

# TECHNICAL SPECIFICATION FOR ANTI-RIOT GEAR (YF-105)

## Equipment Composition

The complete equipment consists of the following:

1. Protective Body Armour
2. accessories :
  - a) Riot Helmet
  - b) Anti Stab Body Vest
  - c) Arm Protector ( elbow, forearm protector )
  - d) Leg Protector ( knee, sheen, foot protector )
  - e) Thigh Protector
  - f) Belt and Baton Holder ( Tonfa )
  - g) Groin Protector
  - h) Fire Resistant Gloves with anti Stab insert
  - i) Transportable Suitcase for Storage

## Performance Specification

1. The Body Armour is able to protect the personnel from the high threat level of riot control without compromising the flexibility and comfort.
2. It also withstand thrown, hurtled ( slinged ) or falling stones, metal parts and highly resistant as well as knife resistant.
3. Each piece of the suit is easily fastened and adjustable with durable nylon straps or equivalent material. Velcro and quick connect clips which allow a maximum fit and comfort to wear.
4. The components and fabrics of the Body Armour are as follow:
  - a) Light in weight, formed to fit the body and easy to donning.
  - b) To be non-irritating to the skin, breathable and comfortable in tropical climate.
  - c) To be flame resistant when test according to ( DIN EN ISO 6941 and DIN 53438 part 1-3 ).
  - d) The components of the system are easy to clean or wash.
  - e) All parts remain at the same level of protection at a temperature up to 55 degrees centigrade or high temperature in wet condition as well as when exposed to chemicals.
  - f) The exterior components are chemical resistant, non-flammable, flame retardant and will not drip off when exposed to motolov-cocktail.

5. The gear net weight does not exceed 6.50kg depending on the sizes, excluding the weight riot helmet. The gear is:
- a) Flexibility – The gear should be flexible for easy wear and remove for agility and mobility.
  - b) Resistance Capability – The Body Armour is able to withstand extreme condition. The resistance capability for body is up to 3000N/5cm<sup>2</sup>, the buckle is up to 200N and joints are up to 300N.
  - c) Anti Stab Resistance – Able to withstand dagger stabbing to any point of the chest, back and groin. Under 2000N static pressure for 1 minute (  $\geq$  20J. able to absorb more than 75% hit and protection for more than 35J stab energy )
  - d) Anti Impact Resistance – Able to withstand continuous direct hit using 5.8kg steel ball to chest and arms from a distance of 220cm (  $\geq$ 120J )
  - e) Burning Resistance – Both outer layer and inner layer are able to resist burning. Outer layer burning resistance up to 5 seconds and the inner layer burning resistance is up to 1 minute.
  - f) Temperature Test – The material use and able to withstand extreme temperature. Withstand 4 hours of extreme temperature between -20° and 550° with humidity of 95%.

### Riot Helmet

Riot Helmet consists of:

1. RED in colour with visor made of polycarbonate or equivalent and can be place up and down easily.
2. Consist of shock absorbing collapside foam and fitted to absorb high impact both vertically and horizontally.
3. Edge of the cushion should be smooth finish.
4. Consist of two opening for good audio capacities.
5. Consist of Hock Holder to hold gas masks.
6. Consist of visor is made of polycarbonate or equivalent.
7. Provide full coverage including critical skull base area and upper cervical.
8. Chin strap is quick release buckle and ensure adjustment.

### Anti Stab Body Vest

1. The textile covers of the vest are to be made of Terylene with suitable flame resistant fabric or equivalent. The textiles cover to be in black colour.
2. The vest to be divided in the chest area with zipper for easy donning without outside assistant and secured with durable nylon elastic and Velcro straps or any suitable material or equivalent.
3. Zippers, covered on the outside, serve to include the ergonomically formed protective insert.
4. The material of the protective insert inside the vest cover to be made from stab resistant aluminium alloy or equivalent of thickness of about  $\pm 1.5$ mm. The stab must consist of 6 layers for additional shock and punch absorption.
5. All anti-stab inserts to be removable from the outer vest for cleaning of the outer vest when required.
6. The shoulder area of the outer vest to be equipped with 6 pieces of snap button for attachment of arm protector.
7. The weight of body vest is not exceed 3.5kg depending on the sizes.
8. Sizes of vest : One-size-fits-all.

### Arm Protector

1. The arm protector is able to put on or take off quickly by adjustable Velcro straps ( foam padded ) and offers great flexibility to the wearer.
2. It is a two-piece arm protector consist of:
  - a) Upper arm protector ( black colour )
  - b) Lower arm protector ( black colour )
  - c) Body formed synthetic parts made of fire resistant polypropylene or equivalent, riveted and sewn to dark blue fire retardant laminated material or equivalent completely lined inside.
  - d) Lower arm protector with lining in the elbow area for blow absorption.
  - e) Individual adjustable connection of upper and lower arm protectors by wedged buckles.
  - f) Optimal warmth exchange through inner lamination with structured breathable textile.
  - g) Attachment of upper and lower arm by fleeced, elastic tapes ( 2 fold each )
  - h) Attachment of the arm protectors through snap buttons on the vest.
  - i) Sizes : One-size-fits-all.

## Leg Protector

1. The leg protector is able to put on or take off quickly by means of adjustable Velcro strips ( foam padded )
2. The protector consists of:
  - a) Knee protection with medial and lateral protection ( black colour )
  - b) Shin protection ( black colour )
  - c) Ankle and foot protection ( black colour )
  - d) Body formed synthetic parts made of fire resistant polypropylene or equivalent, riveted and sewn to dark blue fire retardant laminated material, completely lined inside.
  - e) Attachment of the leg protectors in the shin bone area with elastic fleeced covered cross tapes or equivalent.
  - f) Optimal warmth exchange through inner laminating with structured, breathable textile.
  - g) Sizes : One-size-fits-all.

## Thigh Protectors ( Black Colour )

1. Formed to the shape for high impact absorption and padding to be provided.
2. To be outside with elastic tapes around the thigh and hooked to the belt.
3. The shield for Thigh Protector the shield is made from Polyvinylchloride (PVC) or equivalent. The fabric is made from Terylene or equivalent and rivet is made from antirust metal.
4. Temperature test can withstand extreme tropical temperature. ( Withstand 4 hours of extreme temperature between -20° and 55° with humidity of 95% )
5. The Body Armour is able to withstand extreme condition. The resistance capability for body is up to 3000N/5cm<sup>2</sup>, the buckle is up to 200N and joints are up to 300N.
6. Anti Stab Resistance can withstand dagger stabbing 200N static pressure for 1 minute and absorb 75% hit for more than 35J.
7. Anti Impact Resistance can withstand continuous direct hit using 5.8kg steel ball to chest from a distance of 220cm.
8. Outer layer burning resistance up to 5 seconds and the inner layer burning resistance is up to 1 minute.

### Belt and Baton Holder ( Tonfa )

1. The buckle is made from Polyoxymethylene (POM) or equivalent. The fabric is made from Terylene or equivalent and rivet is antirust metal. The outside is covered with elastic tapes around the thigh and able to be hooked to the belt. With the length 144cm and weight 0.32 ( $\pm 0.01$ )kg/pc
2. Temperature Test can withstand extreme tropical temperature between  $-20^{\circ}$  and  $55^{\circ}$  with humidity of 95%.

### Groin Protector

1. Textile cover black colour made of fire retardant polypropylene or equivalent (approximately 160g/cm<sup>2</sup>)
2. The groin protector consists of:
  - a) Easy dressing by using elastic tapes
  - b) Body form cup (in front) made of polyurethane or equivalent
  - c) It allows for easy cleaning to maintain body hygiene

### Fire Resistant Glove

1. To be made of high quality material ( black colour )
2. Well padded inside glove
3. The anti-stab resistant material insert or equivalent mounted on the back of the glove is fixed in cordura or equivalent cover which can be adjustable with Velcro and all fingers are fully covered.
4. The shield is made from Polyoxymethylene (POM), the strap and the fabric is made from Terylene and rivet is made from stainless steel.

### Transportable Suitcase For Storage

1. The suitcase is black in colour and water resistant in the form of a backpack.
2. The suitcase is embossed with police logo. The crown devoid of any writing.
3. The size of the police logo is approximated 20cm x 15cm.