GOVERNMENT T OF ARUNACHAL PRADESH
OFFICE OF THE DIRECTOR GENERAL OF POLICE
ITANAGAR

NO.PHQ (Prov) 20/2026-27. Dated Itanagar, the 14th September,2026.

CORRIGENDUM/ ADDENDUM

Ref. this office Tender Notice No. PHQ (Prov)20/2026-27 Dated 27/08/2026 for Supply Anti-Riot Equipments for Arunachal Pradesh Police during the year 2026-27.

It is hereby notified for the information of all concerned that the following correction/addition is made to the above-referred Tender Notice: -

1. The Specifications of Full Body Protector, Poly Carbonate Shield and Anti-Riot Helmet with mesh are hereby replaced with the latest MHA's approved specifications as indicated in Annexure-B attached herewith.

2. The Specifications of Polycarbonate Lathi and Loud Hailer and all the other terms & conditions of the Tender Notice shall remain unchanged.

Sd/-
Director General of Police
Arunachal Pradesh
Itanagar

Memo NO.PHQ (Prov)-20/2026-27. Dated Itanagar, the 14th September, 2026.

Copy to: -

1. I/C Computer Cell, PHQ for information and necessary action: - The Addendum Notice may be uploaded on the web site of APP.
2. Office copy.

Asstt. Inspector General of Police (E)
PHQ, Itanagar (AP).

Asstt. Inspector General of Police (E)
Police Head Quarters, Itanagar
Arunachal Pradesh

ANNEXURE-B

1. QUALITATIVE REQUIREMENTS (QRs)/ SPECIFICATION OF FULL BODY PROTECTOR.

01. Nomenclature: - Full Body Protector

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 colour 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:- Three sizes namely Small, 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 Male: 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. Material:-

7.1.1 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/ m^2 when tested in accordance with IS 1964:2001.

b) Mass of cotton knitted neck fabric shall be 150 ±5% g/m^2.

7.1.3 Tear Strength – Tear Strength of woven fabric Mass: 230 ± 5% shall be 25 N (minimum) for Warp and 20 N (minimum) for weft when tested in accordance with IS 6489 (Part-1).

7.1.4 Tensile Strength – Tensile Strength of woven fabric Mass: 230 ± 5% shall be 770 N (minimum) for Warp and 450 N (minimum) for weft when tested in accordance with IS 1969 (Part-1).

Bursting strength of knitted fabric of GSM 150 ± 5% shall be minimum 240 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 7.1.5 and 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. Construction

8.1 Number of stitches – Stitches shall be made of double thread. A minimum of 04 stitches per 2.5 cm shall be applied for all components of Full Body Protector.

8.2 Construction of Pads – Single or multilayer.

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 I when tested in accordance with VPAM KDIW 2004 Edition 18/05/2011.

Table- 1

Requirements of Mechanical Properties for Chest Protector and Black Protector

Sl. No.	Requirement	Strike energy/ Joules	Angle of Incidence (degree)	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 withstand 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. Ergonomic Requirements

10.1 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 kamarbandh to avoid slippage while running and during movement.

11. Hook & Loop Fasteners

11.1 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-Lengthwise-750. Widthwise -750 as per Annex-E of IS 8156: 1994

11.5 Endurance test of hook and loop fasteners (after 5000 cycles of closing and opening operations). The shear strength shall not decrease by more than 10% of their original value as per Annexure-G of IS 8156: 1994.

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

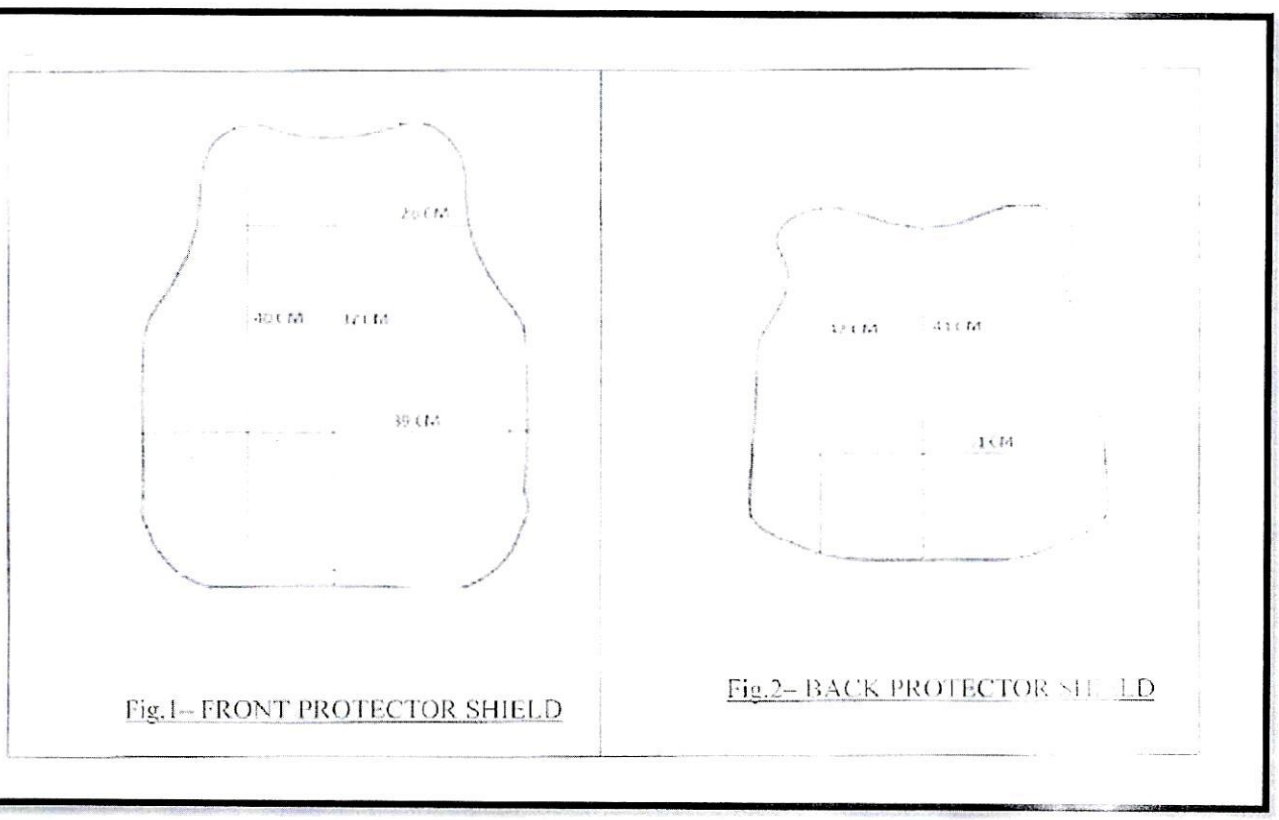


Fig.1– FRONT PROTECTOR SHIELD

Fig.2– BACK PROTECTOR SHIELD

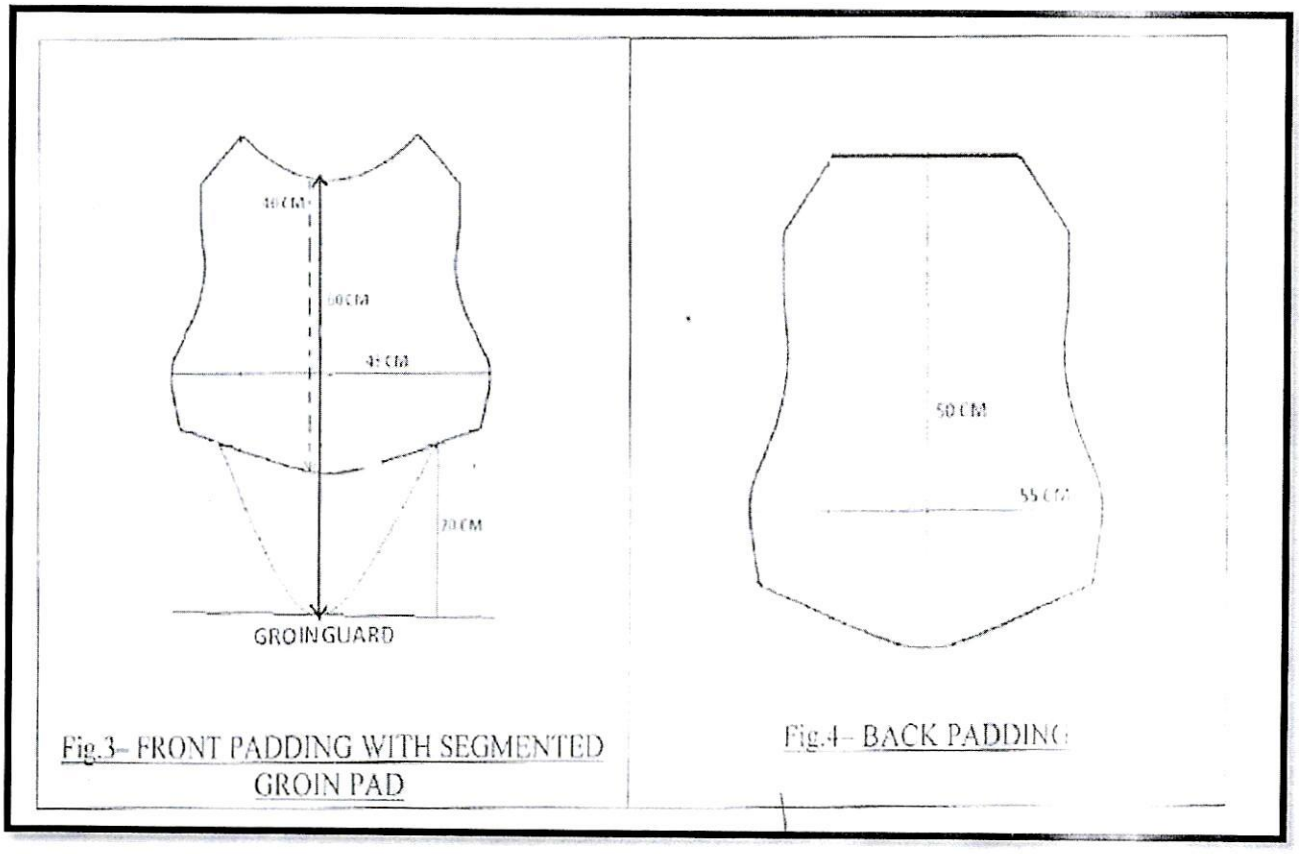


Fig.3– FRONT PADDING WITH SEGMENTED GROIN PAD

Fig.4– BACK PADDING

Table B-2

Dimension 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.	Fore Arm guard shield outer (Ref. Fig. 06)	17	16
III.	Fore Arm guard shield Inner (Ref. Fig. 07)	17	9.5
IV.	Elbow & Fore Arm shield padding (Ref. Fig. 08)	37 (overall)	27 (overall)

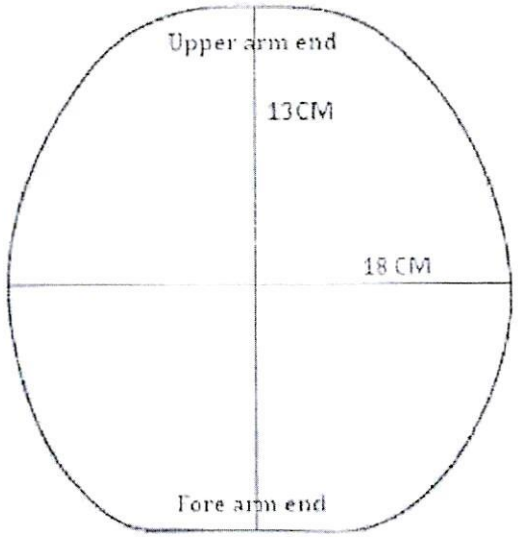


Fig.5 ELBOW SHIELD

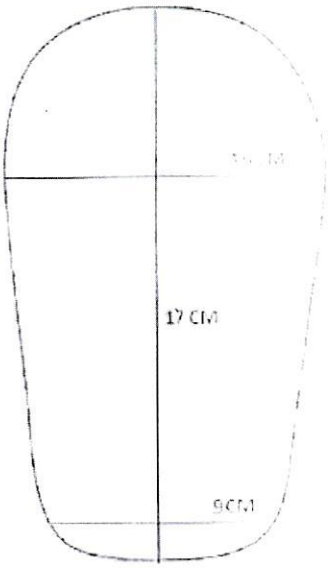


Fig. 6 FOREARM GUARD SHIELD OUTER

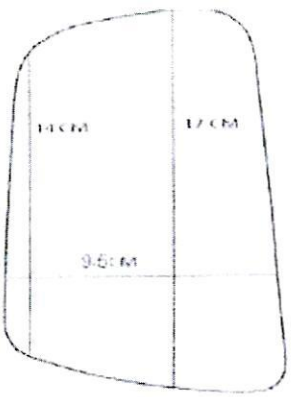


Fig.7 FOREARM GUARD SHIELD INNER

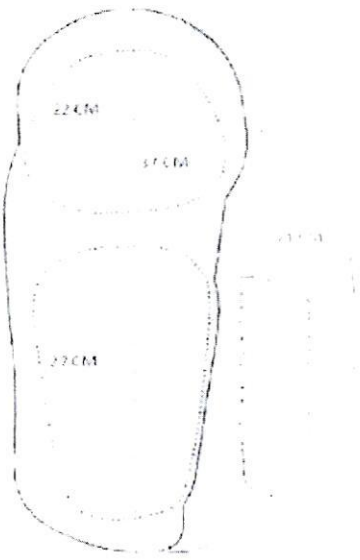


Fig 8 ELBOW AND FORE ARM GUARD INNER PADDING

Table B-3

Dimension 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

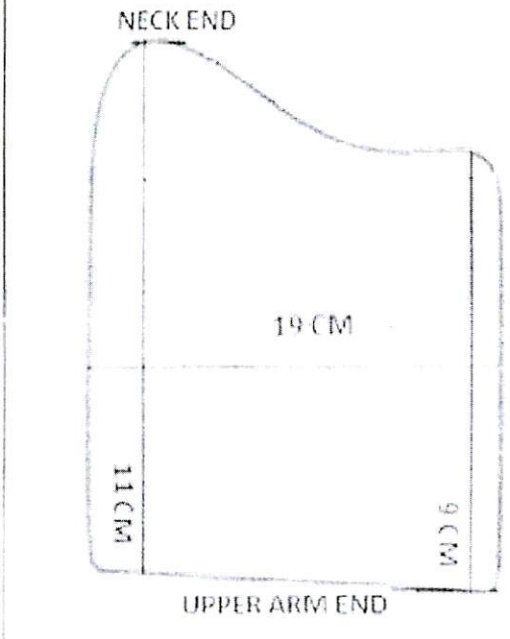


Fig.9 SHOULDER PROTECTOR SHIELD

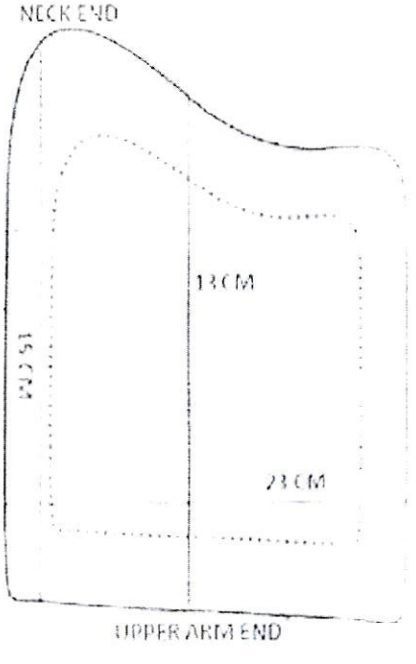


Fig.10 SHOULDER PROTECTOR SHIELD PADDING

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

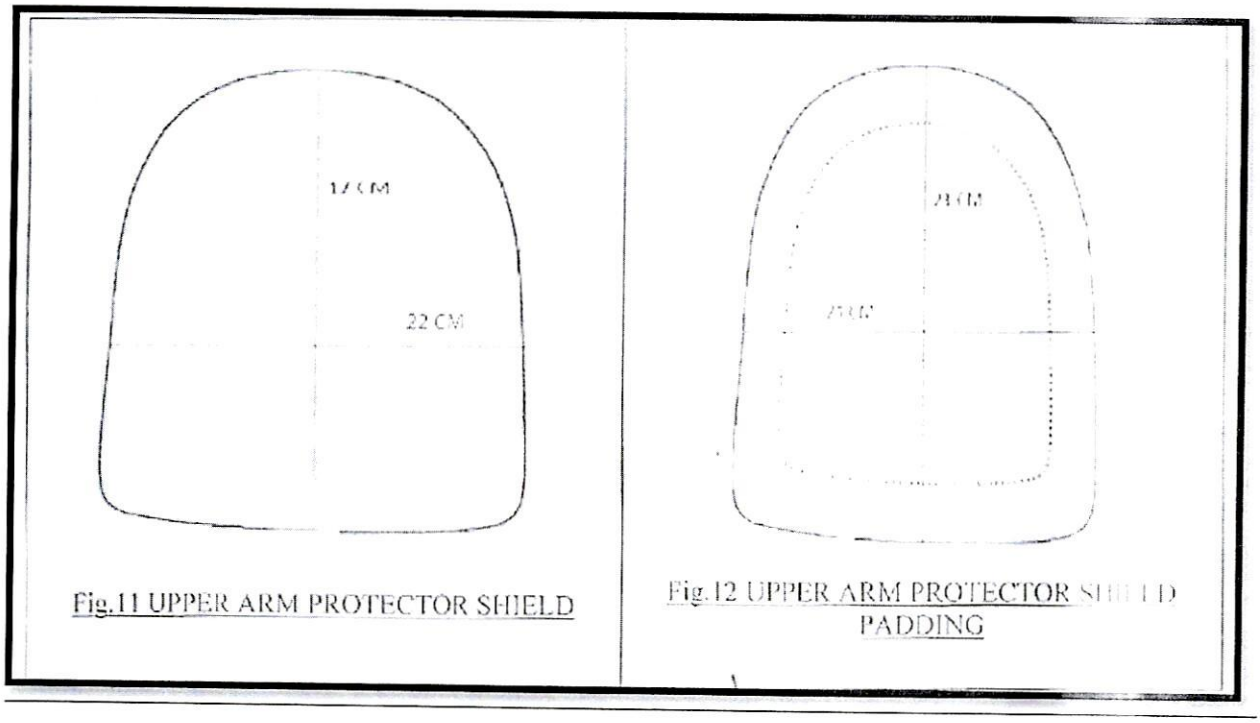


Fig.11 UPPER ARM PROTECTOR SHIELD

Fig.12 UPPER ARM PROTECTOR SHIELD PADDING

Table B-5

Dimensions of Thigh and Pelvic Protector shield and padding:

Sl. No.	Description	Male (Medium Size)	
		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

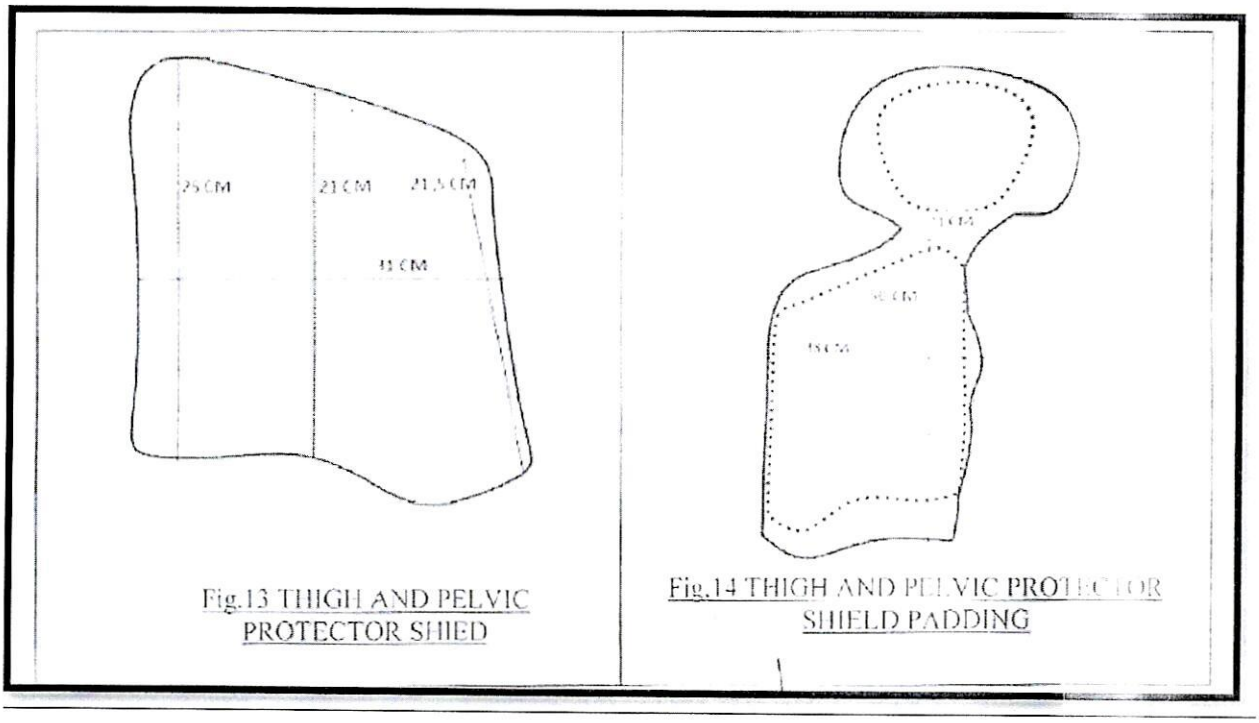


Fig.13 THIGH AND PELVIC PROTECTOR SHIED

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

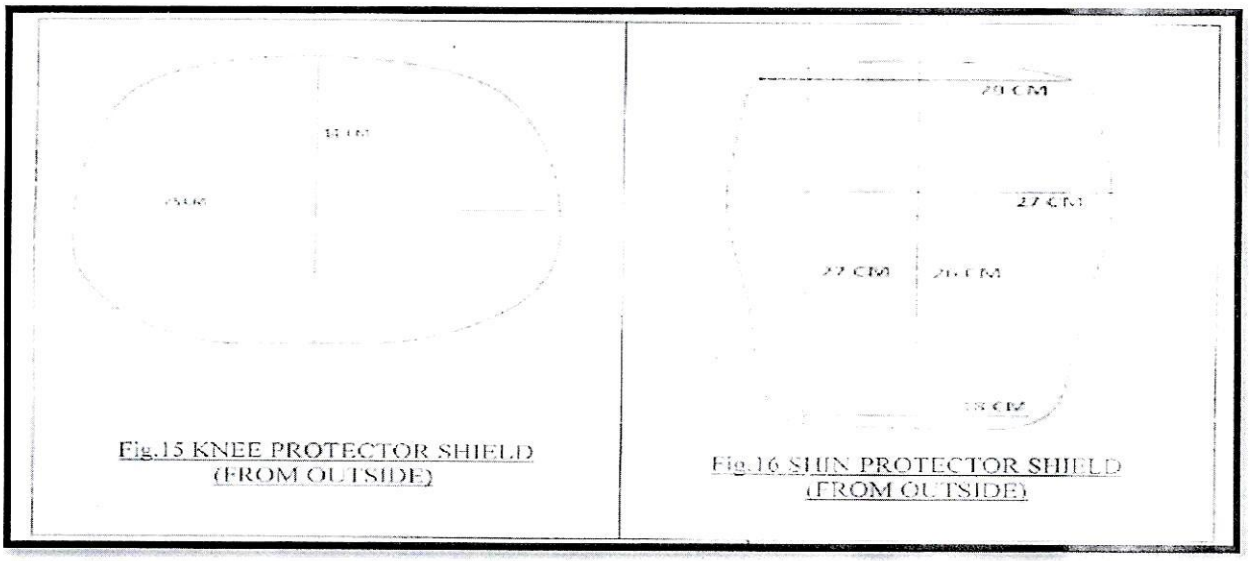


Fig.15 KNEE PROTECTOR SHIELD (FROM OUTSIDE)

Fig.16 SHIN PROTECTOR SHIELD (FROM OUTSIDE)

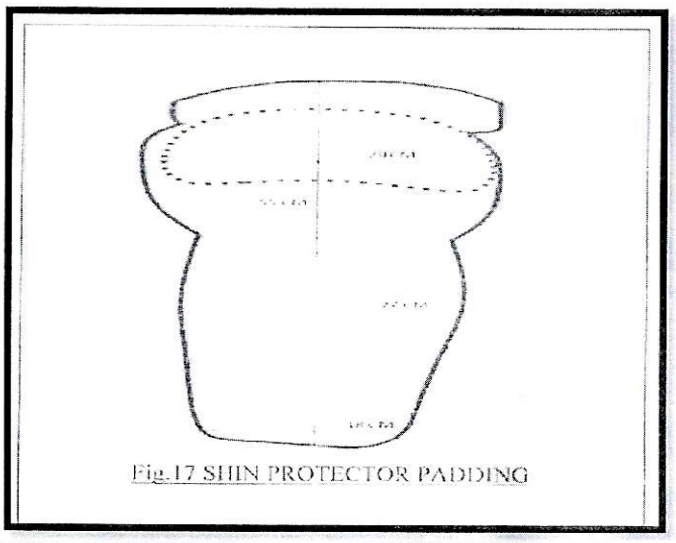


Fig.17 SHIN PROTECTOR PADDING

2. Specifications of Poly Carbonate Shield

1. Polycarbonate shield is the most important protective equipment for a person deployed for handling riotous situation. It is required to protect him/her when facing crowds during demonstrations/processions and while dealing with riotous mobs. Polycarbonate shield has 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.

2. Considering above aspects, QRs of a Polycarbonate shield are proposed as under:

QRs/ Specifications (Technical Data)

2.1 Nomenclature: Polycarbonate Shield

2.2 Colour: Colourless (More than 83% transparent)

2.3 Weight: 3.4 Kg maximum. The weight of Polycarbonate body of the Shield shall be 2.6 Kg minimum.

2.4 Dimensions:

Length	955mm + 45mm and -20 mm
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.

Table 1 Requirements for Polycarbonate Material:

Sl. No	Characteristics	Requirement	Method of test, Ref to IS/ Annx
1	2	3	4
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 upto 4 hrs.)	1.5 to 8 (for extrusion/Thermoforming) ii) 8 to 15 (for injection moulding)	IS 13360 (Part 4/Sec 1)
ii.	Specific Gravity	1.19 to 1.22	IS 13360 (Part 3 Section 1)
iii.	Flexural Modulaus, Min, MPa (with crosshead speed of 1.2 mm/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.	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.	Deflection Temperature under load at 1.82 MPa, Min, °C	120	IS 13360 (Part-6 Section-17)

3.3. 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 Requirements for Polycarbonate body of the Shield:

Sl. No	Characteristics	Requirement	Method of test, Ref to IS/ Annx
1	2	3	4
i.	Dart drop Impact, Min, J (at 27°C)	150	Annx B of IS 14443
ii.	Light Transmission, percent, Min	83	IS 13360 (Part-9 Section-5)
iii.	Flammability Test (test specimen thickness 3.18 mm ± 0.13 mm)	94HB class	IS 13360 Part-6 Section-5

3.4 Ribs shall be given all along the edges for higher structural strength.

3.5 The Polycarbonate body of the Shield shall have abrasion resistance surface coating on both surfaces.

4. Arm rest/Handle:

4.1 Cushioned arm rest to provide comfort in long use.

4.2 Grips and supports must allow the user to comfortably hold and position the Polycarbonate Protective Shield.

4.3 General requirement of handle:

a) Manufacturing process for handle should be Gas-Assisted injection Moulding (GAIM);

b) Material for handle should be polymeric, preferably polycarbonate;

c) Elastomeric bushes and washer system should be used for nut and bolt system.

d) Metallic bolts, if used, shall be SS304 hex-headed M6 bolts; Nut and bolts system should preferably be self-locking.

5. Performance requirements of PC Shield

5.1. Resistance to vandalism:

5.1.1 The test is to provide complete protection against brick batting, stone pelting, iron rod/ cane attack.

5.1.2 The Polycarbonate body of the shield shall have impact resistance of level 'A3' when tested for vandal resistance as per the test method prescribed in Annex C of IS 14443.

5.2. Resistance to 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.

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.

5.4 Resistance fo Environmental Stress Cracking: Environment Stress Cracking Resistance (ESCR) test shall be performed on polycarbonate body of the shield (with protective coating) by constant strain method as per IS 13360 (Part 8/Sec 9).

6. Life: 06 Years.

7. Miscellaneous:

7.1. The word RAF/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.

8. Certification:

Various tests shown above are done at following laboratories:

i) CIPET Labs.

ii) DIPAS/DRDO New Delhi

iii) NITRA, Ghaziabad

iv) ATIRA, Ahmedabad

v) GFSU, Gujarat

vi) CFSL Labs

vii) Any other NABL approved laboratory having scope of above parameters.

3. Riot Helmet with Mesh.

1. SCOPE/INTRODUCTION

Helmet is the most important protective equipment for a person deployed for handling riotous situation. It is required to protect him/ her when facing crowds during demonstrations/ processions and while dealing with riotous mobs. Helmet have to protect the head, face, neck and eyes from injuries due to impact, blow from blunt object, brick batting, lathi blow, stone pelting, projectile/missiles, acid bulbs, Molotov cocktails and industrial chemical thrown at them. A high standard helmet is therefore required for policeman.

As intensity of such law-and-order conditions are different in different parts of the country, helmets may also be different degree of protection in different part of country/situations.

Helmet for riot police has to be light weight with shock absorption capabilities, flip down visor with clear visibility, neck protection with thick padding good quality fabric/material and fire resistant etc, for handling crowds with varying degree of hostility. Visor is required to be reinforced by wire meshing to deal with intense stone pelting.

In view of above, it is imperative to have one basic helmet shell with visor, without wire mesh, chin strap including fixing mechanism and other items like front and rear neck guard. Wire meshing over visor could be provided for additional protection for intense stone pelting situations. Considering above aspects, QRs of riot control helmets are proposed under following categories: -

2. Nomenclature:

Following two types of Riot control Helmets will cater to different intensity of operational requirements.

1. Riot Control Helmet (Basic) with (visor without wire mesh).
2. Riot Control Helmet (Advanced) with (visor with wire mesh).

The only difference between these two helmets will be on specifications of Visor.

3. Basic parts of Riot Control Helmet (as per drawing)

a) 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.

1. Shape - Round shape Open face.
2. Weight- 1600 grams Maximum (For weight purpose Shell includes padding, PC Visor without wire mesh, Chin strap, Rubber beading, Front and Rear Neck Protection).
3. Size –
   - Medium - 48 to 57 Cms
   - Large - 58-62 Cms
4. Thickness- Not less than 03 mm with negative tolerance of 5%.
5. Padding Thickness:
   - i) Protective padding thickness not less than 10mm and the Weight cannot be less than 150grams.
   - ii) Material-Virgin EPS
   - iii) Comfort padding thickness - not less than 10 mm, Material - GSM - 100 ‡ 5%, Fabric 100% polyester, Circular knitted and anti-bacterial, Fire retardant.
6. Colour - As per requirement
7. Life - 06 Years
8: 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 resistance vi) Firing Test

b) P.C. Visor (Without wire mesh) as per drawing:

It should be made Concave at the bottom for easy lifting and proper air ventilation and the upper edge of the visor should have rubber beading to prevent any tickle down of harmful chemical ctc. on the face. The length of visor should cover the chin of the wearer while the width should cover the whole frontal face.

1. Thickness - Not less than 02mm with a negative tolerance of 5%
2. Weight - 300 gram Maximum (includes the weight of fixing mechanism. This weight will be applicable only when Visor is procured separately for replacement.
3. Visibility - 85% Minimum with a negative tolerance of 5%
4. Life- 02 years.

It should conform to following tests: -

1) Impact strength (As per IS 9995-198), Appendix-A.1.5)
2) Flammability (As per IS 9995-1981, Appendix-A.1.9)
3)Light Transmission (As per IS 9995-1981, Appendix- A.2.5)
4)Penetration test as per IS standard 9562-1980.

c) P.C. 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.

1. Diameter of wire - 02 - 03 mm
2. Uniform Gap between visor and wire mesh -1.5 cm + 0.2 cm wire mesh should not be more than 25 mm X 20
3. Weight of wire mesh - Maximum 400 grams. (weight is inclusive of fitment mechanism)
4. 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 mechanism.

d) Chin strap

1. Thickness- Not less than 1.5mm ± 0.15 mm
2. Width- 21 ±0.5 mm
3. Length-Not less than 300mm (including the tensioning and adjusting device)
4. Breaking load - above 500 kg.
5. Buckle/ Chin strap should confirm to strength of retention system and dynamic retention test (IS 9562 -1980)

e) Neck Protector (as per drawing).

1. 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.
2. Front Protector - Depth from the bottom of the shell it should cover the chest.
3. Rear Protector- Depth from the bottom of the shell it should cover the cervical area

4. Material:

a) **Shell:**

i) Material of shell should be high impact virgin ABS with IZOD impact strength (at 6.4 mm notching) of 43 kg cm/ cm at 23°C and 29 kg cm/ cm at - 30° C. or material of parallel impact strength at other notching.

ii) It should have appropriate air/sound vent. Conforming to audibility test of 10db over a frequency of 250 to 2000 Hz.

iii) Provision for proper ventilation.

iv) Rubber beading material shall be 100% EPDM (Ethylene Propylene Diene Monomer) with a tensile strength of 60Kg f/cm^2, hardness 70-72 shore 'A', and the ask content should be 15% max.

v)Protective padding of shell should be as under:

a). Should be able to sustain impact and provide thermal Insulation.

b) Should be soft and comfortable.

c) Should be made of virgin material EPS.

vi) Comfort padding should be soft comfortable, sweat absorbing anti-bacterial & flame retardant with following foam specification:

a) Density- 32 Kg / meter $^3 \pm 2$

b) Cell size - ≥ 70 PPI

c) Tensile strength - ≥.0.85 KgF / cm square

d) % of elongation - ≤ 150

e) Hardness value 50% compression = 26 kg/323 cm square± 5%

vii) It should be made of following material specification:

a) Weight of PVC cotton coated fabric should be 570 GSM +5% and breaking load warp 18 kg/5cm and weft 11kg/5cm.

b) EVA padding thickness should be 10mm (+ 0.8/-0.5)

c) Hardness - 29±3 (Shore A)

d) Density - 100 ± 8% kg/m^3

b) **PC Visor without wire mesh**

Material - Virgin polycarbonate

i) Should be scratch resistant from outside and anti-fog from inside.

ii) Should be movable adjustable and comfortable.

iii) Incline 20° - 50°.

iv) Light transmission rate not less than 85% with negative tolerance -5%

v) Should be bubble free and dust free.

vi) Pivot kit should be rust proof, corrosion resistant and should have locking system for closing and opening.

vii) Rubber beading material of the upper edge shall be 100% EDM with a tensile strength of 60 Kg f/ cm? hardness 70-72 shore 'A', and the ash content should be 15% max.

c) **PC Visor with wire mesh**

1) 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).

d) **Chin Strap:**

i) Adjustable chin strap with two-point support and comfortable fit. 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.

iv) Material suited to all extreme weather conditions.

v) Locking between the thread should be present.

e) **Neck protection front and 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).

iv) The protector should be detachable.

v) The protector should have appropriate cushioning for shock/ impact absorption.

vi) Rear neck protector should be attached with the helmet with mil standard CFC Zip.

vii) The front neck protector should have an additional support of strap with same specification as chin strap.

viii) Front neck protector should be attached with Shell of helmet by appropriate fitting snap fastener (Brass).

ix) It should be water resistant, fire retardant and the fabric used should be PVC cotton coated material with sufficient cushioning.

x) All stitching on the neck protector (Rear and Front) should be done by fire retardant thread.

5. Various tests shown in the QR are done at following laboratories. However, tests carried out by NABL certified labs will also he accepted:

i) ATIRA, Ahmedabad

ii) NITRA, Ghaziabad

iii) DIPAS/DRDO, New Delhi-54

iv) CIPET, Chennai/ other CIPET Labs.

v) Forensic Science Laboratory, Gandhinagar.

vi) DMSRDE, Kanpur and any other NABL approved laboratories.

DIMENSIONS OF RIOT CONTROL HELMET WITH ACCESSORIES

Figure – 1: Para-3

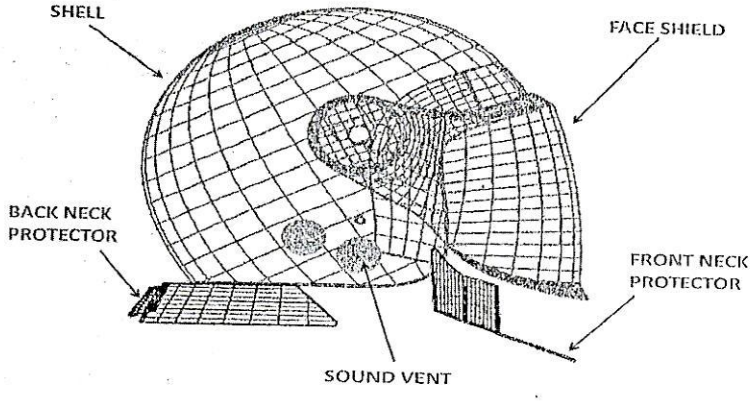


Figure – 2 Para-3(b)

POLYCARBONATE VISOR (WITHOUT WIRE MESH) QRs Para-3(b)

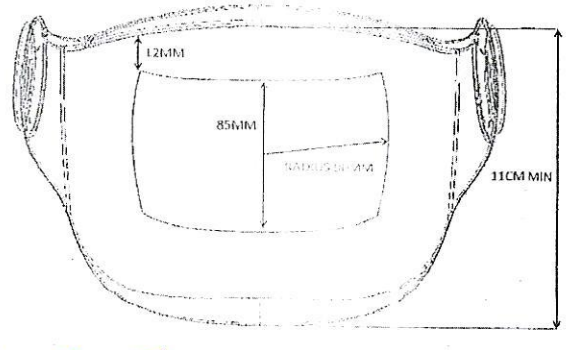
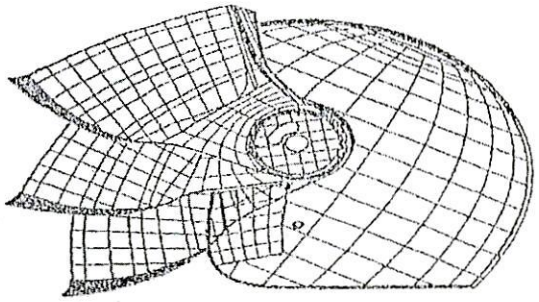


Figure -- 3

Concaved shape of visor for easy lifting



CONCAVED SHAPE VISOR PROFILE FOR EASY LIFTING

Figure-4

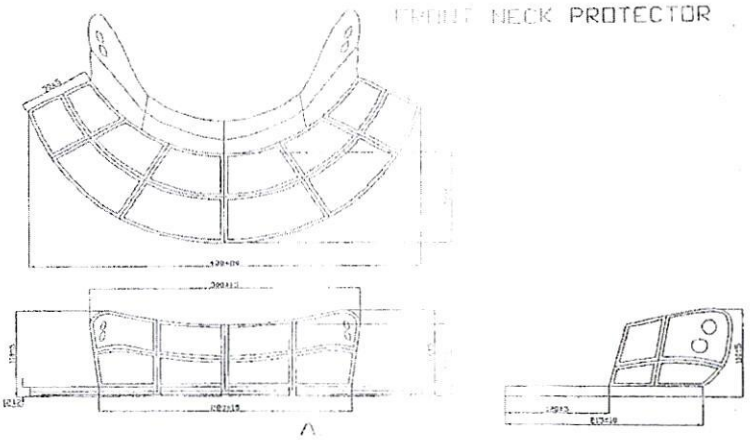
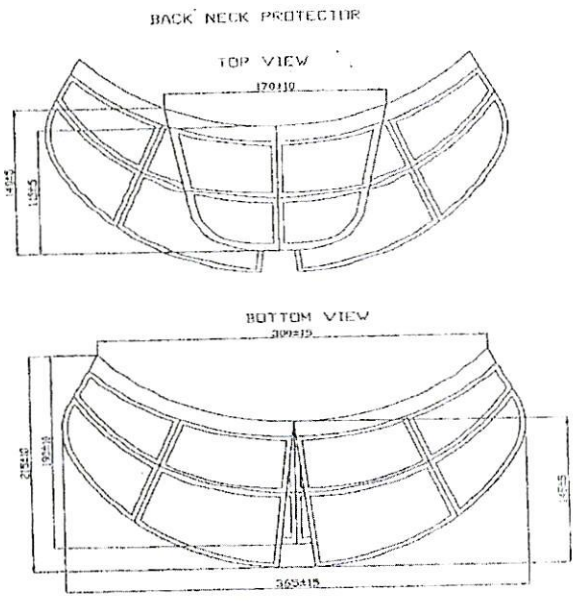


Figure-5



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