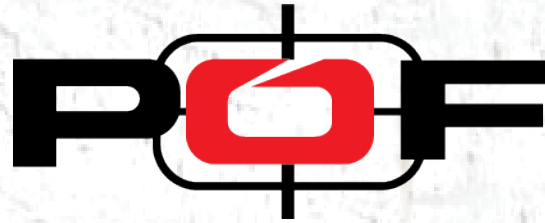




**PUBLIC SECTOR
ORGANIZATIONS**



PAKISTAN ORDNANCE FACTORIES (POF)

(Product Range, Capabilities, Facilities)



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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

Small Arms

Sub Machine Gun SMG-PK & PK1

(Produced in Auto and Semi Auto irreversible versions)



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

Sub Machine Gun MP5 A2 & MP5P3

(Produced in Auto and Semi Auto irreversible versions)



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 dioptr -rotary rear sight adjustable for windage and elevation
Rifling	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
Height of weapon	210 mm
Weight of weapon with fixed A2 butt stock and without magazine	2.54 Kg MP5 P3 weight 2.88 kg
Weight of empty 30 rounds magazine	0.17 kg
Weight of Ammo	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)



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 below 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 rifle in a polythene bag, 05 rifles in cardboard carton, two cartons (10 rifles) in a wooden box.

Size of Box	120 x 56 x 60 cm
Weight of box	96 kg
Colour & marking	Service brown with yellow/ black stencilling

Battle Rifle G3S



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 upto 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	5.3 Kg approx. (with adjustable stock)
Magazine capacity	20 rounds
Accuracy	2 MOA (with std. ball ammo.) & 1.5 MOA with match ammo (175grains)
Butt stock	Adjustable butt stock
Effective range (With scope on mill std. picatinny rail)	600 m with std. service ammo. 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)	3200NM
Width of gun	130 mm
Height of gun with 'AA' sight raised	270 mm
Height of gun with 'AA' sight lowered	205mm
Length of barrel with locking piece	565 mm
Height of muzzle with bipod unfolded	300mm
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	345mm approx
Weight of weapon with end cap, without magazine	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	72x63x47cm
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	72x63x47cm
Gross weight	55 Kg (Approx)
Colour and marking	Service brown with yellow / black stencilling

Small Arms

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 semiautomatic mode. The accuracy of the gun has been enhanced with a freely floating extended barrel and a pictanny 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 without magazine	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
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Horizontal Traverse:

Air targets	360 deg
Ground targets	120 deg

Performance:

Effective Range:		Armour Penetration:	
In air	1600 m	From 800 meters	10 mm
On ground	1500 m	From 500 meters	15 mm
Muzzle velocity	800 m/s		
Cyclic rate of fire	600 rounds /		
Cartridge used	API, APIT		

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:

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

Performance:

Match Ammo	.308 Win ball (175 grains) – Super
Muzzle velocity	777 m/s
Mean chamber pressure	4231.8 Kg / cm ² / 415 MPa
Maximum range	1000 m
Accuracy:	Mean radii ≤ 10 mm at 100 m

Packing:

Super Match Ammo	.308 Win ball (175 grains)
Mode of packing	(20 rounds packing in a plastic box)

The packages are supplied with the standard marking.

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



This ammo is available in two variants.

- 9x19 mm Ball P1 MK1Z Used for Pistol
- 9x19 mm Ball MK2Z Used for 9 mm SMGs MP5 A2

Technical Data:

	9mm Ball P1 MK1Z	9mm Ball MK2Z
Length of complete round	28.90~29.69 mm	28.90~29.69 mm
Weight of complete round	12.06~12.84 gm	12.06~12.84 gm
Propellant	Single base P2PHY	Single base P2PHR
Bullet jacket	Gilding metal (GM)	Gilding metal (GM)
Cartridge case	Brass 70/30	Brass 70/30

Performance:

	9mm Ball P1 MK1Z	9mm Ball MK2Z
Muzzle velocity	341 m/sec at 18.28 meters	395 m/sec at 10.00 meters
Mean chamber pressure	1574.87 Kg / cm ²	3059.1 Kg / cm ² (Radial)
Maximum range	100 m	150 m
Accuracy:	Rectangle of ≤ 254 x 152.4 mm at 25 m	MFOM 76.2 mm at 50 m

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 ~ 17.55gm (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 / cm ²
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:

	Regular 7.62mm Ball	7.62mm Tracer
Muzzle Velocity (at 27.43 m)	811 m/s	794 m/s
Mean chamber pressure	2854.46 Kg/cm ²	2854.46 Kg/cm ²
Maximum range	1000 m	1000 m
Accuracy:	Mean radii 203 mm at 457m	Mean radii 305mm at 457m

Technical Data:

	7.62mm Ball	7.62mm Tracer
Length of complete round	70.36~71.12 mm	70.36~71.12 mm
Weight of complete round	23.976gm approx	23.392gm approx
Propellant	Single base propellant NC-1055 (PCB)	Single base propellant NC-1055 (PCC)
Bullet jacket	Gilding metal (GM)	Gilding metal clad steel (GMCS)
Cartridge case	Brass 70/30	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
For MG-3	7.62mm belted 250 rounds linked in a belt DM-1 & DM-6 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 (Plastic box)	36 Kg

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:

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

Performance:

	7.62mm Ball	7.62mm Tracer
Muzzle velocity (at 27.43 m)	823 m/s	808 m/s
Mean chamber pressure	3196.8 Kg / cm ²	3196.8 Kg / cm ²
Maximum range	1200 m	1200 m
Accuracy:	Mean Radii 254 mm at 457 m	Mean Radii 381 mm at 457 m

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:

Weight

API	116-126 gm
API/T	112-122 gm
Length of complete round	147 mm
Propellant	Single base smokeless powder

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 stenciling

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 following three types.

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

Performance:

Muzzle velocity	720 m/s
Pressure	3000 Kg/cm ²
Accuracy: (at 500 m)	
PE vertical	0.5 m
PE Horizontal	0.5 m

Technical Data:

Weight of complete round	315 gm (approx)
Length of complete round	200 mm (approx)

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
Length	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/cm ²
Range	2000 m

Accuracy:

PE vertical	1.05 m
PE horizontal	1.05 m

Technical Data:

Weight of complete round	840 gm (approx)
Length of complete round	264-267 mm
Projectile	Steel

Identification:Ball	White band
HEI	Red band
API	No band

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

Weight	401- 416 gm
Cartridge case	Brass 70/30
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/cm ²
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

Aircraft & 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/cm ³

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/m ²
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):	HE	Blank
Complete round weight (kg)	14	2.550
Cartridge case length (mm)	293	293
Projectile weight (kg)	11.4	-
Projectile length (mm)	435	-

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 / cm ²
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)
	30 Kg (Blank)
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/cm ²
Maximum range	11800 m
Chamber pressure for performance proof tests.	
Strength	2580 ± 40 kg/cm ²
Charge stability	2580 ± 40 kg/cm ²
Detonation	2350 kg/cm ²
Accuracy:	
PE (R) / mean (R)	≤ 1/150
PE (Lateral)	≤ 15 m

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 21cm
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/cm ²
Maximum range	15300 m
Chamber pressure for performance proof tests	
Strength	2760 ± 40 Kg/cm ²
Charge stability	2760 ± 40 Kg/cm ²
Detonation	2500 Kg/cm
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 21cm
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/cm ²
Max. range at full charge	27490 meters
Chamber pressure for performance proof tests.	
Strength	3560 + 50 kg/cm ²
Charge stability	3560 + 50 kg/cm ²
Detonation	
Accuracy	3150 kg/cm ²
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	This ammunition is fired using either a full or reduced charge. The full variable charge as two charge zones, while the reduced variable charge has three zones
Charge weight:	
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 PF-1A
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/cm ² (Max Pressure 2630 ± 50 Kg/cm ²)
Max range	18100 m
Chamber pressure for performance proof tests.	
Strength	2630 ± 50 kg/cm ²
Charge stability	2630 ± 50 kg/cm ²
Detonation	2350 kg/cm ²
Accuracy:	
PE (Range)	46 m
PE (Lateral)	15 m

Packing :

	8 shells packed in a wooden pallet
	Propellant charges & Fuzes supplied in steel container
Colour & marking	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 22500 Kg/cm ² (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)
Colour & marking	Service brown with yellow/white stencilling

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 1&3, M60 (Manufactured under license in USA as M68), early M1, updated M 48, Merkava and re-gunned T-54 and T-69 series.

Performance:

Muzzle velocity	1490 m/s
Average chamber pressure	4340 kg/cm ²
Effective range	3500 meter
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
Weight of propellant	5.62 Kg (Nominal)
Primer	Electric type L20 A1
Penetrator (Tungsten Alloy)	Density 17.4 + 0.15 gm/cm ³

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/cm ² (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
Case	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)
Primer	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

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/cm ²
Effective range	2000 m
Accuracy at 1000 m:	
SD (Vertical)	0.3 m
SD (Horizontal)	0.3 m
Penetration	460 mm, against RHA target at zero obliquity, confirming DEF-STAN 95-13/2

Technical Data:

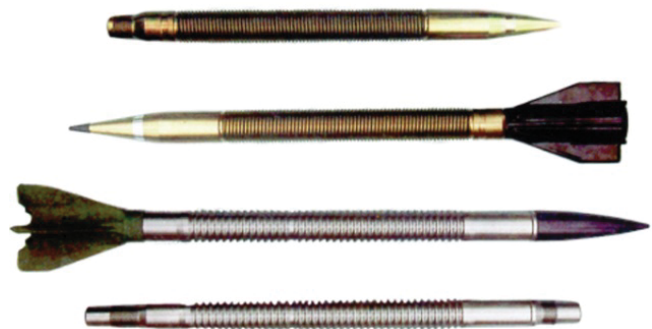
Length of complete round	1086 mm approx
Weight of complete round Projectile	21.47 Kg approx
	Tungsten Alloy core with discarding sabot and fin stabilization
Length of projectile	7.47 Kg approx
Weight of projectile	7.37 Kg
Penetrator (Tungsten alloy)	Dual density: Tail ≥ 17 gm/cm ³ , Head ≥ 17.5 gm/cm ³
Main cartridge case: 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: Case	Semi combustible with projectile
Propellant charge	Granular 16/19 2.50 Kg and Tubular 19/1-25 0.8 Kg

Packing :

Main Charge Structure and Secondary Charge Structure are packed separately in fiber glass sealed humidity proof container then are packed in a steel box.

Size of box	82 x 50 x 26 cm
Gross weight	53 Kg (Approx)
Colour & marking	Service brown with yellow/white stencilling

Tungsten Alloy Penetrators & Rod



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.

Caliber	Density (gm/cm ²)	Specification	Penetration
100mm APFSDS	17.4 (Approx)	W91.5NE	300 mm Min
105mm APFSDS	17.4 (Approx)	W91.5NE	300 mm Min
125mm APFSDS	17-18 (Approx)	WMB-101 JTS	460 mm Min

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)	0.5 m
CEP	-0.70 m
Dispersion at 4500 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) 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 ± 20 m/sat 300 m
Muzzle velocity	415 ± 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	RDX /WAX, 0.31 Kg
Primer	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 small brake ring:	15890 m
Max. range with large brake ring	11990 m
Accuracy:	
PE range and deflection	80 meters and 168 meters respectively when fired at an elevation of 833 R 49 meters and 93 meters respectively when fired at an elevation of 750 R Black blast of rocket 50 m rear Functioning

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

Mortar Bombs

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/cm ²
Range:	2075 m
Accuracy:	1/70
PE (Longitudinal)	1/180
PE (Lateral)	

Technical Data:

Complete round	
Weight with fuze	1.37 Kg (approx)
Length with fuze	233 - 243 mm
Projectile	
Body material	Cast Iron
Colour	Deep bronze green
Main charge	TNT: DNN (42:58). 130 gm
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
Primary cartridge	Double base propellant, WD-615
Tail unit	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

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.

Ballistics

Muzzle velocity	126 m/s
Pressure	260 ± 10 Kg/cm ²
Range:	1330 m
Accuracy:	
PE (Longitudinal)	1/160
PE (Lateral)	1/180
Smoke Duration	< 10 sec

Technical Data:

Complete round	
Weight with fuze	1.45 Kg (Approx)
Weight with fuze	240 ± 2 mm
Projectile	
Body material	Cast Iron
Colour	Eau de nil – Sea Green
Main charge	150 ± 20 gm (Approx)
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

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.

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	1 Kg
Length	246 mm (approx)
Diameter	60 mm
Colour	White
Main charge:	
i. Illuminating	SR 562
ii. Green signal	SR 429
iii. Red signal	SR 406
Projectile	
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 Weighting 3.1 gm
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



This bomb is used against personnel and light material providing both fragmentation and blast effect and is fired with Hotchkiss Brandt mortars of the following types:

- i) MO-81-61 C Short barrel
- i) MO-81-61 L Long barrel

Performance:

Velocity	291 m/s
Pressure	570 kg/cm ²
Range:	4550 m max
Accuracy:	
PE (Longitudinal)	32 m
PE (Lateral)	7.5 m

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	V 19 PA-A2, detonating direct action type with optional delay of 0.05 sec.

Primary cartridge	Double base propellant
Augmenting charge	7 horse shoe charges containing double base propellant
Tail unit	10 Aluminium alloy fins

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 Composition SR 562

Signal red Composition SR 406

Signal green Composition SR 429

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 \pm 20 gm
 Body Plastic with embedded steel balls
 Length 115 \pm 3 mmballs
 Diameter 60 mm (Approx)
 No. of steel balls 5000 (approx dia 2-2.3 mm)
 Weight of the explosive 95 \pm 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)

Grenades, Pyrotechnics, Demolition, Fuzes, Primers & Detonators

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

Charge 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

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