMC (l:c) : 2 : 1

Colour Difference, ΔE_{eme} : ≤ 1.2

Interpretation of Results:

i) If ΔE_{eme} is less than or equal to 1.2, then sample is acceptable.

ii) If ΔE_{eme} is greater than 1.2, the sample is unacceptable.

Note-1 : Absorbance/ reflectance/ transmittance are affected by surface characteristic features of the substrate. Therefore comparison should be made between sample of same type i.e identical fabric construction parameters and filament/fiber composition.

Note-2 : Test should be carried out after proper conditioning as per AATCC 173 using Defuse (sphere) geometry spectrophotometer.

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Table-2C : Specification of colour Disruptive Digital Pattern – (Green)

(Guideline of AATCC Test Method 173 : 2015 & AATCC Evaluation Procedure-7:2015)

Colour	:	**GREEN**
System	:	CIE LCH
Illuminant Observer	:	D-65
Standard Observer	:	10 Degree

Tristimulus Values :

X	Y	Z
9.909	10.547	7.260

LCH :

L	C	H
38.808	13.018	93.100

CMC (l:c) : 2 : 1

Colour Difference, ΔE_{eme} : ≤ 1.5

Interpretation of Results:

i) If ΔE_{eme} is less than or equal to 1.5, then sample is acceptable.

ii) If ΔE_{eme} is greater than 1.5, the sample is unacceptable.

Note-1 : Absorbance/ reflectance/ transmittance are affected by surface characteristic features of the substrate. Therefore comparison should be made between sample of same type i.e identical fabric construction parameters and filament/fiber composition.

Note-2 : Test should be carried out after proper conditioning as per AATCC 173 using Defuse (sphere) geometry spectrophotometer.

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Table-2D : Specification of colour Disruptive Digital Pattern – (Khaki)
(Guideline of AATCC Test Method 173 : 2015 & AATCC Evaluation Procedure-7:2015)

Colour	:	**KHAKI**
System	:	CIE LCH
Illuminant Observer	:	D-65
Standard Observer	:	10 Degree

Tristimulus Values :

X	Y	Z
38.495	37.713	30.398

LCH :

L	C	H
67.808	15.954	55.450

CMC (l:c) : 2 : 1

Colour Difference, ΔE_{eme} : ≤ 1.5

Interpretation of Results:

i) If ΔE_{eme} is less than or equal to 1.5, then sample is acceptable.

ii) If ΔE_{eme} is greater than 1.5, the sample is unacceptable.

Note-1 : Absorbance/ reflectance/ transmittance are affected by surface characteristic features of the substrate. Therefore comparison should be made between sample of same type i.e identical fabric construction parameters and filament/fiber composition.

Note-2 : Test should be carried out after proper conditioning as per AATCC 173 using Defuse (sphere) geometry spectrophotometer.

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6.0 SAMPLING AND CRITERIA FOR CONFORMITY

6.1 The number of pieces to be selected at random from a lot for inspection shall be according to col. 1 and 2 of Table 4. To ensure randomness of selection, procedure given is IS: 4905 shall be followed.

6.2 The sampling procedure detailed in 6.2 to 6.4 shall give desired protection to the buyer and the seller, provided that the lot submitted for inspection is homogeneous. To achieve this, the manufacturer shall maintain a system of process control at all stages of manufacturing ensuring the Disruptive Pattern cloth tendering by him for inspection to comply with the requirements of this standard in all respects. The tendering authority reserves the right to carry out inspection of bigger lot sizes, even to the extent of 100% inspection, if considered necessary,

NOTE: For effective process control the use of statistical quality control technique is recommended and helpful guidance may be obtained in this respect from IS 397(Part 1): 2003 and IS 397 (Part II), 2003.

6.3 Lot: The number of pieces of cloth of same composition and constructional particulars delivered to a buyer against a dispatch note shall constitute a lot.

6.3.1 The conformity of a lot to the requirements of this specification shall be determined on the basis of the tests carried out on the samples selected from the lot.

6.4 The number of pieces to be tested at criterion for conformity for each of the characteristics shall be as follows (Table 3):

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Table 3 : Criterion for conformity

Characteristics	No. of Samples	Criterion for conformity
i) Visual inspection for freedom from major flaws (defects)	According to col 2 of Table 4	All the pieces of cloth selected according to col 2 of Table 4 shall be visually examined for major flaws, meter by meter. The Total number of defects observed on sample piece shall be converted into number of defects per 100 meter length. Permissible number of non-conforming pieces not to exceed corresponding number given in col 3 of Table 4.
ii) Construction, Ends, picks, mass, length and width	According to col 4 of Table 4	All specimens shall satisfy the relevant requirements.
iii) Blend composition, shrinkage, breaking strength, tearing strength, colour fastness pH etc.	According to col 5 of Table 4	All specimens shall satisfy the relevant requirements.

Note: Sampling officer will select sampling unit randomly and select ultimate items from each sampling unit as per the above table.

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Table 4: Sample size and permissible number of non-conforming Disruptive Printed Uniform Cloth

Lot size (meter) (1)	Sample size (2)	Permissible number of non-conforming pieces (3)	Sub-sample size (4)	Sub-sub sample size (5)
Up to 100	5	0	3	3
101-150	8	0	3	3
151-300	13	1	5	3
301-500	20	1	5	3
501-1000	32	2	8	5
1001 and above	50	3	13	5

7.0 MARKING

Each piece of cloth shall be marked with the following :

(a) Name of the material, namely Cloth Disruptive Digital Pattern--Cotton/polyester/Spandex blended material ;

(b) Composition, namely, Cotton 80 percent , Polyester 19 percent and Spandex 01 percent to be marked on every alternate meter of the cloth at a height not exceeding 2.5 cm from the selvedge :

(c) Length and width ;

(d) Manufacturer's name, initials or trade-mark :

(e) Any other information required by the law in force and/or by the buyers.

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8.0 PACKAGING & PACKING

The Disruptive Pattern Uniform cloth shall be packed in polyethylene or polypropylene bags and or in box, as required by the buyer (see IS 2194 and IS 2195).

Before dispatch, each box shall be legibly marked by stencil showing the following information:

i) Nomenclature and Category number of the store
ii) Quantity packed in the box
iii) Serial number of the box
iv) Month & Year of packing
v) Name/Trademark of the Manufacture
vi) Gross weight of the box in Kg.
vii) Name & Address of the consignee
viii) Inspection note number and date
ix) Any other information required by the customer
x) Woven name of firm and date of manufacturing will be mandatory

9. ***Potential vendors/firms must have weaving and processing units under same PAN card.***

10. The requirement of capacity verification certificate issued by inspection agency prescribed by ITBP in the Bid will be mandatory for participating firms for assessment of their manufacturing capability.

11. Basic testing equipments like; Spectrophotometer, Tensile strength testing machine, tearing strength testing machine, laundrometer etc. at the firm's premises may be available in house testing to maintain quality standards.

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ANNEXURE – A

(Clause 2)

LIST OF REFERRED STANDARDS

Standard number	Title	Standard number	Title
IS 15570	Detection of banned azo colourants in coloured textiles	IS 14466	Fabrics - description of defects - Vocabulary
IS 3442	Textiles — Method for Determination of Crimp and Linear Density of Yarn removed from Fabric	IS 1963	Methods for Determination of Threads per Unit Length in Woven Fabrics
IS 3416 (Pt I)	Method for quantitative chemical analysis of binary mixtures of polyester fibers with cotton or regenerated cellulose	IS : 1954	Determination of length and width of woven fabric
IS: 1964	Methods for determination of weight per square meter and weight per linear meter of fabric	IS : 1969	Method for determination of breaking strength and elongation of woven fabrics
IS 6489	Woven fabrics – Determination if tear resistance by failing pendulum method	IS/ISO 105 C10 C(3)	Method for determination of colour fastness to washing
IS/ISO 105-E04 : 2013	Method for determining the color fastness of textiles to perspiration	IS/ISO 105 x 12 : 2016	Method for determining the colour fastness of textiles to rubbing
IS/ISO 105-B02 : 2014	Colour fastness to artificial light	IS : 2977	Fabrics (other than wool) – Method for determination of

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			dimensional changes on soaking in water
IS 12170	Method for determination of dimensional stability of textile materials to dry heat treatments	IS 1390	Method for determination of pH value of aqueous extract of textile materials
IS 3456	Method for determination of water soluble matter of textile materials	IS 10971	Method for determination of pilling resistance of fabrics
IS 11056	Method for determination of air permeability of fabrics	IS 8357	Method for assessment of fabric drape
ASTM E-96/E96M-05	Method used to determine the water vapor transmission rate of various materials	IS 4472 (Part 1)	Identification of the application classes of Dyes on Textile Materials
AATCC 100	Focused on evaluating antimicrobial activity in textiles	ISO 6330	Outlines domestic washing and drying procedures for textile testing
'AATCC Test method 173	CMC : Calculation of small colour differences to determine acceptability.	AATCC Evaluation Procedure 7	Instrumental assessment of the change in colour of a test specimen
IS 4905	Methods for random sampling	IS: 397 (Part-I)	Method for statistical quality control during production : Part I Control charts for variable

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IS: 397 (Pt II)	Method for statically quality control during production : Part 2 Control charts for attributes and count of defects	IS 2194	Code for seaworthy packaging of man-made fibre fabrics
IS 2195	Code for inland packaging of man-made fibre fabrics and man-made fibre yarns	-	-

(.....)
(Rahul Yadav)
Comdt. (SS Bn)
ITBP

(.....)
(R.P.S. Raghuvanshi)
DIG (Prov), ITBP

(.....)
(Ajay Pal Singh)
IG (Prov), ITBP

(.....)
(Abdul Ghani Mir)
ADG (HQ), ITBP

(.....)
(Yatender Singh)
Dy. Comdt.
CRPF

(.....)
(Sh. Vijay)
Dy. Comdt.
BSF

(.....)
(Sanjay Prasad)
Dy. Comdt.
CISF

(.....)
(Pankaj Thapa)
Asstt. Comdt.
SSB

(.....)
(Pradeep Kumar)
AC-II
NSG

(Through VC)
(Pawan Kataria)
Lt. Col., AR

(.....)
(Deepak Sharma)
SSA (T&T)
BPR&D

(.....)
(Dr. Neha Kapil)
Asstt. Director
NITRA

(.....)
(Abhishek Sharma)
QA Officer
Textile Committee

Approved/ Not Approved

Gyanendra Pratap Singh, IPS
DG, CRPF