GOVERNMENT OF MEGHALAYA
OFFICE OF THE DIRECTOR GENERAL OF POLICE
MEGHALAYA SHILLONG.

Letter No. PHQ/RO/226/Pt-I/22/88 **Dated Shillong, the 21st December, 2023.**

NOTICE INVITING TENDER

Subject:- **Tender for Procurement of Riot Control Gear for Meghalaya Police for the Financial year 2023-24.**

The Director General of Police, Meghalaya, Shillong invites Sealed Tenders-affixing non-refundable Court Fee Stamp of ₹ 1,000/- (Rupees One Thousand Only)

For entering rates contract for supply of Riot Control Gear for Meghalaya Police for the Financial Year 2023-24 to Meghalaya Police from manufacturers, authorized agents, and dealers. Sealed Tender accompanied with Sealed Samples of individual items quoted will be received up-to **1200 hrs** on **23rd January 2024** and will be opened on the same day at **1600 hrs**. Tenderers or their authorized representatives may remain present at the time of opening of tenders. Tenders/Samples received after **1200 hrs** by hand or post will stand automatically rejected. Sealed Tender should be dropped in the Tender Box of this office. The tender is a bunch bid i.e. the tenderers are to quote for all items listed and the tender will be in 2(Two) Bids system i.e.,

i) **Technical Bid, and**

ii) **Price Bid**

TERMS AND CONDITIONS:

1. Tenderers should quote specific rates for each item. Tenders must be accompanied by **Earnest money calculated at 10% of the total tender value and 5% of the total tender value for SC/ST tenderers (On production of relevant documents)**. The Earnest money preferably should be in the form of Deposit at Call duly pledged in favour of the Asstt. Inspector General of Police (A), Meghalaya, Shillong. Earnest money in any other recognized forms like the National Saving Certificate and Fixed Deposit Receipt are also acceptable provided they are duly pledged in favour of the Asstt. Inspector General of Police (A), Meghalaya, Shillong. **The Earnest Money/Security Deposit papers pending in this office in connection with other tenders/supplies shall not be considered as Earnest Money for this tende**r. Further, no tenderer is exempted from the requirement of depositing Earnest Money on any ground.
2. Rates should be quoted F.O.R destination at Police Headquarters and should be inclusive of all charges like packing insurance and other incidental charges. Rates quoted should be clearly and neatly written in figures as well as in words. All correction/cancellation must be initialed, otherwise tender will stand rejected. **GST should be quoted separately on taxable items as deduction of Tax at Source will be affected accordingly on Firm's bills.**
3. Tenders should be addressed to the undersigned by designation and not by name, the Sealed envelope containing the tender should be superscribed as **"Tender for Procurement of Riot Control Gear for Meghalaya Police for the Financial year 2023-24."** and be posted under registered cover or sent through messenger.
4. All documents submitted should bear the seal and signature of the tenderer otherwise their tender will be out rightly rejected.

5. **Attested copy of valid GST Registration Certificate along with GSTR-3 latest filed returns and Tax Identification No. (TIN) of the tenderer should be enclosed without which the tender shall be out rightly rejected.**

6. Attested copy of **Valid Trading License** from the Khasi Hills Autonomous District Council Authority of Meghalaya in case of non-tribal firms/suppliers should be furnished within 10 (Ten) from the date of allotment of tender failing which the tender will be out rightly rejected.

7. Attested copy of Scheduled Tribe Certificate (ST) from Meghalaya for Tribal tenderers should be furnished within 10(Ten) days from the date of allotment of tender.

8. An attested copy of Photograph of the Tenderer should be submitted along with Tender.

9. The tenderer should have an average annual turnover of ₹6 Crores for the Financial Year 2020-2021, Financial Year 2021-2022 & Financial Year 2022-2023.

10. An undertaking should be furnished that the supply/work will be done by the contractor/tenderer himself/herself.

11. A Financial Stability Certificate from the Deputy Commissioner, 1st Class Magistrate or of a Schedule Bank certifying that the firm/supplier is capable to undertake the supply should be submitted along with the tender. Attested copy of up-to-date Tax Clearance Certificate and Professional Tax Clearance Certificate from the concerned Taxation Department should also be enclosed.

12. Catalogues/Brochures with detailed **Technical Specifications from the manufacturers for each item quoted, as per the MHA QRS at Annex-A**

13. Experience certificates of supplying similar items should be enclosed along with the tender documents.

14. Tenderers are required to submit samples for items quoted. All Samples submitted must clearly bear manufacturer's marking and specification, brand name, etc along with the firm's label attached on each sample.

15. Those tenderers who are authorized Agent/Dealers of the Original Equipment Manufacturers (OEM) should submit authorized dealership Certificate.

16. **The Dealership/Authorization Certificate should be submitted in original signed in ink with Seal. Computer generated Dealership/Authorization certificate will be out rightly rejected.**

17. **The risk on transport will have to be borne by the suppliers themselves** and in case any damages equipment are detected the same should be replaced immediately as per the approved sample.

18. **The Tenderers should be prepared to accept item-wise rates approved by the Department otherwise their Earnest Money may be forfeited.**

19. The Director General of Police, Meghalaya **is not bound to accept the lowest tendered rates**.

20. **If at the time of opening of Tender, should there be any objection raised by the Tenderers/Representatives present as to the validity of any tender, the objection will be duly recorded and will be put up to the Purchase Board for consideration. The decision of the Purchase Board on such objection will be final and binding.**

21. The successful tenderers will be intimated by a letter of acceptance by the Asstt. Inspector General of Police (A). Till then, no tenderer has any right to assume that his/her tenders have been accepted.

22. (A) In the event of contractor's failing to perform his/her part of the contract to the satisfaction of the Department or disregard any terms or conditions of the Tender Notice or the Contract Agreement, the contractor shall be liable to all or any of the following action: -

    i) Forfeiture of Security Deposit in whole/part.
    ii) Making good the loss caused to the Government through the inability, neglect or delaying to comply with the demand.
    iii) Imposition of penalty (fine) in case of failure to make the supply within the stipulated time at the rate of 0.50% on the total amount of supply ordered for everyday not exceeding 2 weeks that he shall exceed his time either for the total supply or value of item(s) ordered for, and for liquidated damages.

    (B) All losses sustained by the Government due to failure, omission of neglect of the contractor may be realized from his/her Security Deposit and outstanding dues or any other sums which may be due to him/her from the respective Controlling Officer.

23. If the contractor/firm willfully neglects, fail to perform or observe any conditions of contract, or attempt to cheat or indulge in malpractice, the Director General of Police, Meghalaya may take necessary action to impose ban upon such contractors/firms for the future business with this Department.

24. Successful tenderer will be required to furnish a Security Deposit and execute Contract Agreement to ensure fulfillment of the terms & conditions of the Contract which the successful tenderers will have to enter into. The Security Deposit will be held by the Department free of interest and the deposit shall be subjected to forfeiture in case of non-fulfillment of any of the terms and conditions of the Contract.

25. The Earnest Money of successful tenderer will be released only after he/she furnishes the full Security Deposit within the time fixed by the Department for the purpose failing which, the Earnest Money may be forfeited to the Government.

26. Earnest Money of unsuccessful tenderers will be released by the Department after the selectionprocess of successful tenderers is finalized.

27. **Tenders not accompanied with all the required papers/documents or not fulfilling the terms & conditions will automatically stand rejected.**

    The following are the rates of Security Deposit: -

- **For Contract upto Rs. 20,000/-, 5% from tribal contractor and 6% from non-tribal Contractor.**
- **For Contract upto Rs. 50,000/-, 10% from tribal contractor and 11% from non-tribal Contractor.**
- **For Contract upto Rs. 1, 00,000/-, 10% from tribal contractor and 11% from non-tribalContractor.**
- **For Contract over Rs. 1, 00,000/-, 20% for all categories.**

28. Once the rates offered in the tenders are accepted, no enhancement of rates will be accepted under any circumstances and the tenderer will be liable to supply at the rates approved and accepted by the Director General of Police, Meghalaya. Failure to make the supplies at the approved and accepted rates will entail cancellation of Contract Agreement and the Security Money will be forfeited to Government.

29. Once the Sample is approved, **no changes in the brand name, shade pattern, quality or specification will be entertained** even on the plea of non-availability of raw materials or alternative offers of similar quality.

30. The stores supplied must be of the same specification, weight, brand and quality as per tendered samples. Tenderers will have to furnish the counter samples within 2 (two) weeks of receipt of intimation regarding acceptance of tender. Failure to submit counter-samples in time as per the specification of the approved sample will entail cancellation of offer and forfeiture of Earnest Money/ Security Deposit.

31. (A): - Delivery shall have to be completed within **8 (eight)** weeks from the date of receipt of supply orders. No extension of delivery period will be entertained beyond the stipulated period unless the approved supplier submits irrefutable grounds for extension and delivery. In case of the plea that the approved items are no longer manufactured for which the supply cannot be made, an authenticated certificate in original from the concerned manufacturer should be furnished. **No computer-generated documents/certificate will be accepted.**

    (B): - The application for extension of time must be submitted to this office in time after receiving the firm order, and not later than the date fixed for completion of the supply. Applications for extension of time received after the stipulated time will not be considered.

32. **Payment will be made to the suppliers directly on completion of supplies and on correct receipt of goods by the respective consignee and based on the recommendation of the Line Committee.**

33. Documents/Vouchers/R. Rs bill etc., routed through Banks will not be accepted. Consignments will be dispatched by the Firm after payment of all freight charges at source. Freight to pay 'R. Rs' will not be accepted.

34. Tenderers may note that all Samples (un-approved) submitted by them are returnable. The Samples should be collected by the tenderers at their own cost and risk from this office failing which the Samples will be forfeited to Government. If the un-approved Samples are not collected by the unsuccessful tenderers within 1 (one) month of finalization of the tender by the Departmental Purchase Board, the same will be disposed off by the Department without any compensation to the unsuccessful tenderers.

35. The Tender should be in 2(Two) Bids i.e., (i) Technical Bid and (ii) Price Bid. Tenderer should submit separate sealed cover for Technical Bid and separate for Price Bid. Price Bid should be submitted in a separate sealed cover for each item quoted. Tender Opening Committee of the Office will open the Technical Bids in the presence of the representatives of the tenderers if any. The Technical Bids will be properly evaluated by the Committee and only that quotations/Bids which fully complies with the term and conditions prescribed in NIT and also the prescribed Technical Specifications enclosed with the NIT of this office will be accepted. Price Bids of only those Technical Bids which fully conforms to our required Technical Specifications will be opened.

36. The tenderer should quote only 1(one) offer per item, tenderers quoting different options of the same item will be summarily rejected.

Asstt. Inspector General of Police (Admn),
Meghalaya, Shillong.

Letter No. PHQ/RO/226/Pt-I/22/88 **Dated Shillong, the 21st December, 2023.**

Copy To:

1. The Director of Information and Public Relations, Meghalaya, Shillong for kind information with a request to kindly publish the tender notice and list given (enclosed soft copy) in 3 (Three) Newspaper i.e. in English, Khasi and Garo Medium, which are widely circulated throughout the state.
2. The Director, Printing and Stationery, Meghalaya, Shillong along with the soft copy with a request to kindly publish in the next issue of Meghalaya Gazette.

Tender Notice

Sealed tenders are invited for supply of Riot Control Gear for Meghalaya Police for the Financial Year 2023-24. These will be received by the undersigned **up to 23rd January 2024 at 1200 hrs and will be opened on the same day at 1600 hrs**. Full details are available in the office of the undersigned during office working hours or **megpolice.gov.in**

Asstt. Inspector General of Police, (Admn)
Meghalaya, Shillong

Letter No. PHQ/RO/226/Pt-I/22/88 **Dated Shillong, the 21st December, 2023.**

Copy forwarded to:-

1. The Director General of Police Meghalaya, Shillong or favour of kind information.
2. The Inspector General of Police (PW/C) / (L&O/TAP/HQ), Meghalaya, Shillong for favour of kind information.
3. The Spl. Superintendent of Police, CID / SB-I, Meghalaya, Shillong for favour of kind information.
4. The Superintendent of Police, Anti-Infiltration Directorate, Meghalaya Shillong for favour of kind information with a request to kindly paste the NIT in the Notice Board.
5. The Superintendents of Police, East Khasi Hills, Shillong / West Khasi Hills, Nongstoin / South West Khasi Hills, Mawkyrwat / West Jaintia Hills, Jowai / East Jaintia Hills, Khliehriat / Ri Bhoi District, Nongpoh / Eastern West Khasi Hills, Mairang / East Garo Hills, Williamnagar / West Garo Hills, Tura / South Garo Hills, Baghmara / South West Garo Hills, Ampati / North Garo Hills, Resubelpara / F&ES, Shillong / Tura for favour of kind information with a request to kindly paste the NIT in the Notice Board.
6. The Commandants 1st MLP Bn, Mawiong / 2nd MLP Bn, Goeragre / 3rd MLP Bn, Sahbsein / 4th MLP Bn, Sohpian / 5th MLP Bn, Samanda (Vikaspuri, New Delhi) / 6th MLP Bn, Umran / SF-10, Shillong for favour of kind information with a request to kindly paste the NIT in the Notice Board.
7. The Principal, Police Training School, Umran, Ri Bhoi District for favour of kind information with a request to kindly paste the NIT in the Notice Board.
8. I/C Computer Wing (PHQ), Meghalaya, Shillong for information along with a soft copy containing the Tender Notice for uploading the same in the website of Meghalaya Police.

Asstt. Inspector General of Police (Admn),
Meghalaya, Shillong.

CERTIFICATE OF ACCEPTANCE OF TERMS AND CONDITIONS

(To be furnished along with the tender documents)

I/we have read and fully understood the terms and conditions as laid down in the NIT vide No. **PHQ/RO/226/Pt-I/22/88 Dated Shillong, the 21st December, 2023** in respect of supply of Riot Control Gear to the Office of the Director General of Police,Meghalaya, Shillong due to be opened on **23rd January, 2024**.

I/We agree to abide by the same/

I/We have signed all the pages of the tender documents as laid down.

Signature and seal of the Tendereror his/her

Authorized Signatory.

Dated .....

Name .....

Address .....

Phone No. .....

ANNEXURE I – Detailed Specifications

1. ANTI RIOT FULL BODY PROTECTOR – XXX NOS

Sr No	Specification of Full Body Protector for Male
01	**Nomenclature:** It comprises of Chest protector, Shoulder Pad, Upper Arm guard, Elbow & Fore Arm guard, Thigh / Pelvic guard, Groin guard and Shin guard.
02	**Colour:** Fabric and shield of required color and required plain / disruptive/camouflage pattern as agreed to between the manufacturer and the user.
03	**Weight:** The overall weight of full body protector shall be < 6.5 kg
04	**Life:** 06 Years
05	**Size:** Medium and Large
5.1	**Reference Size:** Based on statistical data and based on ergonomics, dimensions for Small, Medium and Large Size of body protector have been arrived to as given in Appendix- B.
5.2	**Sizes of components of Body Protector for Men:** Medium size of components of body protector is taken as reference size for Male. Small size shall be 10% smaller than the reference size and large size shall be 10% larger than the reference size.
06	**Dimensions of Full Body Protector:** Components of Full Body Protector for male should meet to the dimensional requirements of the size of the Full body protector given in Appendix-B. Tolerances for all the measurements shall be ± 5%.
07 7.1.1	**Material:** Type of Fabric – The woven and knitted fabric should be made of cotton fiber. The fiber shall be identified as 'cotton' in accordance with IS 667: 1981
7.1.2	a) Mass of outer and Inner woven fabric shall be 230 +/- 5% g/m2 when tested in accordance with IS1964:2001 b) Mass of cotton knitted neck fabric shall be 150+/- g/m2
7.1.3	Tear Strength – Tear Strength of woven fabric mass: 230 +/- 5% shall be **Lengthwise (Warp)- 60 N for Warp and Width wise (Weft)- 55 N** for weft when tested.
7.1.4	Tensile Strength – Tensile Strength of woven fabric mass: 230 +/- 5% shall be **Length wise – 980 N (Minimum) for Warp and Width wise – 500 N (minimum)** for weft when tested. Bursting strength of knitted fabric of GSM 150 +/- 5% shall be minimum 940 Kpa.

7.1.5	**Flame Retardancy** – Outer fabric and fabric for neck protection / collar shall pass the requirements when tested for flame retardance by Surface ignition and Edge ignition in accordance with Procedure A and Procedure B of IS 15758 (Part-4) respectively.
	Requirements for Surface Ignition a) No specimen shall give hole formation. b) No specimen shall give flaming to the top or either side edge c) No specimen shall melt or give flaming or molten debris d) The mean value of after-flame time shall be ≤ 2 s. e) The mean value of after-glow time shall be ≤ 2 s. **Requirements for Edge Ignition:**
	a) No specimen shall give flaming to the top or either side edge b) No specimen shall melt or give flaming or molten debris c) The mean value of after – flame time shall be ≤ 2 s. d) The mean value of after – glow time shall be ≤ 2 s.
7.1.6	**Flame Retardancy after washing** – Both fabrics shall be washed for 30 washes in accordance with IS 15370 and shall be tested for flame retardancy as per clause 7.1.5and meet the requirements as mentioned in clause 7.1.5
7.1.7	**Bacterial Filtration Efficiency** – Inner Fabric shall have Bacterial Filtration Efficiency.
7.1.8	**Resistance to Chemicals** – Outer fabric and neck fabric shall be resistant to chemical when tested in accordance with IS 15758 (Part-3)2007 for • 10 percent hydrochloric acid solution. • 10 percent sulfuric acid solution. • Kerosene, petrol, diesel and Molotov cocktail liquid. When tested in accordance to IS 15758 (Part-3), the penetration index shall be ≤ 1 and Repellency Index shall be ≥ 95%.
7.2	**Thread** – Polyester sewing thread should be used.
7.3	**Protector Shield** – Plastic/ Composites/ Metal/ any other suitable material.
7.4	Full Body protector shall withstand stab and impact requirements given at para 9.1 Table-1 when tested in accordance with the corresponding test methods prescribed in VPAM KDIW 2004: 18/05/2011.
7.5	**Protective & Comfort Padding** – Padding may be made of suitable material in single layer or made in combination of layers of foam, rubber, plastic or any other suitable material.
08 8.1	**Construction** Number of stitches – Stitches shall be made of double thread. A minimum of 06 stitches per 2.5 cm shall be applied for all components of Full Body Protector.

8.2	**Construction of Pads** – Multilayer padding provided for shock absorption and better impact protection
	8.2.1 Multilayer of pads shall be inter- switchable together so as to remain in place and shall not slip. Outer side of pads shall be covered with outer fabric which is flame retardant. Inner side of pads (wearer side) shall be covered with inner fabric which is sweat absorbing and resistant to microbes.
	8.2.3 Material coming into contact with the wearer's skin shall not be the type known to cause skin irritation or disease, and shall not undergo significant loss of strength, flexibility, or other physical change as a result of contact with perspiration or body oil.
	8.2.4 Any material used in the construction of body protector shall not be adversely affected by ordinary household soap and water, mild household detergent, or cleaners.
09	**Mechanical Properties** 9.1 Full Body Protector shall meet the requirements give below in Table 1 and 2 when tested in accordance with VPAM KDIW 2004 Edition 18/05 / 2011

Table - 1
Requirements of Mechanical Properties for Chest Protector and Back Protector

Sl. No.	Requirement	Strike energy/ Joules	Angle of Incidence (degrees)	Permitted value, mm	Reference Clause/ Annex/ IS
1	Stab Resistance	65	90 25	<20 (Penetration depth)	VPAM KDIW 2004:18/05/2011 Class K-3 Section - 5
2	Impact Resistance	100	90	<20 (Deformation depth)	VPAM KDIW 2004:18/05/2011 Class W-5 Section - 8

9.2	**Flame Retardancy** – Full Body Protector shall meet the requirements when tested in accordance with IS 15758 (Part 4) for Surface ignition and Edge ignition and shall meet requirements as mentioned in para 7.1.5. and 7.1.6
9.3	**Resistance to chemicals** – Full Body Protector shall be resistant to chemicals when tested in accordance with IS- 15758 (Part-3) 2007 and shall meet requirements as mentioned in para 7.1.8.

9.4	**Temperature** – Full Body Protector should be able to with stand when exposed to temperature of -20°C for 05 hours and 55° C (+ 2° C) for 05 hours separately. There should not be any deformation or cracks after the exposure.
10 10.1	**Ergonomic Requirements** All the components of Full Body Protector shall be flexible for optimum movement, fit, comfortable and suitable to human body parts shape. Body protector shall be designed for maximum wearing comfort and easy maneuverability.
10.2	Upper Arm Protector Shield shall be flexible for easy to wear. Elbow Protector Shield shall be attached with forearm Protector Shield.
10.3	Groin Protection Padding must be segmented and shall be attached to Chest protector Shield. The protection attachment shall cover groin area from the anticipated projectiles and shall be comfortable when sitting.
10.4	Thigh guard & pelvic guard shall be attached and flexible & easy to wear/movement. It must be supported by Kamar bandh to avoid slippage while running and during movement.
11 11.1	**Hook & Loop Fasteners** The components of the fasteners for securing attachments to the Full Body Protector shall not reduce the degree of protection afforded to the wearer by the protective padding or cushioning material of the Full Body Protector.
11.2	Hook and Loop fasteners (Velcro) shall be adjustable, durable and shall be attached to elastic strips.
11.3	Hook and Loop Fasteners shall withstand to 300 cycles of opening and closure operations.
11.4	Shear strength of Hook & Loop Fasteners: Minimum - Shear strength Lengthwise: 1200 Shear strength Widthwise: 830
11.5	Endurance test of hook and loop fasteners (after 5000 cycles of closing and opening operations). Shear strength Lengthwise: 1170 Shear strength Widthwise: 770 % of Reduction in shear Strength after 5000 cycles Lengthwise: 8% only % of Reduction in shear Strength after 5000 cycles Widthwise: 7% only
12	**Fiber thickness of Chest Protector** • **Front Protector Thickness - 4.5mm** • **Back Protector Thickness - 4.75mm**
13	(Full Body Protector) Should be entirely Made in India Product
14	Provide extra ankle guard for extra protection towards sharp projectiles. (This improves protection against projectiles thrown from near ground level like stones & sticks)
15	The seller is required to print logo as per buyer's requirement, on the upper section of front plate of Full Body Protector "MEGHALAYA POLICE" should be embossed. The Meghalaya Police logo size 3x3" is required to be depicted on the back side of helmet

Dimensional Requirements for components of Full Body Protector (Male)

Table B-1

Dimension of Chest Protector Shield and padding:-

Sl.No	Description	Male (Medium size)	
		Length (cm)	Width (cm)
i.	Front Protector shield (Ref. Fig.01)	40	39
ii.	Back Protector shield (Ref. Fig. 02)	42	31
iii.	Front padding with Segmented Groin Pad (Ref. Fig.03)	60	43
iv.	Back padding (Ref. Fig. 04)	50	55
v.	Neck Pad	30	92.5

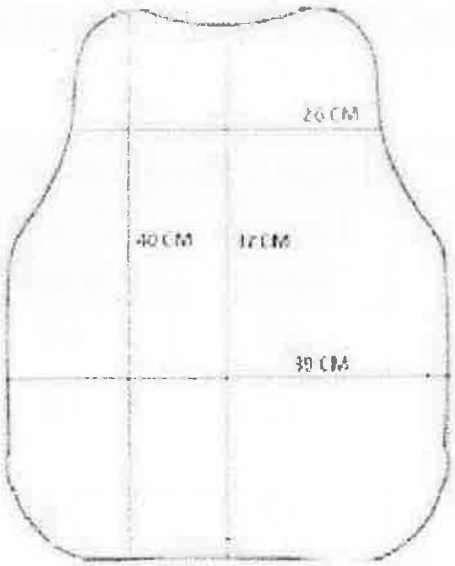

Fig.1– FRONT PROTECTOR SHIELD

Fig.2– BACK PROTECTOR SHIELD

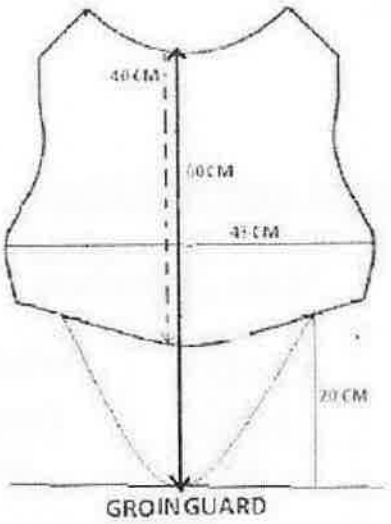

Fig.3– FRONT PADDING WITH SEGMENTED GROIN PAD

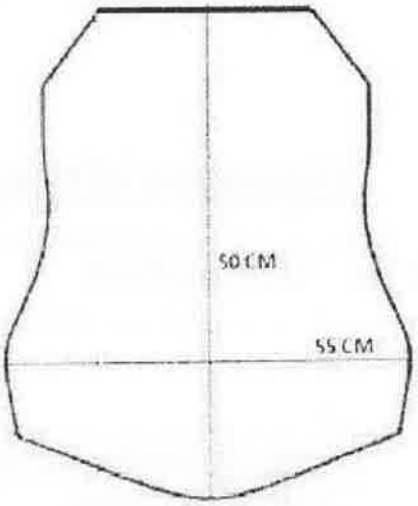

Fig.4– BACK PADDING

Table B-2

Dimensions of Elbow and Fore Arm Protector Shield and Padding:

Sl.No	Description	Male (Medium size)	
		Length (cm)	Width (cm)
i.	Elbow shield(Ref. Fig. 05)	13	18
ii.	Forearm guard shield outer (Ref. Fig.06)	17	16
iii.	Forearm guard shield Inner (Ref. Fig.07)	17	9.5
iv.	Elbow & Fore Arm shield Padding (Ref. Fig.08)	37 (overall)	27 (overall)

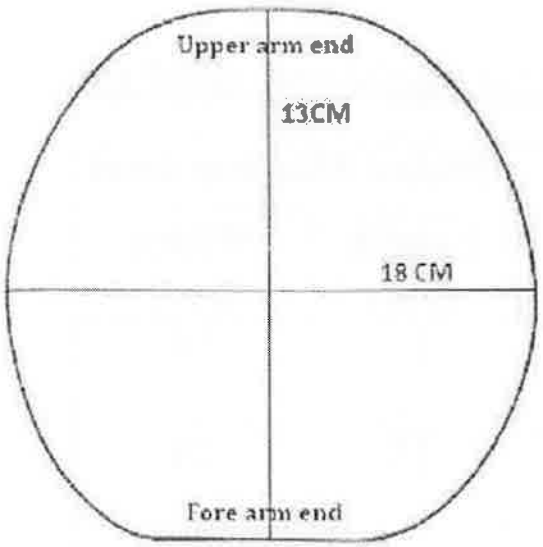

Fig.5 ELBOW SHIELD

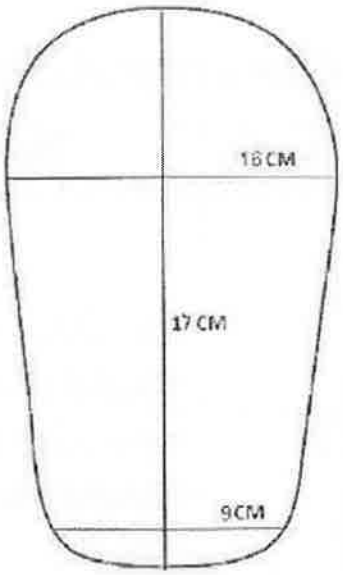

Fig. 6 FOREARM GUARD SHIELD OUTER

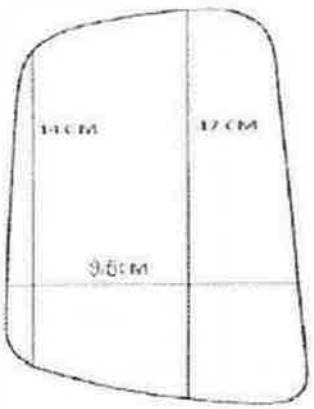

Fig.7 FOREARM GUARD SHIELD INNER

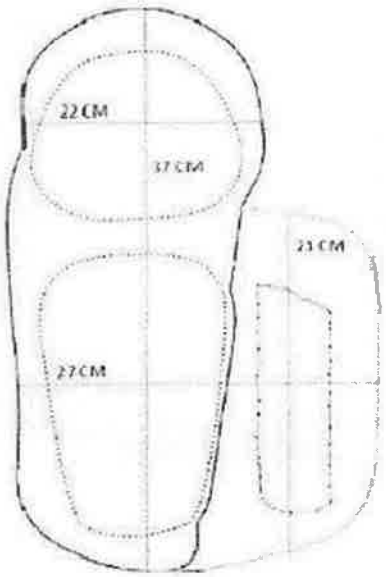

Fig.8 ELBOW AND FORE ARM GUARD INNER PADDING

Table B-3

Dimensions of Shoulder Protector Shield and padding:

Sl.No	Description	Male (Medium size)	
		Length (cm)	Width (cm)
i.	Shoulder Protector Shield (Ref. Fig.09)	11	19
ii.	Shoulder Protector Shield Padding(Ref. Fig.10)	13	23

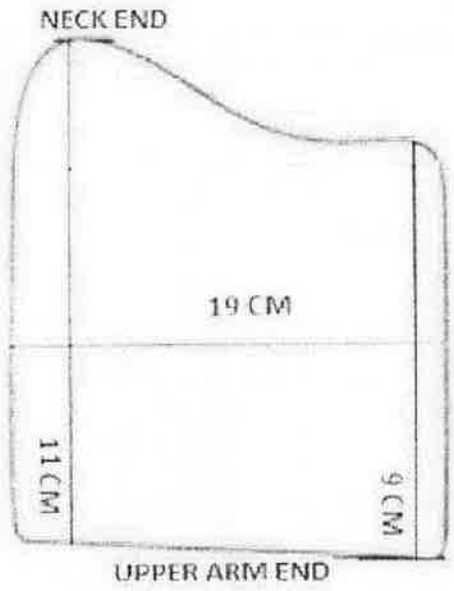

Fig.9 SHOULDER PROTECTOR SHIELD

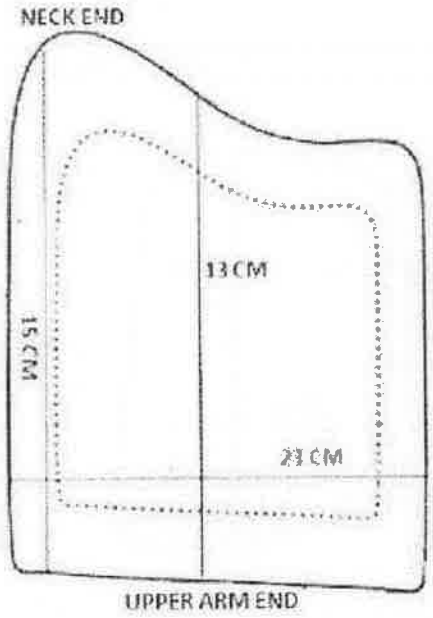

Fig.10 SHOULDER PROTECTOR SHIELD PADDING

Table B-4

Dimensions of upper Arm Protector Shield and padding:

Sl.No	Description	Male (Medium size)	
		Length (cm)	Width (cm)
i.	Upper Arm Protector Shield(Ref. Fig.11)	17	22
ii.	Upper Arm Protector Shield Padding (Ref. Fig.12)	23	24

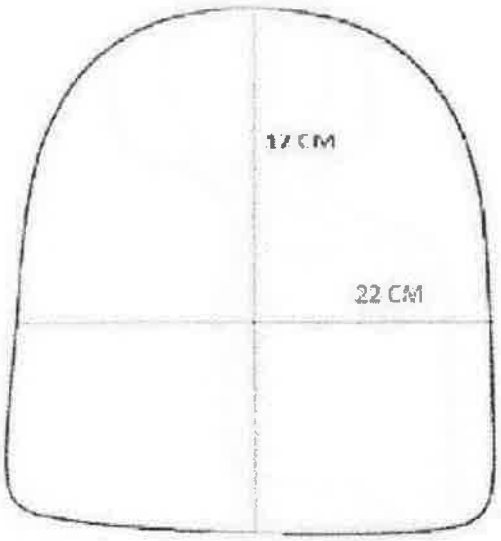

Fig.11 UPPER ARM PROTECTOR SHIELD

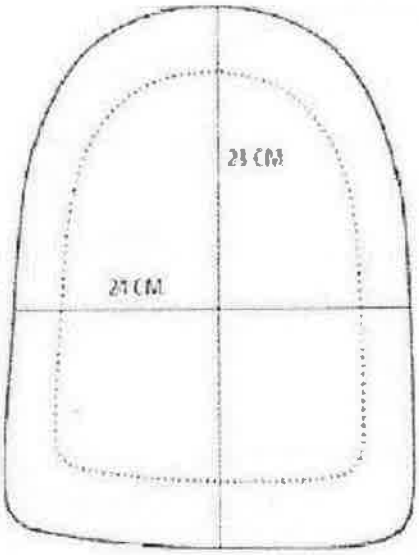

Fig.12 UPPER ARM PROTECTOR SHIELD PADDING

Table B-5

Dimensions of Thigh and Pelvic Protector Shield and Padding:

Sl.No	Description	Male (Medium)	
		Length (cm)	Width (cm)
i.	Thigh and Pelvic Protector Shield(Ref. Fig. 13)	25	31
ii.	Thigh and Pelvic Protector Shield Padding (Ref. Fig.14)	50	85 to 110

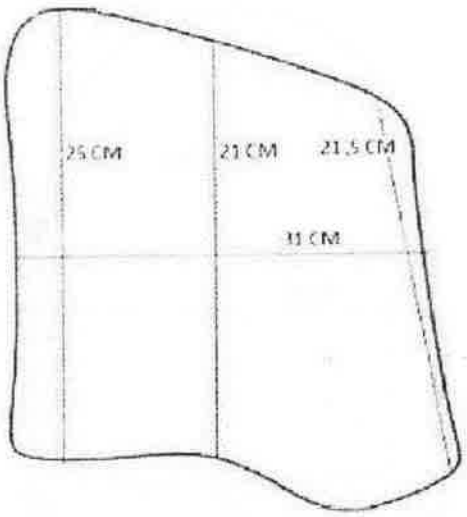

Fig.13 THIGH AND PELVIC PROTECTOR SHIED

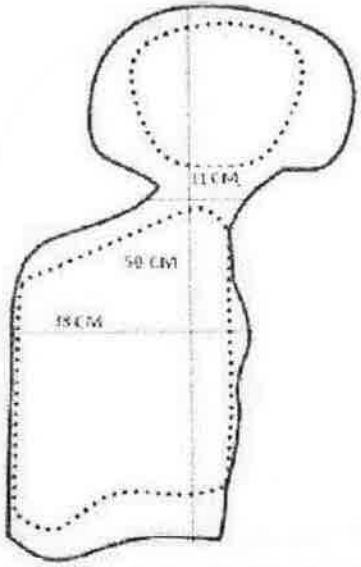

Fig.14 THIGH AND PELVIC PROTECTOR SHIELD PADDING

Table B-6

Dimensions of Shin Protector Shield and Padding:

Sl.No	Description	Male (Medium size)	
		Length (cm)	Width (cm)
i.	Knee Protector Shield (from outside)(Ref. Fig.15)	14	25
ii.	Shin Protector Shield (from outside)(Ref. Fig.16)	26	27
iii.	Shin Protector Padding (Ref. Fig.17)	55	27

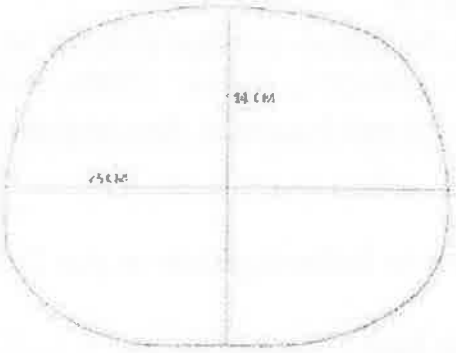

Fig.15 KNEE PROTECTOR SHIELD (FROM OUTSIDE)

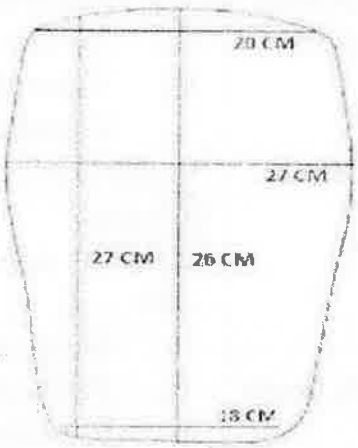

Fig.16 SHIN PROTECTOR SHIELD (FROM OUTSIDE)

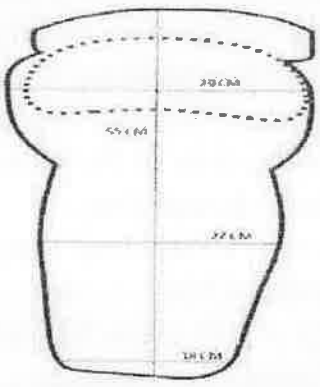

Fig.17 SHIN PROTECTOR PADDING

2. RIOT HELMET – XXX NOS

Sr. No	HELMET SPECIFICATION	
1	**Shell**	This includes chin strap, visor without wire mesh including fixing mechanism, Front and rear neck protection, rubber beading at the edge of helmet and protective as well as comfort padding
2	**Shape**	Round shape Open face.
	Weight	1600 grams Maximum (for weight purpose Shell includes padding Visor without wire mesh, Chin strap, Rubber beading, Front and rear neck protection
	Size	Medium- 48 to 57 Cms Large - 58 - 62 Cms
	Thickness	Not less than 03 mm with negative tolerance of 5 %.
3	**Padding Thickness**	i. Protective padding thickness not less than 10 mm and the weight cannot be less than 150 grams. ii. Material- Virgin EPS iii. Comfort padding thickness- not less than 10 mm, iv. Material- GSM- 100±5%, Fabric 100% Polyster, Circular knitted and anti-bacterial, fire retardant
4	**Colour**	As per requirement
5	**Life Span**	**06 years** The shell should confirm to following tests as per IS 9562-1980: i. Shock Absorption Test ii. Penetration Resistance iii. Rigidity Test iv. Water absorption Test v. Flammability Test vi. Firing Test
6	**P.C Visor (Without Wire mesh) as per drawing:**	Visor (Without Wire mesh) as per drawing: It should be made concave at the bottom for every lifting and proper air ventilation and the upper edge of the visor should have rubber beading to prevent any tickle down of harmful chemical etc. on the face. The length of visor should cover the chin of the wearer while the width should cover the whole frontal face. i. Thickness - Not less than 02 mm with a negative tolerance of 5% ii. Weight - 300 gram Maximum (includes the weight of fixing mechanisms. This weight will be applicable only when Visor is procured separately for replacement. iii. Visibility - 85 % minimum with a negative tolerance of 5 % iv. Life - 02 Years

		It should conform to following tests: - i. Impact Strength (As per IS 9995-1981, Appendix-A.105) Flammability (As per IS 9995-1981, Appendix-A.1.9) ii. Light Transmission (As per IS 9995-1981, Appendix-A.2.5) Penetration Test as per IS standard 9562-1980.
7	**Visor (With Wire mesh)**	It should be made Concave at the bottom for easy lifting and proper air ventilation. Visor will have same specification as indicated at 'b' above. However, it will have additional wire mesh fixed on this visor as per following specifications. i. Diameter of wire- 2-3 mm ii. Uniform Gap between Visor and wire mesh-1.5 cm ± 0.2 cm wire mesh should not be more than 25 mm x 20 mm iii. Weight of wire mesh- Maximum 400 grams (weight is inclusive of fitment mechanism) iv. Life- 03 years Weight of Riot Control Helmet (Advance) will be accordingly 2000 grams as it will have additional 400 grams for wire mesh on visor and strength of fixing mechanisms.
8	**Chin Strap**	Thickness - Not less than 1.5 mm ±0.15 mm Width - 21±0.5 mm Length - Not less than 300 mm (including the tensioning and adjusting device) Breaking Load - Above 500 kg. Buckle/Chin strap should confirm to strength of retention system and dynamic retention test (IS 9562-1980)
9	**Neck Protector (as per drawing).**	i. Neck protections (front and rear) should be of such measurement so as to cover the gap between helmet and body protector to provide protection to the neck, collar bone and the cervical area of the wearer. ii. Front protector - Depth from the bottom of the shell. It should be covering the chest. iii. Rear Protector - Depth from the bottom of the shell is should cover the cervical area.
10	**Material**	i. Material of shell should be high impact virgin ABS with IZOD impact strength (at 6.4 mm notching) of 43 kg/cm at 23o C and 29 kg/cm at -30o C. or material of parallel impact strength at other notching. ii. It should have appropriate air/sound vent. Conforming to audibility test of 10 db over a frequency of 250 to 2000 Hz. iii. Provision for proper ventilation.

		iv. Rubber beading material shall be 100% EPDM (Ethylene Propylene Diene Monometer) with a tensile strength of 60 Kg f/cm2, hardness 70-72 shore 'A' and the ask content should be 15% max.
11		Protective padding of shell should be as under: - i. Should be able to sustain impact and provide thermal Insulation. Should be soft and comfortable. ii. Should be made of virgin material EPS. iii. Comfort padding should be soft comfortable, sweat absorbing anti- bacterial & flame retardant with following foam specification: - i. Density- 32 Kg/meter3 ± 2Cell Size- ≥ 70 PPI ii. Tensile strength- ≥0.85 Kg F/cm square iii. % of elongation - ≤ 150 iv. Hardness value @ 50% compression + 26 kg/323 cm square ± 5%
12		It should be made of following material specification: - i. Weight of PVC cotton coated fabric should be 570 GSM ±5% and breaking load warp 18 kg/5cm and weft 11 kg/5cm. ii. EVA padding thickness should be 10 mm (=0.8/-0.5) Hardness- 29±3 (Shore A)
13	**P.C Visor (Without Wire mesh) Material**	i. Virgin Polycarbonate ii. Should be scratch resistant from outside and anti-fog from inside. Should be movable adjustable and comfortable. iii. Incline 20°-50° iv. Light transmission rate not less than 85% with negative tolerance- 5%Should be bubble free and dust free. v. Pivot kit should be rust proof, corrosion resistant and should have locking system for closing and opening. vi. Rubber beading material of the upper edge shall be 100% EPDM with a tensile strength of 60 Kg f/cm2, hardness 70-72 shore 'A', and the ash content should be 15%max.
14	**P.C Visor (With Wire mesh) Material**	i. Material of P.C Visor will be similar as given (b) above. However, material of wire mesh fixed on PC visor will be stainless steel with powder coated for anti-rusting and anti-reflection. ii. The weight of complete helmet with visor fixed with wire mesh will be 2000 gm (Max.) (1600+400 gm)
15	**Chin Strap**	i. Adjustable chin strap with two-point support and comfortable fir, Buckle should be quick release type. ii. Locking mechanism of the strap should be skin friendly and rugged. iii. Should be made of flame-retardant PVC cotton

		coated fabric and should be washable. Material suited to all extreme weather conditions. iv. Locking between the thread should be present.
16	**Neck Protection (Front & rear)**	i. Material should be able to withstand heavy impact and should provide thermal insulation, and should be comfortable. ii. The material for outer cover should be of virgin material (PVC) iii. The material used for neck protector should be virgin material (EVA). The protector should be detachable. iv. The protector should have appropriate cushioning for shock/impact absorption. Rear neck protector should be attached with the helmet with mil standard CFC Zip. The front neck protector should have an additional support of strap with same specification as chin strap.
17		i. Front neck protector should be attached with shell of helmet by appropriate fitting snap fastener (Brass). ii. It should be water resistant, fire retardants and the fabric used should be PVC cotton coated material with sufficient cushioning. iii. All stitching on the neck protector (Rear and Front) should be done by fire retardant thread.

3. POLYCARBONATE LATHI

- Material: PC (Polycarbonate)
- Ultra strong
- Scratch proof, Non-Corrosive, Fire proof
- Light wt.
- Transparent
- High impact resistance
- Long Shelf life
- Straight /Firm/collapsible feature may be preferred in light of new technology with ideal flexibility

Technical Feature

- Length: 1mt $\pm$ 10 mm
- Diameter: 2.5cm$\pm$ 2 mm
- Wall thickness: 4mm $\pm$0.5mm
- Weight :350 gm $\pm$ 25gm

Additional and essential features Handgrip

- About 5"
- Round shaped
- Unbreakable (as required)
- Soft shock absorbent, but firm grip for proper handling with soft cushioning.

Wrist band – in the form of flexi 6" cotton / nylon /suitable fabric loop on the top handgrip to enable proper security of lathi/ cane.

Protective shoe/stud – Bottom 2" of lathi plugged with ring shaped, firm, fire- and water-resistant rubber cap firmly /permanently fixed.
Manufacturer's/ Suppliers written submission regarding non – corrosion, Scratch proofing, fire and water resistant be provided

4. POLYCARBONATE SHIELD

Sr. No	Polycarbonate Shield Specifications.			
1	Polycarbonate shield is the most important protective equipment for a person deployed for handling riotous situation. It is required to a person. It is required to protect him/her when facing crowd during demonstrations/Processions and while dealing with riotous mobs Polycarbonate shield is to protect the whole body from injuries due to impact blow from blunt objects, brick batting, Lathi blow stone pelting projectile/missiles, acid bulbs, Molotov Cocktails and industrial chemical. A high standard protective shield is therefore required for a policeman.			
	Polycarbonate shield for riot police has to be light weight with shock absorption capabilities, good quality material and fire resistant for handling crowds with varying degree of hostility.			
	Considering above aspects QRs of polycarbonate shield are proposed as under: QRs specification Technical Data:			
2.1	Nomenclature: Polycarbonate Shield			
2.2	Colour: Colourless (More than 83% Transparent)			
2.3	Weight: 3.4 kgs maximum. The weight of polycarbonate body of the shield shall be minimum.			
2.4	Dimensions			
	Length: 955mm +45mm and-20mm			
	Breadth (Flat): 580mm ±20mm			
	Breadth (Concave) 620mm± 10mm			
	Thickness: 03mm Minimum			
2.5	Shape: Rectangular or any shape giving maximum coverage to the user.			
3	**Material:**			
3.1	The polycarbonate sheet shall be made of high impact resistant/natural polycarbonate material it may contain additives processing aids and stabilizers (for example UV absorbers).			
3.2	The polycarbonate material shall comply with the requirements given in table 1 when tested as prescribed in Col-4 of Table 1.			
	1	2	3	4
	i)	i) Melt Flow Index, g /10 min (at 300®C under 1.2 Kg load When measured after pre-drying of the material at 120 ± 5®C up to 4 hrs).	i) 1.5 to 8 for extrusion/ Thermoforming) ii) 8 to 15 (For Injection moulding	IS I3360 (Part 4/Sec 1)
	ii)	ii) Specific Gravity	1.19 to 1.22	IS I3360 (Part 3/Sec 1)

	iii)	iii) Flexural Modulus, Min MPa (with crosshead speed of 1.2Mm/min and a span to depth ratio of 16 to 1 (test specimen size, 04 mm X 10 mm)	2200	IS 13360 (Part 5 Section 7)
	iv)	iv) Izod Impact strength, notched, Min, kJ/m2 (test specimen Thickness of 03 mm and notch Radius of 0.25 mm)	60	IS 13360 (Part- 5 Section - 4)
	v)	Deflation temperature under load at 1.82 MPa,, Min °C	120	IS 13360 (Part- 6 Section - 17)

<table>
<tr><td>3.3</td><td colspan="4">The Polycarbonate body of the shield shall also comply with the requirements given in table 2 when tested as prescribed in Col.-4 of the table 2
Table 2 Requirement for Polycarbonate Body of the shield:</td></tr>
<tr><td></td><td>Sr. No</td><td>Characteristic</td><td>Requirement</td><td>Method of test Ref to IS/Annex</td></tr>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td></td><td>i)</td><td>Dart drop Impact, in, J (at 27®C)</td><td>150</td><td>Annx B of IS 14443</td></tr>
<tr><td></td><td>ii)</td><td>Light transmission, Percent, Min</td><td>83</td><td>IS 13360 (Part 9 section -5)</td></tr>
<tr><td></td><td>iii)</td><td>Flammability test (test specimen thickness 3.18 mm + 0.13 mm</td><td>94 HB Class</td><td>IS 13360 part-6 Section -5</td></tr>
<tr><td>3.4</td><td colspan="4">Ribs shall be given all along the edges for higher structural Strength.</td></tr>
<tr><td>3.5</td><td colspan="4">The Polycarbonate body of the shield shall have abrasion Resistance surface coating on both surfaces.</td></tr>
<tr><td rowspan="5">4</td><td colspan="4">Arm rest / Handle:
4.1 Cushioned arm rest to provide comfort in long use.</td></tr>
<tr><td colspan="4">4.2 Grips and supports must allow the user to comfortably hold and position the polycarbonate protective Shield.</td></tr>
<tr><td colspan="4">4.3 General requirement of Handle:
a) Manufacturing process for handle should be Gas- Assisted injection Moulding (GAIM):</td></tr>
<tr><td colspan="4">b) Material for Handle should be polymeric preferably Polycarbonate.</td></tr>
<tr><td colspan="4">c) Elastomeric brushes and washer system should be used for nut and bolt system.</td></tr>
<tr><td></td><td colspan="4">d) Metallic bolts, if used shall be SS 304 hex headed M6 bolts Nut and bolt system should preferably be self-locking.</td></tr>
<tr><td rowspan="5">5</td><td colspan="4">Performance of PC Shield</td></tr>
<tr><td colspan="4">5.1 Resistance to vandalism</td></tr>
<tr><td colspan="4">5.1.1 The test is to provide complete protection against brick batting. Stone pelting, iron rod/ cane attack.</td></tr>
<tr><td colspan="4">5.1.2 The polycarbonate body of the shield shall have impact resistance of level ‘A3” when tested for vandal resistance a per the test method prescribed in Annex C of IS 14443.</td></tr>
<tr><td colspan="4">5.2 Resistance of Force Entry:
The polycarbonate body of the shield shall have resistance of level ‘B3” against penetration when tested for resistance to Forced entry as per the test method prescribed in Annex D of IS 14443.</td></tr>
<tr><td></td><td colspan="4">5.3 Resistance to Surface Abrasion:
The resistance of polycarbonate shield to surface abrasion shall be tested in accordance with ASTM D 1044 for 100 cycles under 500 g load Haze of test specimen shall not be more than 20 percent.</td></tr>
</table>

6	Life: 06 Years.
7	Miscellaneous: The word MEGHALAYA POLICE in 110 mm width and 400 mm length may be written of fluorescent paper (color to be specified by user) in the middle of the front side or as required by user department.
	7.2 The design of the shield should be such that during handling the vision area should not fall on the resting surface.