"EXPRESSION OF INTEREST"

CRPF is in the process of revising the QR (Qualitative Requirements) specifications for the **Cap FSD, disruptive pattern** for all CAPF. The draft revised QRs/Specification of these items are attached herewith.

The interested Vendor/firms dealing in subject matter are invited to submit their views/opinions on the draft revised QRs/ Specification of the item by **04/05/2026**.

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QRs/ Specification of Cap FSD for CAPF

0.0 FOREWARD

0.1. This specification has been prepared by the CAPF sub group committee, Ministry of Home Affairs.

0.2. This specification shall be used to guide manufacture, quality assurance and procurement of the item.

0.3 QRs of Cap FSD can be used by any CAPFs or their wings, with respective cloth disruptive and logo.

1.0 MANUFACTURE

DESIGN/MATERIALS USED

1.1 The cap shall be manufactured as described below: -

1.2 **Body -** The body of the cap shall be made of Cloth as per approved/specified by the concern CAPF

1.3 Pre-curved visors shall be of the shape, dimension as illustrated in picture. It shall consist of a piece of High-Density Polyethylene (HDPE) sheet encased in a casing of body material as shown in the picture. It should have 3 lines of stiches on visor with a distance of 5 mm between the linings.

a. Colour of Visor - Green (preferably)

b. Thickness of Visor - 2.5 mm (Min.)

c. Weight of Visor - 20 gm (max)

1.4 Flexible polyurethane foam sheet as headband cushioning should be there for comfortable utilization (min. 8mm).

1.5 Cap FSD from back side should be in strap type and shall have opening/adjustable opening. Type & dimension – should match with colour of cap.

1.6 Inner part of cap should be provided with green colour and made of soft polyester net mesh fabric for full skull part.

1.7 It should have air vent design for quick drying (as per design). There shall be four eyelets and distance between each eyelet – 5cm.

1.8 Top centre of Cap FSD will remain with Button arrangement.

1.9 Back side of Cap should be made with adjustable closure so that cap can be adjusted as per requirement.

2.0 INSIGNIA:

2.1 Force specific Insignia as per requirement of force/CAPF shall be on front portion of Cap FSD to be made using embroidery.

2.2 The embroidery should be in black colour with polyester swing thread so that it mingles with the fabric print. This will ensure that insignia is not easily detachable/distinguished in jungle environment due to its outstanding colour.

2.3 Circular insignia as provided by concern force/CAPF, of 5 cm be placed in centre front of the cap.

Illustration as below for example

3.0 COLOUR:

3.1 It must have existing force/CAPF specific digital camouflage print on it. Sample for colour combination may be seen from the uniform which Concern force/CAPF personnel wear and approved by concern force/CAPF. [Explanation: The digital camouflage print is required so that the Cap FSD blends with the uniform and does not stand out in contrast, thereby making the soldier more visible].

3.2 The colour must be fast and the dyes used for dyeing and printing must be free from banned amines.

3.3 The colour should not fade due to long exposure to moisture and sunlight during operations.

4.0 MECHANICAL PROPERTIES:

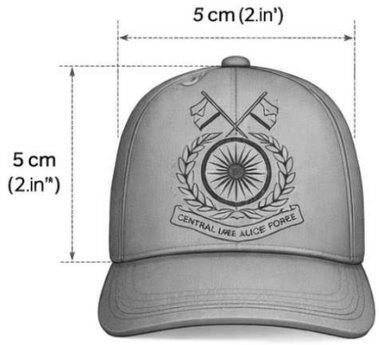
The base fabric material must necessarily be pliable and free form tackiness stain, pinholes, surface irregularities, wrinkles, patches and all other coating defects. The coating should not have any objectionable odour.

5.0 WEIGHT: 90-100 grams

6.0 SIZE OF MONKEY CAP:

Cap Size	**S**	**M**	**L**	**XL**
Head Size **Circumference (inches)**	20”	21”	22”	23”

Illustration: as below-


5 cm (2.in')
5 cm
(2.in'*)


25 cm (9.75 in')


25 cm (4.75 in')


5 cm (2.in')*)
5 cm
(2.in*)


RESERVE POLICE FORCE

7.0 SAMPLE FOR TESTING:

The firm will submit samples for testing with their tender documents as directed/as per the user.

8.0 WORKMANSHIP AND FINISH:

8.1 The general workmanship and finish must be of high standards. The Cap FSD shall be free from stitching defects like uneven stich, puckering gathering of threads, cuts & holes, streaky or patchy dying, stains and any other spots affecting the aesthetic appearance. Stitching must be 3-4 stiches in 1cm with Nylon sewing thread conforming to the verity on L2 of IS 4990 RA 2024 shall be used and shall match with colour of cap fabric.

8.2 The polyurethane flexible foam sheet shall be of green colour which is defined as depended cellular products produced by interaction of Polyhydroxy compounds, water and isocyanate. *The foam shall consist of cell of uniform characteristics, which shall be essentially open and inter connecting type. The thickness and density of PU flexible foam will be as given by user.*

8.3 The polyurethane foam sheet shall be uniform in thickness and shall be free from defects such as holes, stains and cuts etc. It shall be free from foreign matter, surface imperfections, cuts and other harmful chemicals which may cause skin irritation.

9.0. TRIAL DIRECTIVE:

9.1 The testing methods will be as per QRs/Specification made for approved uniform cloth of concern force/CAPF. (The test shall be conducted before the company representative for absolute transparency shall be video recorded/photographed and the company representatives will be required to sign the rest results).

Table-3: Requirements of "Cap FSD for CAPF" (Basic Fabric)

Sl. No.	Parameters	Requirements	Method of Testing
1	Composition ,% - Nylon 6 6/Nylon 6 - Cotton	 50±5 Remainder	AATCC Test method 20 and 20A

2	Dimensional Change (due to relaxation), percentage, Maximum	2.0	As per guidance of IS 2977:1989 (See Annexure 1)
3	Ends/dm (minimum)	400	IS 1963:1981
4	Picks/dm (minimum)	202	IS 1963:1981
5	Weight in g/m^2	220 ±10	IS 1964 : 1970
6	Tearing Strength, Newton (Minimum) - Warp-wise - Weft-wise	 35 35	IS 6489:1993
7	Colour Fastness to a). Light (on blue wool Standards) b). Washing - Change in shade - Staining on cotton c). Perspiration (Acid & Alkaline) - Change in shade - Staining on cotton d) Crocking - Dry - Wet	 5 or better 4 or better 4 or better 4 or better 4 or better 4 or better 4 or better	 IS 2454:1985 IS 687:1979 IS 971:1983 IS 766:1988
8	pH Value of aqueous extract	6.0 – 8.0	IS 1390:1983 (Cold method)
9	Spray rating, (minimum)	80	As per guidance of IS 390: 1975 (See Annexure 2)
10	Colour specification	≤ 3.0	See Table 4A to 4D
11.	Water Repellent (Min.)	80	As per guidance of IS 390: 1975 (See Annexure 2)

9.2 <u>Bib fabric</u>- The bib fabric of a Cap FSD is a durable material, usually nylon, used to cover and shape the visor (brim) for structure and style as given in figure 1.

Sl no.	Parameters	Requirements	Testing
1	Component	Bib (Visor) Fabric	Visual
2	Material	Similar as cap	Visual
3	Fabric Weight (GSM)	220 ±10 GSM (depending on material)	IS 1964 : 1970
4	Construction	The cap visor shall contain a piece of High-Density Polyethylene (HDPE) to provide rigidity and maintain its shape, covered by the outer fabric	Visual inspection & bending test
5	Color	Same as cap Body	Visual

9.3 **Back Closure or closure type** – The back of cap closure as per user.

Strap back - Adjustable fabric or nylon strap with metal or plastic buckle.
or
Velcro Closure - Hook-and-loop fabric strap for easy adjustment.

The adjustable buckle used in the back of a cap is a **metal slide buckle** made of **nickel-free zinc alloy** with a **matte black finish**, designed to fit a **20 mm wide fabric strap**. The buckle allows smooth size adjustment by letting the strap **slide through and fold back on itself**, securing in place through friction.

10.0 REFERENCES

Sl. No.	SPEC. /TEST METHOD No.	DESCRIPTION
(a)	AATCC 20 : 2007	Fibre analysis: Qualitative
(b)	AATCC 20A: 2008	Fibre analysis: Quantitative
(c)	IS 971: 1983, RA 2004	Method for determination of colour fastness of textile material to perspiration
(d)	IS 1390: 1983, RA 2004	Methods of testing of pH value of aqueous extract
(e)	IS 2454: 1985, RA 2006	Methods for determining of colour fastness of textile materials to artificial light (xenon lamp)
(f)	IS 2500 (Part 2): 1965, RA 2006	Sampling inspection tables
(g)	IS 687: 1979, RA 2004	Method for determination of colour fastness of textile material to washing
(h)	IS 4905: 1968, RA 2006	Method of random Sampling
(i)	IS 766: 1988 RA 2004	Method for determination of colour fastness of textile material to Rubbing (dry & wet)
(j)	IS 690:1988, RA 2004	Method for determination of colour fastness of textile material to sea water
(k)	IS: 2977:1989, RA 2005	Method for determination of dimensional changes on soaking in water
(l)	IS 6359:1971, RA 2004	Method for Conditioning of Textiles
(m)	IS: 3416:1988, RA 2008	Method of quantitative analysis of binary mixture of polyester fibre with cotton
(n)	AATCC Test method 173: 2005	CMC: Calculation of small colour differences for acceptability
(n)	AATCC Evaluation Procedure 7: 2003	Instrumental assessment of the change in colour of a test specimen