PUBLIC SECTOR ORGANIZATIONS
Introduction

Pakistan Ordnance Factories is the largest state owned defence industrial complex producing a wide range of conventional arms & ammunitions according to international standards. Its subsidiaries too are highly reputed for their products such as commercial explosives, chemicals, variety of engineering items and high precision plastic parts. The precision and reliability of POF’s arms and ammunition have led to creation of growing demand in international market, with clientele spread over 40 countries. POF has strict adherence to QHSE Policy across the board, and has acquired international quality certifications such as ISO-9001, ISO-14001, ISO-17025 and OHSAS 18001.

POF’s Product Range

- Infantry Weapons
- Small Arms Ammunition
- Artillery Ammunition
- Mortar Bombs
- Aircraft & Anti Aircraft Ammunition
- Anti Aircraft Gun
- Rockets
- Tank & Anti Tank Ammunition
- Grenades, Pyrotechnics and Demolition Stores
- Military Explosives & Propellants
- Commercial Explosives and Industrial Chemicals
- Commercial Products
- Miscellaneous Products
SMG PK is one of the most reliable and compact sub machine guns in production at the Pakistan Ordnance Factories. Based on the famous H&K delayed roller delayed blowback system, this 9 mm sub machine gun can be employed for Close Quarter Battle (CQB) and is popular among military personnel, signal personnel, para jumpers, SSG, officers on special duty, military police and civil law enforcing agencies. SMG-PK presents complete versatility and mobility coupled with the punching power of 9 mm para ammunition. It is also available in semi automatic irreversible version. These SMGs come with universal carrying sling, spare magazine and cleaning kit.

**Technical Data:**
- **Caliber:** 9 x 19 mm para
- **Feed device:** 15 rounds magazine and 30 rounds
- **Mode of fire:** Single and automatic
- **Rate of fire:** 900 RPM
- **Muzzle velocity:** 375 m/s approx
- **Sights:** Rigid front sight & rotary rear sight
- **Length of weapon:** Pk 345 mm length of Pk1 - 545 mm
- **Length of barrel:** 115 mm
- **Weight of weapons Pk:** 2.0 Kg approx
- **Pk1:** 2.75 Kg approx

SMG PK is available with end cap and standard pistol grip.

SMG PK-1 is available with retractable butt stock and standard pistol grip.

**Packing:**
Each SMG-PK and PK1 in a polythene bag, 05 SMGs in cardboard cartons, 02 cartons (10 SMGs) in a wooden box.

**Size of box:** 68 x 47 x 63 cm

**Gross weight:** 48 Kg

**Colour & marking:** Service brown with yellow / black stencilling

The sub machine gun MP5 is roller delayed blow back system. This is a magazine fed automatic weapon. Ideal in use for close combat and para military purposes. It is also available in Semi Auto irreversible version.

**Technical Data:**
- **Caliber:** 9 x 19 mm para
- **Feed device:** 5 and 30 round magazine
- **Mode of fire:** Semi automatic and sustained
- **Rate of fire:** 800 RPM approx
- **Muzzle velocity:** 400 m/s
- **Sights:** 25m and 100m dioptre –rotary rear sight adjustable for windage and elevation
- **Rifiling:** 6 grooves with constant right hand twist

**Length of Weapons:**
- **MP5A2:** 680 mm (fixed butt stock)
- **MP5P3:** 490 mm (butt retracted) 660 mm (butt extended)

**Length of barrel:**
- **225 mm**
- **210 mm**

**Height of weapon:**
- **254 mm**
- **240 mm**

**Weight of weapon:**
- **2.54 Kg MP5 P3 weight 2.88 kg**
- **Weight of empty 30 rounds magazine:** 0.17 kg
- **Weight of Ammunition:** 0.012 Kg

**Packing:**
Each SMG in a polythene bag, 05 SMGs in cardboard carton, two cartons (10 SMGs) in a wooden box.

**Size of box:** 88 x 56 x 45 cm

**Gross weight:** 67 Kg

**Colour & marking:** Service brown with yellow / black stencilling
**Small Arms**

**Assault Rifle G3A3 & G3P4**
(Produced in Auto and Semi Auto irreversible versions)

**Battle Rifle G3S**

Automatic Rifle G3A3, cal 7.62mm x 51 NATO is a rifle combining the accuracy of a sniper rifle with the fire power of a machine gun. It is produced in accordance with the most advanced manufacturing methods. The rifle is designed for semi-automatic and fully automatic fire and can be fired from any shooting position. It is also available in semi-automatic irreversible version. Rifle G3A3 has free floating barrel and roller delayed blow back system and is fed from a 20 round magazine.

**Technical Data:**
- Caliber: 7.62 x 51 mm NATO
- Magazine: 20 Round box magazine
- Type of fire: Semi and fully automatic
- Rate of fire: 500 - 600 RPM
- Muzzle velocity: 780 - 800 m/s approx
- Sight “Rare”: Rotary rear sight with four adjustments 100M ‘V’ sight & 200, 300 & 400 m aperture sights, adjustable for windage and elevation.
  - Sight “Front”: Fixed hooded post front sight
- Length of standard weapon “G3A3”:
  - 1020 mm approx
  - 800 mm approx (But Retracted)
- Length of standard weapon “G3P4”:
  - 1,020 mm approx (Butt Extended)
- Barrel length: 450 mm
- Width of weapon: 45mm
- Height of weapon: 210mm
- Weight of Weapon without magazine:
  - G3A3: 4.4 Kg approx
  - G3P4: 4.7 Kg approx
  - Barrel grooves: 4 grooves, right hand twist, 305 ± 10 mm lead
  - Effective range (Iron sight): 400 m
  - Effective range (Telescope Sight): 600 m

**Packing:**
- Each G3A3 in a polythene bag, 5 x G3A3 in cardboard carton and two cartons (10 x G3A3) in a wooden box.

G3S is battle rifle chambered in 7.62 x 51mm round. It is ideal for the law enforcement who need a compact weapon to use in urban environment but has the ability to reach out to 400 meters in a conventional combat scenario. G3S gives it to utilize the same platform in urban and conventional combat warfare. Optical/Night sights can be attached on the picatinny rail fixed on the receiver.

**Technical Data:**
- Caliber: 7.62 x 51 mm
- Operation: Roller delayed blow back
- Rate of fire: 575 ± 75 rds./m
- Mode of fire: Semi and automatic
- Muzzle velocity: 710 m/s approx
- Barrel type: 4R 1:12, polygonal
- Length of weapon: 790 mm approx
- Length of barrel: 300 mm (with polygonal rifling)
- Weight of weapon (without magazine): 4.1 Kg. approx.
- Magazine capacity: 20 rounds
- Effective range (Iron sight): 400 meters approx
- Sights radius: 475 mm approx.

**Packing:**
- Each G3S in a polythene bag, 5 x G3S in cardboard carton and two cartons (10 x G3S) in a wooden box.
Small Arms

Assault Cum Sniper Rifle AZB (DMR)

With the changing nature of low intensity operation a strong need exists for a light weight, accurate and semi-automatic hybrid sniper cum service rifle. Accordingly, a Designated Marksman’s Rifle (DMR) concept emerged. The POF AZB (DMR) meets the laid down conceptual requirements. It is manufactured from standard G3A3 parts and requires little deviation for manufacturing, maintenance and training. It can quickly and effectively engage fleeting multiple targets at range up to 600 m.

Technical Data:
- Caliber: 7.62 x 51 mm (NATO)
- Operation: Roller delayed blow back
- Mode of fire: Semi and automatic
- Muzzle velocity: 800 ± 30 m/s.
- Trigger pull: 2.5 to 4.8 Kg
- Barrel type: 4R 1:12
- Length of weapon: 1100 mm approx.
- Length barrel: 560 mm (22 inches) approx.
- Length barrel 560 mm (22 inches) approx: (with adjustable stock)
- Magazine capacity: 20 rounds
- Accuracy: 2 MOA (with std. ball ammo.) & 1.5 MOA with match ammo (175 grains)
- Butt stock: Adjustable butt stock
- Effective range: 600 m with std. service ammo.
- (With scope on mill std. picatinny rail): 800 m with match grade ammo only
- Sight: Sniper scope

Machine Gun MG3

MG3 is fully automatic area weapon for sustained and bursts firing. It is a “recoil operated weapon” in which the recoil forces are used to feed and load the cartridges and to extract and eject the spent cartridge cases. A blank firing attachment which is screwed onto the muzzle instead of recoil booster permits the use of blank cartridges for training and exercise purposes.

Technical Data:
- Caliber: 7.62 x 51 mm
- Feed device: Disintegrating and non disintegrating belts (DM-1, DM-6 and M-13 links)
- Mode of fire: Fully automatic
- Operating principle: Recoil operated
- Rate of fire: Approx 1150 ± 150 RPM
- Sighting devices: Open sighting, using front and rear sights from 200 to 1200 m
- Safety range in direction of firing: 5000 m
- Safety range left & right: 1000 m each
- No. of rifles / twist: Polygon 4R with right hand twist (1:12)
- Muzzle velocity (Vo): 820 m/s
- Muzzle energy (Eo): 3200 NM
- Width of gun: 130 mm
- Height of gun with ‘AA’ sight raised: 270 mm
- Height of gun with ‘AA’ sight lowered: 205 mm
- Length of barrel with locking piece: 565 mm
- Height of muzzle with bipod unfolded: 300 mm
- Weight of weapon with bipod & sling: 11.5 kg
- Weight of weapon without bipod & sling: 10.5 kg
- Weight of barrel: 1.7 kg
- Effective range: 1000 m (on bipod)
- 2200 m (on tripod)

Packing:
Each gun in a polythene bag, two machine guns in wooden box/steel Chest.
- Size of box (Wooden): 126 x 36 x 29 cm
- Weight: 52 Kg (Approx)
- Size of box (Steel): 135 x 33 x 29 cm
- Weight: 65 Kg (Approx)
- Colour and marking: Service brown with yellow / white stencilling
Small Arms

Sporting & Personal Protection POF-4
(Semi-Automatic Irreversible)

POF 4 Pistol is one of the most reliable & compact pistol in production at the Pakistan Ordnance Factories. POF 4 Pistol presents complete versatility and mobility coupled with the punching power of 9 mm Para ammunition. These POF 4 Pistol come with universal carrying sling, spare magazines and cleaning kit.

Technical Data:
Mode of fire: Semi auto
Caliber: 9 x 19 mm
Muzzle velocity: 375 m/sec approx
Feed device: 15 & 30 x rounds steel magazine
Sights: Rigid front sight & rotary rear sight
Length of barrel: 115 mm
Length of weapon: 345 mm approx
Weight of weapon: 2.25 kg approx

Packing:
Each POF 4 Pistol is packed in a polythene bag, 05 Pistols in cardboard cartons, 02 cartons (10 Pistols) in a wooden box.

Size of box: 72x63x47 cm
Gross weight: 53 Kg (Approx)
Colour and marking: Service brown with yellow / black stencilling

Sporting & Personal Protection POF-5
(Semi-Automatic Irreversible)

POF-5 9 x 19 mm semi auto irreversible pistol is most reliable and robust weapon in our production line. The weapon is equipped with 15/30 rounds steel magazine & most suitable for close combat detail. Other technical detailed parameters of weapon are given below.

Technical Data:
Mode of fire: Semi auto
Caliber: 9 x 19 mm
Muzzle velocity (Vo): (approx) 400 m/sec approx
Muzzle energy (Eo): 470 ft lbs (650 J)
3 x lug barrel with 6 x grooves constant right hand twist
Steel magazine
Length of barrel: 15 rounds and 30 rounds
Length of weapon with end cap: 225 mm
Line of sight: 460 mm approx
Weights of weapon with end cap, without magazine: 340 mm, 2.45 kg (approx)

Packing:
Each POF-5 Pistol is packed in a polythene bag, 05 Pistols in cardboard cartons, 02 cartons (10 Pistols) in a wooden box.

Size of box: 72x63x47 cm
Gross weight: 55 Kg (Approx)
Colour and marking: Service brown with yellow / black stencilling
Sporter Hunting Rifle .308 Win Sporter

The ‘Sporter’ cal .308 Win has been designed as a hunting sporting rifle with the firing mechanism of G3A3 in semi-automatic mode. The accuracy of the gun has been enhanced with a freely floating extended barrel and a pintennary rail for mounting telescope.

Technical Data:
- Mode of fire: Semi automatic
- Caliber: 7.62 mm x 51 NATO/.308 WIN
- Muzzle velocity: 800 ± 30 m/s
- Effective range: 400 m
- Barrel grooves: 4 grooves right hand twist 305 ± 10 mm lead
- Sights:
  - Rear: Rotary rear sight with 4 adjustments 100 m ‘V’ sight and 200, 300 & 400 m aperture sights, adjustable for windage and elevation.
  - Front: Fixed hooded post front sight
- Magazine: 5 x round, box magazine and 20 rounds
- Barrel length: 521 mm
- Length of weapon: 1096 mm approx
- Weight of weapon: 4.66 Kg approx

Anti Aircraft Machine Gun 12.7 mm TYPE W- 54

An automatic weapon employing the 12.7 x 108 mm API, APIT and Hard Core ammunition. Effective against low flying aircrafts, ground targets, specially light armoured vehicles etc. The gun is supplied complete with tripod, anti aircraft sighting system and a chromium plated spare barrel. This gun can also be mounted on tanks and APC both in the anti aircraft and ground modes.

Technical Data:
- Gun complete with tripod: 92 Kg
- Gun body: 33 Kg
- Gun mount (Tripod): 53 Kg
- Anti aircraft sight: 2.2 Kg
- Ammunition box: 14 Kg (with 70 rounds link belt)

Traverse:
- Vertical traverse deg: -26 to 78

Horizontal Traverse:
- Air targets: 360 deg
- Ground targets: 120 deg

Performance:
- Effective Range:
  - In air: 1600 m
  - On ground: 1500 m
- Muzzle velocity: 800 m/s
- Cyclic rate of fire: 600 rounds /
- Cartridge used: API, APIT

Armour Penetration:
- From 800 meters: 10 mm
- From 500 meters: 15 mm

Packing:
- 2 Gun bodies with 2 AA sights, spare parts and accessories packed in a wooden box.
  - Size of box: 126 x 43 x 47 cm
  - Weight of box: 131kg
  - Colour and marking: Army Green with yellow / white stenciling
- 1 Gun mount with 10 ammunition boxes each containing link belt for 70 cartridges packed in a wooden box:
  - Size of box: 177 x 55 x 65 cm
  - Weight of box: 155kg
  - Colour and marking: Army Green with Yellow/white stenciling
- 2 Gun mounts packed in a wooden box:
  - Size of box: 177 x 55 x 65 cm
  - Weight of box: 164 kg
  - Colour and marking: Army Green with Yellow/white stenciling
### Small Arms Ammunition

**Super Match Ammo .308 Win Ball (175 grains)**

Cartridge .308 Win Ball (175 grains) – Super Match for use in any NATO Standard .308 caliber weapons, new or old, in single shot in diverse field conditions.

#### Technical Data:

<table>
<thead>
<tr>
<th>Ammo</th>
<th>.308 Win ball (175 grains) – Super match</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of complete round</td>
<td>70.36 ~ 71.12 mm</td>
</tr>
<tr>
<td>Weight of complete round</td>
<td>26.31 gm ± 0.648 approx.</td>
</tr>
<tr>
<td>Propellant</td>
<td>Single base propellant</td>
</tr>
<tr>
<td>Bullet jacket</td>
<td>Gilding metal (GM)</td>
</tr>
<tr>
<td>Cartridge case</td>
<td>Brass 70/30</td>
</tr>
</tbody>
</table>

#### Performance:

<table>
<thead>
<tr>
<th>Match Ammo</th>
<th>.308 Win ball (175 grains) – Super match</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muzzle velocity</td>
<td>777 m/s</td>
</tr>
<tr>
<td>Mean chamber pressure</td>
<td>4231.8 Kg / cm2 / 415 MPa</td>
</tr>
<tr>
<td>Maximum range</td>
<td>1000 m</td>
</tr>
<tr>
<td>Accuracy:</td>
<td>Mean radii ≤ 10 mm at 100 m</td>
</tr>
</tbody>
</table>

#### Packing:

<table>
<thead>
<tr>
<th>Super Match Ammo</th>
<th>.308 Win ball (175 grains)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of packing</td>
<td>(20 rounds packing in a plastic box)</td>
</tr>
</tbody>
</table>

The packages are supplied with the standard marking.

**9 X 19 mm Ball (1Z & 2Z)**

This ammo is available in two variants:

a. 9x19 mm Ball P1 MK1Z used for Pistol
b. 9x19 mm Ball MK2Z used for 9 mm SMGs MP5 A2

#### Technical Data:

<table>
<thead>
<tr>
<th>9mm Ball P1 MK1Z</th>
<th>9mm Ball MK2Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of complete round</td>
<td>28.90–29.69 mm</td>
</tr>
<tr>
<td>Weight of complete round</td>
<td>12.06–12.84 gm</td>
</tr>
<tr>
<td>Propellant</td>
<td>Single base P2PHY</td>
</tr>
<tr>
<td>Bullet jacket</td>
<td>Gilding metal (GM)</td>
</tr>
<tr>
<td>Cartridge case</td>
<td>Brass 70/30</td>
</tr>
</tbody>
</table>

#### Performance:

<table>
<thead>
<tr>
<th>9mm Ball P1 MK1Z</th>
<th>9mm Ball MK2Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muzzle velocity</td>
<td>341 m/sec at 18.28 meters</td>
</tr>
<tr>
<td>Mean chamber pressure</td>
<td>1574.87 Kg / cm2</td>
</tr>
<tr>
<td>Maximum range</td>
<td>100 m</td>
</tr>
<tr>
<td>Accuracy:</td>
<td>Rectangle of ≤ 254 x 152.4 mm at 25 m</td>
</tr>
</tbody>
</table>

#### Packing:

50 rounds packing in a carton, 20 cartons (1000 rounds) packed in a Tin Liner. Outer packing wooden box.

Net weight 12 Kg
Gross weight 15 Kg
Size of box 32.0 x 28.0 x 12.7 cm

The packages are supplied with the standard marking.
Small Arms Ammunition

7.62 x 25 mm (30 BORE)

Cartridge 7.62 x 25 mm is used for .30 Bore Pistols.

Technical Data:
- Length: 34.25 ~ 34.85 mm
- Weight: 10.20 ~ 10.30 gm
- Propellant: Single base P2 PHR
- Bullet Jacket: Gilding metal (GM)
- Case: Brass

Packing:
- 50 rounds packed in a carton with plastic tray. 64 cartons (3200 rounds) packed in a polythene bag with an outer packing of steel/plastic box.
- Net weight: 32.8 Kg
- Gross weight: 32 Kg
- Size of box:
  - Plastic: 42.5 x 16.5 x 29.5 cm
  - Steel: 42.3 x 16.4 x 29.1 cm

The packages are supplied with the standard marking.

7.62 x 39 mm Ball

Cartridge 7.62 x 39 mm is used in any standard 7.62 x 39 mm caliber weapon, in single shot or burst in diverse field conditions.

Weight of Complete Rounds:
- 16.5 ~ 17.5 gm (Case Brass/Steel Care Bullet)
- 15.9 ~ 16.9 gm (Case Brass/Steel Care Bullet)
- 16.65 ~ 17.55 gm (Case Brass/GM Bullet)

Technical Data:
- Length of complete round: 55 ~ 56 mm
- Weight of complete round:
  - 16.5 ~ 17.5 gm (Case brass / Steel care bullet)
  - 16.65 ~ 17.55gm (Case brass / GM bullet)
- Propellant: Single base pyroxyle powder (PAX)
- Bullet Jacket: Gilding metal (GM) / Gilding metal Clad steel (GMCS)
- Cartridge Case: Gilding metal clad steel (GMCS) / brass

Performance:
- Muzzle velocity (at 2 m): 732 ~ 747 m/s
- Mean chamber pressure: ≤ 2800 Kg / cm²
- Maximum range: 1000 m
- Accuracy: Mean radii 82.55 mm at 200 Yards

Packing:
- 20 rounds are packed in a carton and 84 cartons (1680 rounds) are further packed in polythene bag. Mouth of the bag is to be sealed. This polythene bag is further packed in steel box.
- Net weight: 30.35 Kg
- Gross weight: 36.18 Kg (approx)
- Size of box: 42.5 x 16.5 x 29.5 cm

The packages are supplied with the standard marking.
Small Arms Ammunition

7.62 x 39 mm Blank

Cartridge 7.62 x 39 mm Blank is produced for use in any standard 7.62 x 39 mm caliber weapon. It can be used in single shot or burst under diverse field conditions.

Technical Data:
- Length: 48.20 – 0.62 mm
- Weight: H-9.20 grams, L-8.80 grams
- Propellant: Single base smokeless
- Cartridge case: Brass

Packing:
- 20 rounds packing in a carton 84 cartons (1680 rounds) packed in a polythene bag and this polythene bag is further packed in H-14/P steel box.
- Net weight: 16 Kg
- Gross weight: 23 kg
- Size of box: 42.3 x 16.4 x 29.1 cm

The packages are supplied with the standard marking.

7.62 x 51 mm Ball & Tracer

This ammo is available in two variants:
- a. 7.62 x 51 mm Ball
- b. 7.62 x 51mm Tracer

Cartridge 7.62 x 51 mm is used in any NATO standard 7.62 mm caliber weapons, in single shot or burst in diverse field conditions.

Performance:

<table>
<thead>
<tr>
<th></th>
<th>Regular 7.62mm Ball</th>
<th>7.62mm Tracer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muzzle Velocity</td>
<td>811 m/s</td>
<td>794 m/s</td>
</tr>
<tr>
<td>Mean chamber pressure</td>
<td>2854.46 Kg/cm²</td>
<td>2854.46 Kg/cm²</td>
</tr>
<tr>
<td>Maximum range</td>
<td>1000 m</td>
<td>1000 m</td>
</tr>
<tr>
<td>Accuracy: Mean radii</td>
<td>203 mm at 457m</td>
<td>305mm at 457m</td>
</tr>
</tbody>
</table>

Technical Data:
- Length of complete round: 70.36~71.12 mm
- Weight of complete round: 23.976gm approx
- Propellant: Single base propellant NC-1055 (PCB)
- Bullet jacket: Gilding metal (GM)
- Cartridge case: Brass 70/30

Packing:
- 7.62mm ball: 20 rounds packing in a carton
- For rifle G-3: 50 cartons (1000 rounds) packed in Polythene bag. Outer packing steel box
- Net weight: 24 Kg
- Gross weight: 32 Kg
- Size of box: 42.5x16.5x29.5 cm
- 7.62mm belted 250 rounds linked in a belt DM-1 & DM-6
- For MG-3: One belt packed in Plastic/steel box.
- 4 boxes (1000 rounds) packed in a wooden/steel crate.
- Net weight: 24 Kg
- Gross weight: 36 ~ 41 Kg
- Size of steel box: 40.95 x 34.8 x 29.5 cm
- Size of plastic box: 43.2 x 37.85 x 31.25 cm
- Gross weight: 36 Kg (Plastic box)

The packages are supplied with the standard marking.
Small Arms Ammunition

7.62 x 51 mm Blank (STAR)

Cartridge 7.62 x 51 mm Blank for use in any NATO Standard 7.62 mm caliber weapon, in single shot or burst in diverse field conditions.

Technical Data:
- Length: 67.7 ~ 68.7 mm
- Weight: 13 gm (approx)
- Propellant: Single base P3
- Cartridge case: Brass

Packing:
- 20 rounds packing in a carton 50 cartons (1000 rounds) packed in steel box.
- Net weight: 14 Kg
- Gross weight: 21 Kg
- Size of box: 42.5 x 16.5 x 29.5 cm
- The packages are supplied with the standard marking.

7.62 x 51 mm Rifle Grenade

Use in Rifle G-3 with Grenade Hand ARGES P1 MK-1

Performance:
- Muzzle velocity: 50 m/s with sleeve at 7.50 m, Sleeve weight 767.5 ~ 768.5 gram

Technical Data:
- Length: 51.562 mm (Max)
- Weight: 14.77 gm (Max)
- Propellant: Double base smokeless powder ballistile-3.5
- Cartridge case: Brass

Packing:
- 20 rounds packing in a carton 50 cartons (1000 rounds) packed in steel box.
- Net weight: 16 Kg
- Gross weight: 23 Kg
- Size of box: 42.5 x 16.5 x 29.5 cm
- The packages are supplied with the standard marking.

7.62 x 54 mm Ball & Tracer

This ammo is available in two variants:
a. 7.62 x 54 mm Ball
b. 7.62 x 54mm Tracer
Cartridge 7.62 x 54mm for use in any 7.62 x 54mm calibre weapon, in single shot or burst in diverse field conditions.

Technical Data:

<table>
<thead>
<tr>
<th></th>
<th>7.62mm Ball</th>
<th>7.62mm Tracer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of complete round</td>
<td>75.93~76.70 mm</td>
<td>75.93~76.70 mm</td>
</tr>
<tr>
<td>Weight of complete round</td>
<td>27 gm (approx)</td>
<td>26.35 gm (approx)</td>
</tr>
<tr>
<td>Propellant</td>
<td>Single base propellant</td>
<td>Single base propellant</td>
</tr>
<tr>
<td></td>
<td>NC-1055 (PCB)</td>
<td>NC-1055 (PCC)</td>
</tr>
<tr>
<td>Bullet jacket</td>
<td>Gilding metal (GM)/ Gilding Metal Clad Steel (GMCS)</td>
<td>Gilding metal Clad Steel (GMCS)</td>
</tr>
<tr>
<td>Cartridge case</td>
<td>Brass 70/30</td>
<td>Brass 70/30</td>
</tr>
</tbody>
</table>

Performance:

<table>
<thead>
<tr>
<th></th>
<th>7.62mm Ball</th>
<th>7.62mm Tracer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muzzle velocity (at 27.43 m)</td>
<td>823 m/s</td>
<td>808 m/s</td>
</tr>
<tr>
<td>Mean chamber pressure</td>
<td>3196.8 Kg / cm2</td>
<td>3196.8 Kg / cm2</td>
</tr>
<tr>
<td>Maximum range</td>
<td>1200 m</td>
<td>1200 m</td>
</tr>
<tr>
<td>Accuracy: Mean Radii</td>
<td>254 mm at 457 m</td>
<td>381 mm at 457 mm</td>
</tr>
</tbody>
</table>

Packing:
- 250 rounds linked in one belt. One belt packed in a Tin Liner. 2 Tin liners (500 rounds) packed in wooden box.
- Net weight: 13.5 Kg
- Gross weight: 22 Kg
- Size of box: 42.5 x 26.0 x 23.5 cm
- The packages are supplied with the standard marking.
Aircraft & Anti-Aircraft Ammunition

12.7 x 108 mm

This ammunition is used for guns Type 54. It is available in two variants:

a. API (Armour Piercing Incendiary)
b. API/T (Armour Piercing Incendiary, Tracer)

It can damage or destroy an aircraft within a range of 1500 meters and light armoured vehicles or vessels within 500 meters.

Technical Data:

<table>
<thead>
<tr>
<th>Weight</th>
<th>API</th>
<th>116-126 gm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>API/T</td>
<td>112-122 gm</td>
</tr>
<tr>
<td>Length of complete round</td>
<td>147 mm</td>
<td></td>
</tr>
<tr>
<td>Propellant</td>
<td>Single base smokeless powder</td>
<td></td>
</tr>
</tbody>
</table>

Performance:

Bullet velocity 818-833 m/s

Effective range:

Air targets 1500 m
Ground targets 500 m

Chamber Pressure:

Mean 3000 kg/cm²
Max 3300 kg/cm²

Penetration:

API 20 mm steel plate placed at 100m (Minimum 90% bullets penetrate through the plate)
API/T 15 mm steel plate placed at 100m (Minimum 90% bullets penetrate through the plate)

Packing (Without Links)

280 rounds packed in a H14P MK1 steel box.
Size of box 40 x 16.5 x 30 cm
Weight of box 42 kg
Colour & marking Service brown with yellow/white stenciling

20 x 102 mm Phalanx Ammunition
(For Vulcan Phalanx Gun)

This ammunition is used in an American manufactured 6 barrelled Gatlin type Gun which is contained in its automatic controlling structure. The gun has a very high rate of fire and high muzzle velocity and is designed as an anti-missile weapon. The bullet is Armour Piercing and contains no explosive.

Performance:

The ammunition is fed into gun in link belts.
Rate of firing 3000 rounds / minute
Muzzle velocity 1135 + 15 m/s
Pressure 4075 kg/cm² Max
Range 1000 m

Technical Data:

Weight of complete round 258.5 ±4 gm
Length of complete round 167.5 + 0.7 mm -0.5 mm
Penetrator material Tungsten alloy W95NE-H
Colour Red
Weight 93.5 + 2 gm
Length 74 - 0.2 mm + 0.5 mm

Cartridge Case:

Material Brass 70/30
Weight 120.45 ± 3.3 gm
Length 101.9 - 0.38 mm
Propelling charge Single base propellant
Charge weight 40 gm
Primer Electric M52A3B1

Packing (Without Links)

36 rounds in a steel box (M2A1) Measuring 31 x 16 x 19.5 cm, 03 steel boxes (108 rounds) packed in a wooden crate (P-213).
Size of wooden crate 55 x 37.5 x 26 cm
Weight of box 49 kg
Colour & marking Service brown with yellow/white stencilling
Aircraft & Anti-Aircraft Ammunition

Aircraft Ammunition 23 x 115mm

23 mm caliber ammunition with percussion primer is compatible with 23mm Aerogun Model 1 and 2. The ammunition is normally used in belts comprising links type A. The ammunition is available in the following three types:

(i) TP (Target Practice)
(ii) HEI (High Explosive Incendiary)
(iii) API (Armour Piercing Incendiary)

**Performance:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muzzle velocity</td>
<td>720 m/s</td>
</tr>
<tr>
<td>Pressure</td>
<td>3000 Kg/cm²</td>
</tr>
<tr>
<td>PE vertical</td>
<td>0.5 m</td>
</tr>
<tr>
<td>PE Horizontal</td>
<td>0.5 m</td>
</tr>
</tbody>
</table>

**Technical Data:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of complete round</td>
<td>315 gm (approx)</td>
</tr>
<tr>
<td>Length of complete round</td>
<td>200 mm (approx)</td>
</tr>
</tbody>
</table>

**Projectile:**

- Body material: Steel
- Weight: 174 gm
- Length: 103 mm

**Fuze:**

- TP
- Dummy
- HEI
- AP-24

**Cartridge Case:**

- Material: Brass 70:30
- Weight: 113 gm
- Lenght: 115 mm
- Propelling charge: Single base smokeless 4/7
- Charge weight: 34 gm (approx)
- Primer: WD 327

**Packing (Without Links):**

- 30 rounds (unbelted) packed in steel box M2A1 and 03 boxes in wooden crate.
- Size of box: 55 x 38 x 26 cm
- Weight of box: 50 kg
- Colour & marking: Service brown with yellow / white stencilling

---

Aircraft Ammunition 30 x 155 mm

This ammunition is suitable for use with 30 mm gun. HP aircraft gun M1 fitted on F-6 (MiG-19) aircraft and is available in the following three variants:

- a. Ball (Training)
- b. HEI (High Explosive Incendiary)
- c. API (Armour Piercing Incendiary)

**Performance:**

- The ammunition is fed into gun in link belts.
- Muzzle velocity: 800 m/s
- Pressure: 3050 Kg/cm²
- Range: 2000 m

**Accuracy:**

- PE vertical: 1.05 m
- PE horizontal: 1.05 m

**Technical Data:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of complete round</td>
<td>840 gm (approx)</td>
</tr>
<tr>
<td>Length of complete round</td>
<td>264-267 mm</td>
</tr>
</tbody>
</table>

**Projectile:**

- Steel

**Identi/fication:**

- Ball: White band
- HEI: Red band
- API: No band

**Fuse:**

- Ball: PRF
- HEI: No. 6, Py-5, 6M
- API: No. 8

**Weight:**

- Cartridge case: 401-461 gm
- Propelling charge: Single base propellant NCHN 5/7
- Weight of charge: 96 gm
- Primer: Percussion type 330

**Packing (Without Links):**

- BALL: 12 rounds Ball packed in steel box measuring 29.8 x 15.2 x 18.4 cm three steel boxes (36 rounds) packed in a wooden crate
- Size of wooden crate: 55 x 37.5 x 26 cm
- Size of wooden crate: 48 kg

- HEI/API: 27 rounds HEI/API packed in tin liner which is packed in a wooden box.
- Size of box: 44 x 35 x 20.5 cm
- Gross weight of box: 31.30 Kg
- Colour & marking: Service brown with yellow / white stencilling
**Aircraft & Anti-Aircraft Ammunition**

**Anti Aircraft Ammunition 37mm HE/T**

This ammunition is compatible to use with 37 mm field artillery AA guns Model 1955, including twin version. It is used against low altitude aircraft and missiles. It is also effectively used against ground targets.

**Performance:**
- Muzzle velocity: 866 m/s
- Average chamber pressure: 2800 Kg/cm²
- Maximum range: 8500 m
- Accuracy:
  - PE horizontal: 1.15 m
  - PE longitudinal: 1.05 m
- Firing rate: 180 rounds/minute

**Technical Data:**
- Weight of complete round: 1.417 kg (approx)
- Length of complete round: 381-385 mm (approx)
- Projectile: Forged steel
- Main charge: RDX/Aluminum
- Tracer: No. 405 time ≥ 6 sec
- Fuze: HE-I with SD mode (9-12 sec delay)
- Weight of projectile: 732 gm (approx)
- Cartridge case: Brass 70/30
- Propelling charge: Single base propellant HN7/14
- Prime: Percussion type No. 12 MK4 / LA (Modified)

**Packing:**
- Each round packed in waterproof re-useable plastic container.
- 20 rounds packed in a wooden/steel box C-13/P.
- Size of box: 46 x 36 x 30 cm
- Weight of box: 43 kg
- Colour & marking: Service brown with yellow/white stencilling

**Bomb HE GP 500 LBS (250 Kg) PK-82 (Low Drag)**

This is a multi-purpose bomb similar to US type PK82, having low aerodynamic resistance and is designed to be carried on supersonic aircraft. It is made from forged carbon steel according to BS-3602. For high altitude missions, it is fitted with conventional fin assembly (Conical Fin Assembly MAU-938) and fuzes M-904 & 905. For low level missions, it is fitted with retarder fin assembly (K-15 MOD-4) with nose fuze M-904. It can be used on all American bomb racks, French bomb racks (PM-3, PRK-12 & PRK-16) or Mirage aircraft having bomb hooks 14" apart. Can also be used with British aircraft bomb release slips having hooks with 14" spacing.

**Technical Data:**
- Length of bomb with:
  - i) Retarder fin assembly: 2280 mm
  - ii) Conventional fin assembly: 2210 mm
  - Bomb body diameter: 275 mm
- Weight of bomb with:
  - i) Retarder fin assembly: 254.54 Kg
  - ii) Conventional fin assembly: 254.54 Kg
  - Explosive charge, RDX/TNT: 90 Kg (approx)

**Packing (Without Links):**
- 6 bombs packed in steel fixture:
  - Size of steel fixture: 1680 x 98 x 78 cm
  - Gross weight of steel fixture: 1600 Kg
  - Colour & marking: Black with yellow / white stencilling
Airplane & Anti-Aircraft Ammunition

Bomb HE GP 1000 LBS (500 Kg) PK-83 (Low Drag)

This is a multi-purpose bomb similar to US type PK-83, having low aerodynamic resistance making them suitable for external carriage on supersonic aircraft. Steel casings are manufactured from high quality seamless tubes employing latest forging technology. The bombs are compatible with NATO standard adapters booster, tail and nose fuze. For high altitude missions, it is fitted with Conical Fin Assembly. For low level missions, it is fitted with retarder fin assembly. It can be used on all American bomb racks, French bomb racks (PM-3, PRK-12 & PRK-16) or Mirage aircraft having bomb hooks 14" apart.

Technical Data:
- Length of bomb body without tail end: 1841.50 ± 10 mm
- Net explosive quantity: 185 ± 10 Kgs
- Filled mass of the bomb: 410 ± 30 Kgs
- Centre of gravity of filled bomb: 1040 ± 20 mm
- Density: Not less than 1.64 gm/cm3

Packing (Without Links):
- 03 x PK-83 Aircraft bombs will be duly packed in steel fixture (crate).
- Size of crate: 1.95 x 1.15 x 0.525 Mtr (approx)
- Gross weight of crate: 1340 Kg (approx)
- UN. No: 0034 IMDC, code .1.1D

Artillery Ammunition

QF 25 PDR MK 2/1

This ammunition is fired with 25 PDR field guns MK-4 and produced in the following two types:
- a. HE
- b. Blank

Performance:
- Muzzle velocity (at charge 3): 457 m/s
- Muzzle velocity (at super charge): 541 m/s
- Average chamber pressure: 3570 ± 80 kg/m²
- Maximum Range (at charge 3): 10,000 m
- Maximum Range (at super charge): 12,000 m

Accuracy:
- PE (Range): 41 m
- PE (Lateral): 7.8 m
- Sound Level (Blank): 110-130 db

Technical Data:
- Cartridge case is made of drawn brass 70/30 and is filled as below:
  - a. HE (TNT)
    - Primer: No. 11 MK 4/3
    - Normal charge: Triple base flashless propellant NQ 018 & NQ 050, weight 867 gm (approx)
    - Super charge: Triple base flashless propellant NQ / S 134-040, weight 1253 gm (approx)
  - b. Blank:
    - Primer: No. 1 MK 2
    - Charge: Gun powder G 12, weight 454 gm
- Shell filling:
  - HE: TNT
  - Fuze: PDM - 557 M
- Weight/length (approx):
  - Complete round weight (kg): 293
  - Cartridge case length (mm): 435
  - Projectile weight (kg): 14
  - Projectile length (mm): 293
  - Blank weight (kg): 2.550

Packing (HE):
- Inner: Cartridges & shells sealed individually in polythene bags & plastic/chipboard containers
- Outer: 8 cartridge cases packed in a wooden box
  - i. 8 cartridge cases packed in a wooden box
    - Size of box: 60 x 32 x 38 cm
    - Weight of box: 38 kg
  - ii. 4 shells packed in a steel box
    - Size of box: 48 x 21 x 20 cm
    - Weight of box: 52 Kg HE

Packing (Blank):
- (i) 8 cartridge cases packed in a wooden box
  - Size of box: 60 x 32 x 38 cm
  - Weight of box: 34 kg
- Service brown with yellow/white stencilling
Artillery Ammunition

105 mm HOW

This is a semi-fixed ammunition for various type of 105 mm Guns, namely: M1, M2A1, M2A2, M101/101A1, M102 & M106 & many others. It is produced in following three versions:

a. HE P4 MK-1: Fired with normal bursting charge
b. Smoke P2 MK-1: Produces white smoke
c. Blank P1A3: Fired for ceremonial purposes and acclimatization

Performance: (HE & SMK)
- Muzzle velocity at full charge: 494 m/sec
- Average chamber pressure: 2500 kg / cm²
- Maximum range: 11500 m
- Accuracy (HE): PE (Longitudinal) 34.5 m
- PE (Lateral) 9 m
- Sound level (Blank): 110-125 db

Technical Data:
- Weight of complete round: HE 19.07 Kg
- Smoke 19.77 Kg
- Blank 3.375 Kg
- Weight of Projectile: HE 15.2 Kg
- Smoke 16.0 Kg
- Shell Body: Forged steel
- Fuze (HE & Smoke): PD M557
- Cartridge case: Drawn Brass 70/30
- Propelling charge: HE & Smoke Single base flash less & smokeless M1 Blank WM 017 double base Propellant
- Primer: P1 MK3

Packing (HE):
- Shells and cartridges packed in chipboard container, two containers in a wooden/steel box:
  - Size of box: 94.5 x 31.5 x 19.5 cm
  - Weight of box: 55 Kg (HE & Smoke)
  - Colour & marking: Service brown with yellow/whit stencilling

122 mm HOW HE (Type-54)

This is a semi-fixed ammunition for 122 mm Howitzer, type 1954.

Performance: (at full service charge)
- Muzzle velocity at full charge: 515 m/sec
- Average chamber pressure: 2350 kg/cm²
- Maximum range: 11800 m
- Chamber pressure for performance proof tests:
  - Strength: 2580 ± 40 kg/cm²
  - Charge stability: 2580 ± 40 kg/cm²
  - Detonation: 2350 kg/cm²
- Sound level (Blank): 110-125 db

Technical Data:
- Weight of complete round: 27.36 Kg (approx)
- Weight of projectile: 21.76 Kg
- Shell body: Forged steel
- Main charge: 3.528 Kg TNT
- Fuze: LIU-4 PD Type
- Cartridge case: Drawn Brass 70/30
- Propelling charge: This consist of nine charge system of single base propellant
- Weight of propellant charge: 2.10 Kg
- Primer: P-304 A1 Percussion type or D-9

Packing:
- Each round packed in steel box. Fuze is packed separately in plastic container. Charge packed in a brass cartridge case and then packed in a chipboard container:
  - Size of box (L.W.H): 109.5 x 16.5 x 21 cm
  - Gross weight: 42.7 Kg
  - Colour & marking: Service brown with yellow/white stencilling
Artillery Ammunition

122 mm HOW HE D-30 (RRC)

This is semi-fixed ammunition for 122 mm Howitzer, D-30.

**Performance:** (at full service charge)
- Muzzle velocity: 690 m/s
- Average chamber pressure: 2500 kg/cm²
- Maximum range: 15300 m
- Chamber pressure for performance proof tests:
  - Strength: 2760 ± 40 Kg/cm²
  - Charge stability: 2760 ± 40 Kg/cm²
- Detonation: 2500 Kg/cm²
- Accuracy:
  - PE (R) / mean (R) ≤ 1/300
  - PE (Lateral) ≤ 12 m

**Technical Data:**
- Weight of complete round: 28.5 Kg (approx)
- Weight of projectile: 21.76 Kg
- Shell body: Forged steel
- Main charge: 3.528 Kg TNT
- Fuze: LIU-4, PD type
- Cartridge case: Drawn Brass 70/30
- Propelling charge (RRC): This consists of five chargesystem of single base propellant
- Weight of propellant:
  - Reducable reduce charge: 2.5 Kg
  - Full service charge: 3.5 Kg
  - Primer: D-5

**Packing:**
Each round packed in steel box, Fuze is packed separately in plastic container. Charged packed in a brass cartridge case and wrapped with waxed paper then packed in a chipboard container.
- Size of box (L.W.H): 109.5 x 16.5 x 21 cm
- Gross weight: 43.76 Kg (Approx)
- Colour & marking: Service brown with yellow/white stencilling

130 mm “G” HE

This is a long range separate loading variable charge ammunition to be fired through Soviet M46 and Chinese type 59 and 59-1 guns.

**Performance:** (at full service charge)
- Muzzle velocity: 930 m/sec
- Average chamber pressure: 3150 kg/cm²
- Max. range at full charge: 27490 meters
- Chamber pressure for performance proof tests:
  - Strength: 3560 ± 50 kg/cm²
  - Charge stability: 3560 ± 50 kg/cm²
- Detonation: 3150 kg/cm²
- Accuracy:
  - PE (R) / mean (R) ≤ 1 / 220
  - PE (Lateral): 0.7 mil

**Technical Data:**
- Weight of complete round: 60.0 Kg (approx)
- Weight of filled projectile: 33.4 Kg
- Projectile: Forged steel shell
- Main charge: 3.44 Kg TNT (Approx)
- Fuze: LIU-5 PD type or Proximity PF-1A
- Cartridge case: Drawn Brass 70/30
- Propelling charge:
  - i. Reducable Reduce charge (RRC): 6.7 Kg (Approx)
  - ii. Reducable Full charge (RFC): 12.90 Kg (Approx)
- Primer: D-5 Percussion type

**Packing:**
Each round packed in steel box, Fuze is packed separately in plastic container. Charge packed in a brass cartridge case and then packed in a chipboard container.
- Size of box (L.W.H): 93 x 41.6 x 21.5 cm
- Gross weight: 81 Kg (RRC), 88.5 Kg (RFC)
- Colour & marking: Service brown with yellow/white stencilling
Artillery Ammunition

155 mm HOW HE M 107

This is separate loading ammunition which is fired from Howitzer M1, M1A1, M114, M-198 & M-109 A2.

Technical Data:
- Weight of projectile: 43.2 kg (as fired)
- Weight of filling: 6.62 kg TNT
- Fuze: PDM557 or Proximity
- Propelling charge: Single base propellant M1SP, MIMP & M6
- Green bag (Charge - 5): M3A1 (Range 10000 m)
- White bag (Charge - 7): M4A2 (Range 14600 m)
- Charge 8W (Charge - 8): M119A2 (Range 18100 m)
- Primer: M-82 Percussion type

Performance (With charge M119A2 - white bag) with Gun M198
- Muzzle velocity: 684.3 m/sec
- Average pressure: 2350 kg/cm² (Max Pressure 2630 ± 50 Kg/cm²)
- Max range: 18100 m
- Chamber pressure for performance proof tests:
  - Strength: 2630 ± 50 kg/cm²
  - Charge stability: 2630 ± 50 kg/cm²
  - Detonation: 2350 kg/cm²
- Accuracy:
  - PE (Range): 46 m
  - PE (Lateral): 15 m

Packing:
- 8 shells packed in a wooden pallet
- Propellant charges & Fuzes supplied in steel container
- Service brown with yellow/white stencilling

Tank Ammunition

105 mm HE/TK P1A1

This is a general purpose high explosive round. It can be fired from 105mm L7 series rifled tank gun fitted on many current MBTs such as Leopard, Vickers, MK 1&3, M60 (Manufactured under license in USA as M68), early M1, updated M 48, Merkava and re-gunned T-54 series and T-69.

Performance:
- Muzzle velocity: 683 ±15 m/s
- Average chamber pressure: 2350 Kg/cm ² 22500 Kg/cm² (P1 pressure)
- Max. range: 10400 m
- Dispersion:
  - PE/Range: 1/190 m (max)
  - PE Lateral: 15 m (max)
- Accuracy at 1000 m:
  - SD (Vertical): 0.30 meters
  - SD (Horizontal): 0.30 meters

Technical Data:
- Length of complete round: 1016-1027 mm
- Weight of complete round: 24.21 Kg
- Shell Body: Forged steel 12 Kg (approx)
- Fuze: PDM 557 percussion type
- Length of projectile: 490 mm
- Weight of projectile: 14.94 Kg (with fuze)
- Weight of filling: TNT 2.04 Kg
- Cartridge case: Drawn brass 70 / 30
- Propelling charge: M1-MP
- Weight of propellant: 3 Kg approx
- Primer: Electric type L20-A1

Packing:
- Each round is placed in a chip board container and further packed in a steel box.
- Size of box (L.W.H): 118 x 21 x 19 cm
- Gross weight: 46kg (approx)
- Service brown with yellow/white stencilling
PAKISTAN ORDNANCE FACTORIES (POF)

Tank Ammunition

Tank 105 mm APFSDSP1A1

APFSDS (Armour Piercing Fin-Stabilized Discarding-Sabot) is a Kinetic Energy Fin Stabilized Round and can be fired from 105mm L7 series rifled tank gun fitted on many current MBTs such as Leopard, Vickers, MK 183, M60 (Manufactured under license in USA as M68), early M1, updated M48, Merkava and re-gunned T-54 and T-69 series.

Performance:
- Muzzle velocity: 1490 m/s
- Average chamber pressure: 4340 kg/cm²
- Effective range: 3500 meters
- Accuracy at 1000 m: SD (Vertical) 0.3 m, SD (Horizontal) 0.3 m
- Penetration: 300 mm, against RHA target at zero obliquity, confirming to DEF-STAN 95-13/2

Technical Data:
- Length of complete round: 946 mm
- Weight of complete round: 18.91 Kg (Nominal)
- Projectile: Tungsten alloy core with discarding sabot and fin stabilization
- Length of projectile: 486 mm
- Weight of projectile: 6.12 Kg
- Cartridge case: Drawn brass 70/30
- Propelling charge: Triple base multi tubular NQ/M .046
- Electric type L20 A1
- Density: 17.4 + 0.15 gm/cm³

Packing:
- Each round placed in a chip board container and further packed in a steel box.
- Size of box: 105 x 20 x 19 cm
- Gross weight: 37.75 Kg (Approx)
- Colour & marking: Service brown with yellow/white stencilling

125 mm HE FS TK

This is a general fin stabilized round with high explosive and can be fired from 125 mm smooth bore tank guns, T-80 UD (Ukraine), Al Khalid (Pakistan), PT-01 (Poland), T-85 (China) or equivalent.

Performance: (at full charge)
- Muzzle velocity: 850 m/s
- Average pressure: 13500 kg/cm² (Approx)
- Max. range: 10000 m
- Accuracy at 1000 meters: SD (Vertical) 0.3 m, SD (Horizontal) 0.3 m

Technical Data:
- Length of complete round: 1106 mm
- Weight of complete round: 34 Kg (approx)
- Shell body: Forged steel
- Fuze: DRH-05, PD type
- Length of projectile: 700 mm
- Weight of projectile: 23 kg
- Weight of filling: TNT 3.051 Kg
- Semi combustible cartridge case with steel base and cover
- Propelling charge: Consist of single base propellant in tubular bundle and granular form, 14/19, (16/1.35 Tubular)
- Electric percussion No. DJD-2 or P2

Packing:
- Charge structure is packed in fibre glass sealed humidity proof container and projectile is packed in steel box. Fuze is packed separately and is placed at one end of the same steel box.
- Size of box (L.W.H): 67 x 44 x 25.5 cm
- Gross weight: 59 KG
- Colour & marking: Service brown with yellow / white stencilling
**PAKISTAN ORDNANCE FACTORIES (POF)**

**Tank Ammunition**

**Tank 125 mm APFSDS/T**

APFSDS (Armour Piercing Fin-Stabilized Discarding-Sabot) is a Kinetic Energy Fin Stabilized Round and can be fired from 125mm smooth bore tank guns, T-80 UD (Ukraine), Al Khalid (Pakistan), PT-91 (Poland) and T-84 (China) or equivalent.

**Performance:**
- Muzzle velocity: 1730 ± 5 m/s
- Chamber pressure at 21°C: 4850 ± 50 kg/cm²
- Effective range: 2000 m
- Accuracy at 1000 m: 0.3 m
- SD (Vertical): 460 mm, against RHA target at zero obliquity, confirming DEF-STAN 95-13/2
- SD (Horizontal): 0.3 m

**Technical Data:**
- Length of complete round: 1086 mm approx
- Weight of complete round: 21.47 Kg approx
- Projectile: Tungsten Alloy core with discarding sabot and fin stabilization
- Length of projectile: 7.47 Kg approx
- Weight of projectile: 7.37 Kg
- Penetrator (Tungsten alloy): Dual density: Tail ≥ 17 gm/cm³, Head ≥ 17.5 gm/cm³
- Main cartridge case: Semi combustible cartridge case with steel base and cover
- Propelling charge: 16/19 Single base granular
- Weight of propellant: 6 Kg
- Primer: Electric/Percussion Primer P-2 OR Primer No. 3
- Secondary cartridge case: Semi combustible with projectile
- Case: Granular 16/19 2.50 Kg and Tubular 19/1-25 0.8 Kg
- Color & marking: Service brown with yellow/white stencilling

**POF has established capacity for producing Single/Double Density Tungsten Alloy Cores (Penetrators) of all types. At present following type of penetrators are being produced.**

<table>
<thead>
<tr>
<th>Caliber</th>
<th>Density (gm/cm²)</th>
<th>Specification</th>
<th>Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mm APFSDS</td>
<td>17.4 (Approx)</td>
<td>W91.5NE</td>
<td>300 mm Min</td>
</tr>
<tr>
<td>105mm APFSDS</td>
<td>17.4 (Approx)</td>
<td>W91.5NE</td>
<td>300 mm Min</td>
</tr>
<tr>
<td>125mm APFSDS</td>
<td>17-18 (Approx)</td>
<td>WMB-101 JTS</td>
<td>460 mm Min</td>
</tr>
</tbody>
</table>

**Tungsten Alloy Rods**

- Ø = upto 35 mm
- Density Range (W+Ni+Fe or W+Ni+Cu) L = upto 800 mm 17-18 gm/m3 (Approx)

Strict quality control following International quality management system yields penetrators of highest quality.

Each penetrator is checked for internal flaws and surface cracks applying latest internationally accepted ultrasonic flaw detection and dye penetration inspection methods. Important dimensions are checked with electronic probes and compared with master standard reference by means of a projector.
**Anti Tank Rocket**

**40 mm HEAT P1 Mk1 (RPG-7P)**

This is an anti armour grenade used against tanks, self propelled guns and fortifications. It is fired from 40mm Recoilless Launcher, type 1969-1 or equivalent by loading through the muzzle end.

**Performance:**
- Maximum range: 500 m
- Effective range: 300 m
- Maximum velocity: 300 m/s
- Accuracy at 300 meters:
  - SD (Horizontal): 0.75 m
  - SD (Vertical): 0.75 m
- Penetration: 300 mm thick armour plate

**Technical Data:**
- Caliber: 40 mm
- Type of warhead: HEAT
- Length of rocket: 925 mm
- Weight of rocket: 2.2 Kg

**Packing:**
- Each rocket placed in a polythene sleeve/plastic container and 6 rockets are packed in a wooden box.
- Size of box: 81 x 46.7 x 25 . 4 cm
- Weight of box: 35 Kg
- Colour & marking: Service brown with yellow / white stenciling

**73 mm HE SPG-9**

73 mm FSRA HEAT round is a Fin Stabilized Rocket Assisted High Explosive Anti Tank ammunition fired from its smooth bore Recoilless Launcher 73mm.

**Performance:**
- Maximum range: 4500 m
- Effective range: 800 m
- Muzzle velocity: 435 m/s
- Accuracy at 800 meter:
  - SD (Horizontal): 0.5 m
  - SD (Vertical):
- Dispersion at 4500 m: 0.5 m
- CEP –0.70 m
- PE (R) = 1/140
- PE (L) = 1/500
- Rate of fire: 6 rounds per minute

**Technical Data:**
- Length of rocket: 1060 mm (Approx)
- Weight of rocket: 4.5 Kg (Approx)
- Weight of filled shell: 3.2 ± 0.04 Kg (without fuze)
- Weight of bursting charge: 3.295 + 0.081 Kg (with fuze)
- Weight of bursting charge: 0.765 + 0.055 Kg
- Primer: Electric type
- Fuze: GO-2 point detonation impact fuze or V9 P1 A2

**Packing:**
- Each warhead assembled with rocket motor placed in a polythene sleeve, while the expelling charge is separately placed in a nylon cylinder. 6 complete sets packed in a wooden box.
- Size of box: 102 x 50 x 32 cm
- Weight of box with 6 rockets: 61.9Kg
- Colour & marking: Service brown with yellow / white stenciling
Anti Tank Rocket

73 mm FSRA HEAT SPG-9(RAAD)

73 mm FSRA HEAT round is a Fin Stabilized Rocket Assisted High Explosive Anti Tank ammunition fired from its smooth bore Recoilless Launcher 73mm.

Performance:
- Maximum range: 1300 m
- Effective range: 800 m
- Velocity (rocket booster): $690 \pm 20$ m/s at 300 m
- Muzzle velocity: $415 \pm 12$ m/s
- Penetration: 300 mm, against RHA target at zero Obliquity, conforming to DEF-STAN 95-13/2

Accuracy at 800 meter:
- SD (Horizontal): 0.5 m
- SD (Vertical): 0.5 m

Technical Data:
- Length of rocket: 1131 mm
- Weight of rocket: 4.6 Kg
- Weight of projectile: 2.7 Kg
- Type and weight of charge:
  - Primer: RDX / WAX, 0.31 Kg
  - Electric type
- Base fuze: Bottom part VP 9
- Nose fuze: Head part VP 9

Packing:
Each warhead assembled with rocket motor placed in a polythene sleeve, while the expelling charge is separately placed in a nylon cylinder. 6 complete sets packed in a wooden box.

Size of box: 102 x 50 x 32 cm
Weight of box with 6 rockets: 51.9 Kg (Approx)
Colour & marking: Service brown with yellow / white stenciling

Rocket 122 mm HE(MBRL) YARMUK

Rocket 122mm HE (MBRL) is a ground to ground free flight artillery rocket fired from multi-tube launcher. It is used against personnel and light materials providing both fragmentation and blast effect.

Performance:
- Muzzle velocity: 400 m/s
- Max. time of flight: 78 sec
- Max. range without brake ring: 20580 m
- Max. range with brake ring:
  - Max. range with small brake ring: 15890 m
  - Max. range with large brake ring: 11990 m
- Accuracy:
  - PE range and deflection

Technical Data:
- Length of complete rocket: 2875 mm
- Weight of complete rocket: 66 Kg (approx)
- Weight of filled warhead:
  - 18.4 Kg without Fuze
  - 19.4 Kg with Fuze
- Weight of bursting charge: 6.4 Kg Compo B
- Weight of propellant: 20.4 Kg double base

Packing (Without Links):
Each rocket in a polythene sleeve and subsequently in a wooden box. Two brake rings kept in a pocket in the lid of the wooden box. Nose Fuze packed in a separate chipboard container and also kept in the box.

Size of box: 323 x 21 x 23 cm
Weight of box: 90 Kg
Colour & marking: Service brown with yellow / white stenciling
**60 mm HE P2A1**

This bomb is fired with 60 mm Mortar Model 1979 and use against personnel, providing fragmentation and blast effect.

**Performance:**
- Muzzle velocity: 170 m/s
- Pressure: 360 kg/cm²
- Range: 2075 m
- Accuracy:
  - PE (Longitudinal): 1/70
  - PE (Lateral): 1/180

**Technical Data:**
- Complete round: 1.37 Kg (approx)
- Length with fuze: 233 - 243 mm
- Projectile: Cast Iron
- Body material: Deep bronze green
- Main charge: TNT: DNN (42:58). 130 gm
- Colour: Eau de nil – Sea Green
- Fuze: V 9 P1-A2 impact fuze
- Other Components:
  - Primary cartridge: Double base propellant, WD-615
  - Augmenting charge: Double base propellant 5 ring shaped charges
  - Tail unit: Double base propellant, WD-615 10 steel fins

**Packing (Without Links):**
- 6 bombs are packed in waterproof chip/cardboard/plastic carrier with carrying handle and 3 x carriers (18 bombs) are further packed in a steel box.
- Size of box: 54.6 x 26.7 x 26.7 cm
- Weight of box: 39 Kg
- Colour & marking: Service brown with yellow / white stenciling

**Ballistics**
- Muzzle velocity: 126 m/s
- Pressure: 260 ± 10 Kg/cm²
- Range: 1330 m
- Accuracy:
  - PE (Longitudinal): 1/160
  - PE (Lateral): 1/180
  - Smoke Duration: < 10 sec

**Technical Data:**
- Complete round: 1.45 Kg (Approx)
- Length with fuze: 240 ± 2 mm
- Projectile: Cast Iron
- Body material: Eau de nil – Sea Green
- Main charge: 150 ± 20 gm (Approx)
- Colour: Service brown with yellow / white stenciling
- Fuze: V 9 P1-A2 Impact fuze
- Other Components:
  - Primary cartridge: Double base propellant WD - 615
  - Augmenting charge: Double base propellant 3 ring shaped charges
  - Tail unit: 10 steel fins

**Packing:**
- 9 x bombs are packed in waterproof chipboard / plastic carrier with carrying handle and 2 carries (18 bombs) are further packed in a steel box.
- Size of box: 61 x 27 x 26 cm
- Weight of box: 43 Kg
- Colour & marking: Service brown with yellow / white stenciling

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**60 mm Smoke P2A3**

This bomb is fired with 60 mm Mortar Model 1979 and is used to produce smoke for screening and spotting purposes.

**Technical Data:**
- Complete round
- Weight with fuze: 1.45 Kg (Approx)
- Length with fuze: 240 ± 2 mm
- Colour & marking: Service brown with yellow / white stenciling

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**POF Exports Division, Board Office Building, Quaid Avenue, Wah Cantt (47040) Pakistan**

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**Mortar Bombs**

### 60 mm Illuminating & Signal (Red & Green)

**Canister Design Built In Fixed Delay (No Fuze)**

These bombs are available in three types. Illuminating bombs are used for illumination during night missions while red & green bombs are used for signalling. Illuminating rounds are assembled with nylon/cotton parachute 840 mm, wide linked with a star Bi-metal wire rope covered with asbestos tube.

**Technical Data:**

- **Complete round**
  - Weight: 1 Kg
  - Diameter: 60 mm
  - Main charge:
    - i. Illuminating: SR 562
    - ii. Green signal: SR 429
    - iii. Red signal: SR 406
  - Projectiles
    - Body material: Seamless steel tube
    - Identification:
      - Illuminating: Parachute + star
      - Signal red: Red star
      - Signal green: Green star
  - Other Components
    - Primary cartridge: Double base propellant WD 615, 3.2 gm
    - Augmenting charge: Double base propellant one ring shaped charges, 0.10 x 24/48 mm
    - Percussion primer: No. 303
    - Tail unit: 10 steel fins

**Packing (Without Links)**

6 bombs are packed in waterproof chipboard/plastic carrier with carrying handle. 3 x carriers (18 bombs) are further packed in a steel box.

- **Size of box:** 55 x 28 x 26 cm
- **Weight of box:** 30 Kg
- **Colour & marking:** Service brown with yellow / white stenciling

### 81 mm HE M57D A2

**Performance:**

- Star ejection height: 183 m
- Illuminating time:
  - i. Illumination round: 35 - 45 sec
  - ii. Signal rounds: 8 - 12 sec
- Illumination power: 125,000 to 150,000 cd

**Technical Data:**

- **Complete round**
  - Weight with fuze: 3.2 Kg (approx)
  - Length with fuze: 382 mm (approx)
  - Projectile
    - Body material: Forged steel
    - Colour: Olive drab or deep bronze green
    - Explosive charge: 681 gm of TNT (approx)
    - Priming load / exploder: 56 ± 0.5 gm TNT 80.2 (2 x Pellets)
    - Fuze:
      - i) MO-81-61 C Short barrel
      - ii) MO-81-61 L Long barrel
  - Primary cartridge
    - Double base propellant 7 horse shoe charges containing double base propellant
  - Augmenting charge: 10 Aluminium alloy fins
  - Tail unit

**Packing:**

3 x bombs are packed in waterproof chipboard/plastic container with carrying handle and 2 carriers (6 bombs) are further packed in a steel box.

- **Size of box:** 46 x 23 x 32 cm
- **Weight of box with 6 rockets:** 29 Kg
- **Colour & marking:** Service brown with yellow / white stenciling
**Mortar Bombs**

**81 mm Illuminating, Signal(Red & Green)**

Canister Design Built In Fixed Delay (No Fuze) These bombs are used with 81mm mortar and are available in three types. Illuminating bombs provide illumination during night while red & green bombs are used for signaling. Illuminating rounds are assembled with nylon parachute of 1000mm diameter linked with a star through a zinc/cadmium plated steel wire.

**Performance:**
- **Illuminating:** Average delay time for ejection of star 15 ± 1.5 sec. Average burning time of star 50 ± 8 sec.
- **Signal red & green:** Average delay time of ejection of star 6 ± 1 sec. Average burning time of star 10 ± 2 sec.

**Technical Data:**
- **Complete round**
  - **Weight:** 2.5 kg (approx)
  - **Length with Fuze:** 318 mm (approx)

**Projectile**
- **Body material:** Seamless steel tube
- **Identification:**
  - Illuminating: Parachute + star
  - Signal red: Red star
  - Signal green: Green star
  - Main charge: Illuminating
  - Signal red: Composition SR 562
  - Signal green: Composition SR 406

**Other Components**
- **Primary cartridge:** Double base propellant
- **Augmenting charge:** 3 horse shoe type charges containing double base propellant for illuminating & 1 for signal (red & green)
- **Tail unit:** 10 Aluminum alloy fins

**Packing (Without Links):**
- 3 bombs packed in waterproof chipboard/plastic carrier with carrying handle and 2 carriers (6 bombs) are further packed in a steel box.
  - **Size of box:** 45.5 x 22.3 x 31.7 cm
  - **Weight of box:** 25 Kg
  - **Colour & marking:** Service brown with yellow / white stenciling

**Grenades, Pyrotechnics, Demolition, Fuzes, Primers & Detonators**

**AP HE P2 A1 (ARGES-84)**

This is designed to inflict massive damage against soft targets within its blast radius of 20 meters.

**Technical Data:**
- **Weight of the grenade:** 480 ± 20 gm
- **Body:** Plastic with embedded steel balls
- **Length:** 115 ± 3 mm
- **Diameter:** 60 mm (Approx)
- **No. of steel balls:** 5000 (approx dia 2-2.3 mm)
- **Weight of the explosive:** 95 ± 5 gm of plasticized PETN
- **Effective range:** 20 mtr radius
- **Activation:** Lever activated with delay time of 3.5 to 5 sec

**Packing:**
- Each grenade packed in a plastic container, 12 such containers packed in a steel box/wooden box:
  - **Size of box:** 33.5 x 26.5 x 14.5 cm
  - **Weight of box:** 11 Kg
  - **Colour & marking:** Service brown with yellow / white stenciling

**OR**
- 01x grenade pack in plastic container and such 20x containers will be further pack in plastic box.
  - **Size of box:** 45x21x30 cm
  - **Gross weight of box:** 16 Kg (Approx)
**Target Indication MK-2**

These grenades are used to generate coloured smoke for signalling activities of small units for short period of time.

**Available in following colours:**
- White: P4 MK2 (JM)
- Green: P5 MK2 (XL)
- Blue: P6 MK2 (WL)
- Orange: P7 MK2 (GG)
- Red: P8 MK2 (PA)
- Yellow: P9 MK2 (LK)

**Technical Data:**
- Weight: 330 - 410 gm (Approx)
- Height: 144 mm
- Diameter: 56.5 mm
- Operation: By releasing safety pin
- Body: Steel drawn tube
- Emission of smoke: 50 ± 10 sec

**Packing:**
Each grenade packed in a plastic container, 20 such containers are packed in a wooden/Steel box.
- Size of box: 60 x 29 x 19 cm
- Weight of box: 19 Kg
- Colour & marking: Service brown with yellow / white stenciling

**Discharger P3 MK1**

This is a lever operated non-bursting type grenade used for creating smoke screen.

**Technical Data:**
- Weight: 510 gm
- Height: 150 mm
- Diameter: 58 mm
- Operation: Lever activated with delay time of 3.5 - 5 sec
- Body: Tin sheet

**Packing:**
Each grenade packed in a tin/ plastic container, 20 such containers are packed in a steel box.
- Size of box: 60 x 29 x 19 cm
- Weight of box: 22 Kg
- Colour & marking: Service brown with yellow / white stenciling

Available in following colours:
- White: P4 MK2 (JM)
- Green: P5 MK2 (XL)
- Blue: P6 MK2 (WL)
- Orange: P7 MK2 (GG)
- Red: P8 MK2 (PA)
- Yellow: P9 MK2 (LK)
Charges Demolition No. 1, 6 Inch Beehive MK-1

This charge is used for demolition of bunkers and similar RCC structures. The charge is detonated by detonator No. 27 with a suitable length of safety fuze or by electric detonator No. 33 or No. 8.

**Technical Data:**
- **Weight of explosive:** 3.2 Kg (approx)
- **Charge:** Compo B
- **Total weight:** 5.250 Kg (approx)

**Packing:**
- 2 charges packed in a cylinder and two cylinders (4 charges) packed in a wooden box:
  - **Size of box:** 51 x 44.5 x 26 cm
  - **Weight of box:** 33 Kg
  - **Colour & marking:** Service brown with yellow /white Stencilling

**Demolition 1 OZ CE Primer**

**Technical Data:**
- **Length:** 2.9 - 3.4
- **Weight:** 28.35 gm
- **Shape:** Conical cylinder (Single perforation)

**Packing:**
- Each primer wrapped internally and externally with lead free paper. Top & bottom covered with lead free and waxed paper washers to make it completely waterproof. 10 primers packed in a metallic cylinder, 6 cylinders (60 primers) packed in a cardboard carton.
  - **Size of carton:** 37.4 x 15.3 x 18 cm
  - **Weight of carton:** 8 Kg
  - **Colour & marking:** Service brown with yellow /white Stencilling