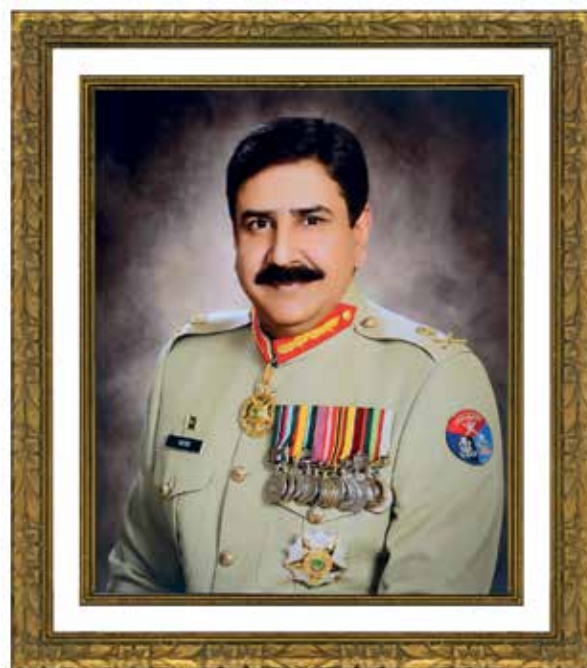




Pakistan Ordnance Factories

www.pof.gov.pk





Lieutenant General Omar Mahmood Hayat HI (M)
Chairman POF Board

Message from the Chairman

Pakistan Ordnance Factories is country's premier defence production organization. We warmly welcome our international clients from friendly countries and offer a broad range of defence products manufactured on highest level of quality standards at most competitive prices. Established in 1951, POF is the largest state owned defence manufacturer in Pakistan. Besides being the main supplier of Pakistan Armed Forces and the law enforcement agencies, POF exports to a number of countries across the globe.

Having a work force of over 27,000 skilled employees in 14 defence industrial units and a number of commercial subsidiary companies POF employees more than 20,000 plants scattered in the gigantic industrial complex located at Wah Cantonment in Pakistan. Our product range is exquisitely portrayed in this catalogue. We showcase display it in most of the international defence exhibitions. POF's Exports Division employees experts who take care of customer requirements in professional manner with utmost promptness. You may send all of your inquiries to us on exports@pof.gov.pk with my personal assurance of excellent assistance from POF.

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Production Units

POF's comprises of following factories and subsidiary companies:

Defence Division

- Weapons Factory
- Machine Gun Factory
- Small Arms & Ammunition Factory
- Medium Artillery Ammunition Factory
- Bombs & Grenades Factory
- Heavy Artillery Ammunition Factory
- Tank & Anti-Tank Ammunition Factory
- Tungsten Alloy Factory
- Filling Factory
- Brass Mill
- Propellants Factory
- Explosive Factory
- Tungsten Carbide Factory

Commercial Division

- Wah Industries Ltd.
- Wah Nobel (Pvt.) Ltd.
- Wah Nobel Acetates Ltd.
- Wah Nobel Chemicals Ltd.
- Wah Nobel Detonators Ltd.
- Wah Brass Mills (Pvt.) Ltd.
- Hi-Tech Plastic (Pvt.) Ltd.
- Shot Gun Ammunition Factory
- Packaging Factory
- Wah Gezhouba
- Clothing Factory
- Wah Cnstructions

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PAKISTAN ORDNANCE FACTORIES



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Weapons

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 gun in production at the Pakistan Ordnance Factories. Based on the famous H&K delayed roller locked 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
Type of Fire	Single and Automatic
Rate of Fire	900 RPM
Muzzle Velocity	375 m/s
Sights	Rigid Front Sight & Rotary Rear Sight
Length of Weapon	340 mm
Length of Barrel	115 mm
Weight of Weapon	2.0 kg

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	64 x 61 x 46 cm
Gross weight	48 kg
Colour & marking	Service brown with yellow / white 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, which can be shoulder-fired or from the hip. 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	30 round Magazine
Type of Fire	Semi automatic and sustained
Rate of Fire	800 RPM
Muzzle velocity (Vo)	400 m/s
Effective Range	100 m
Sights	25m and 100m dioptre – rotary rear sight adjustable for windage and elevation
Rifling	6 grooves with constant right hand twist

Length of Weapon

MP5A2	680 mm (Fixed butt stock)
MP5P3	490 mm (Butt Retracted) 660 mm (Butt Extended)
Length of Barrel	225 mm
Width of Weapon	50 mm
Height of Weapon	210 mm
Weight of Weapon with fixed butt stock and without magazine	2.54 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
Weight of box	67 Kg
Colour and marking	Service brown with yellow/ white stencilling

Assault Rifle

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



Automatic Rifle G3A3, cal 7.62mm x 51 NATO is a modern 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 delayed roller locked bolt system and is fed from a 20 round magazine. Each rifle is provided with means to mount a telescope.

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
Muzzle Energy	3000 NM

Sights

Rear	Rotary rear sight with four adjustments 100M 'V' sight & 200, 300 & 400 m aperture sights, adjustable for windage and elevation
Front	Fixed hooded post front sight

Length of standard weapon

G3A3	1025 mm
G3P4	840 mm (Butt Retracted) 1,020 mm (Butt Extended)

Barrel length	450 mm
Width of Weapon	45 mm
Height of weapon	210 mm

Weight of Weapon without magazine

G3A3	4.4 kg
G3P4	4.7 kg
Barrel grooves	4 grooves, Right hand twist, 305 ± 10 mm lead
Effective Range	400 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 and marking	Service brown with yellow /white stencilling

Compact Assault Rifle

SMG PK 7.62 x 51mm (G3S)



SMG PK 7.62 x 51 mm is compact assault rifle and uses the same caliber ammo as the main battle rifle G3A3. It is ideal for the law enforcement set ups, crew of heavy weapons, security guards, drivers and for mounted/dismounted operations. Optical/Night sights can be attached on the picatinny rail fixed on the receiver. It is available with fixed and side folding butt stock.

Technical Data

Caliber	7.62 x 51 mm NATO
Operation	Roller Locked Delayed Blow Back
Magazine	20 rounds
Weight of Weapon (with side folding butt stock)	4.15 K
Weight of Weapon (with fixed Butt Stock)	4.17 Kg
Length of Weapon	872 mm
Length of Barrel	300 mm
Sight Radius	475 mm
Muzzle Velocity	710 m/s
Effective Range	300 Meter with open sight 400 with optical sight

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 and marking	Service brown with yellow /white stencilling

Assault Cum Sniper Rifle AZB (DMR) MK1



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 DMR MK-1 meets the laid down conceptual requirements. It is manufactured from standard G3 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 Locked Delayed Blow Back
Magazine	5/20 rounds Capacity
Length of Weapon	1055 mm
Length of Barrel	508 mm (4 Groove Rt. Hand Std.)
Weight (Empty Magazine)	4.94 Kg
Effective Range	600 Meter
Accuracy	2 MOA at 100 Meter
Butt Stock	Plastic Fixed Butt Stock

Special Features

All parts are compatible and interchangeable with POF made G3A3 Rifle.

Packing

Each rifle in a polythene bag,
04 rifles in a wooden box:

Size of box	130 x 42 x 34 cm
Weight of box	40 Kg (Approx)
Colour and marking	Service brown with yellow /white stencilling

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 mm x 51 NATO
Feed device	Disintegrating and non disintegrating belts (DM-1, DM-6 and M-13 links)
Type of Fire	Fully Automatic
Operating Principle	Recoil operated
Rate of Fire	Approx 1150 ±150 RPM
Sighting Device	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 4 grooves with right hand twist
Muzzle velocity (Vo)	820 m/s
Muzzle Energy (Eo)	3200 NM
Length of standard weapon	1225 mm
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	1.7kg
Effective Range	800 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

Sporting & Personal Protection

PISTOL PK-9

CALIBER 9X19 mm (PARA)



The pistol PK-9 is semi automatic and has a short recoil system of operation using a falling lock block. On firing the pressure by the combustion gases recoil the slide barrel assembly. After a short run the locking block will stop the backward movement of the barrel and release the slide, allowing it to recoil. The slide will then automatically move forwards feeding the next cartridge from the magazine into the chamber.

Technical Data

Caliber	9X19 mm
Brand	POF
Model	PK-9
Action	Double action
Firing System	Semi auto
Magazine capacity	13
Barrel rifling	6 groove RH
Muzzle velocity	400 m/sec
Sighting:	For blade integral with slide rear notched bar dovetailed to slide

Dimension

Barrel length	124 mm
Overall length	225 mm
Weight with empty magazine	980 gm

Sporting & Personal Protection

Pistol POF-Sarsilmaz (B-6)

CALIBER 9X19 mm (PARA)



Technical Data

Caliber	9x19 mm
Brand	POF Sarsilmaz
Model	B-6
Action	Double action
Firing System	Semi automatic
Magazine capacity	15 + 1 / 17 + 1
Barrel material	Alloyed forged steel
Barrel rifling	6 groove RH
Muzzle velocity	400 m/Sec
Safety	Manual safety, firing pin block, hammer block
Sighting:	
Front sight	Changeable
Rear sight	Dovetail

Dimension

Barrel length	116 mm
Overall length	207 mm
Overall Height	140 mm
Overall width	28 mm
Weight with empty magazine	800 gm

Sporting & Personal Protection
Pistol POF-Sarsilmaz (ST-9)

Caliber 9 x 19 mm (Para)



Technical Data

Caliber	9 x 19 mm
Brand	POF Sarsilmaz
Model	SMZ-ST9
Action	Single action
Firing System	Semi automatic
Magazine capacity	15 + 1
Magazine material	Polymer
Barrel material	Alloyed forged steel
Barrel rifling	6 groove RH
Safety	Safety lever, firing pin safety
Sighting:	White dots

Dimension

Barrel length	116 mm
Overall length	198 mm
Overall Height	148 mm
Overall width	32 mm
Weight with empty magazine	820 gm

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

Type of Fire	Semi Auto
Caliber	9 x 19 mm Para
Muzzle Velocity	375 m/sec
Feed Device	15 x Rounds Steel Magazine
Sights	Rigid Front Sight & Rotary Rear Sight
Length of Barrel	115 mm
Length of Weapon	340 mm
Weight of Weapon with end cap, without magazine	2.0 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	64 x 61 x 46 cm
Gross weight	52 Kg (Approx)
Colour & marking	Service brown with yellow / white 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 details. Other technical details parameters of weapon are given below.

Technical Data

Type of Fire	Single-Semi Auto
Caliber	9 x 19 mm Para
Muzzle Velocity (Vo)	(Approx) 400 m/sec
Muzzle Energy (Eo)	470 ft lbs (650 J)
3 x Lug Barrel with 6 x grooves constant right hand twist	
Steel Magazine	15 Rounds
Length of Barrel	8.85 inch (225 mm)
Length of weapon with end cap	460 mm
Line of Sight	13.39 inch (340 mm)
Weights of Weapon with end cap, without magazine	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	64 x 61 x 46 cm
Gross weight	52 Kg (Approx)
Colour & marking	Service brown with yellow / white stencilling

Sporter Hunting Rifle .308 Win Sporter



The 'Sporter' cal .308 Winchester has been designed as a hunting 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 mil standard pictanny rail for mounting telescope.

Technical Data

Type of Fire	Semi Automatic
Caliber	7.62 mm x 51 NATO/.308 WIN
Muzzle velocity	770-790 m/s
Effective Range	600 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
Barrel length	521 mm
Length of weapon	1096 mm
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	36.8 Kg
Gun mount (Tripod)	53 Kg
Anti aircraft sight	2.2 Kg
Ammunition box	14 Kg (with 70 rounds link belt)

Traverse

Vertical traverse	-26 to 78 deg
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Horizontal Traverse

Air targets	360 deg
Ground Targets	120 deg

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	131 Kg
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	155 Kg
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

Performance

Effective Range

In air	1600 m
On ground	1500 m

Armour Penetration

From 800 meters	10 mm
From 500 meters	15 mm

Muzzle velocity	800 m/s
-----------------	---------

Cyclic rate of fire	
---------------------	--

600 round/min	
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Cartridge used	API, APIT
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Small Arms Ammunition

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

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	1763.8 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	38 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.

Small Arms Ammunition

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.

Technical Data

Length of complete round	55 ~ 56 mm
Weight of complete round	16.15 ~17 gm (Approx) (GMCS) 18.06 gm (Approx) (Brass)
Propellant	Single base pyroxyly 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 bad 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.

Small Arms Ammunition

7.62 x 51 mm Ball & Tracer



This ammo is available in two variants:

- 7.62x51 mm Ball
- 7.62x51mm Tracer

Cartridge 7.62x51 mm is used in any NATO Standard 7.62 mm caliber weapons, in single shot or burst in diverse field conditions

Performance

	7.62mm Ball	7.62mm Tracer
Muzzle Velocity(at 27.43 m)	811m/s	794m/s
Mean chamber Pressure	3196.8 Kg / cm ²	3196.8 Kg / cm ²
Maximum range	1000 m	1000 m
Accuracy:	Mean Radii 203 mm at 457m	Mean Radii 305mm at 457 m

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	Single base propellant
	NC-1055 (PCB)	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 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 (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	14.6 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	13.25 Kg
Gross weight	20 Kg
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 54 mm Ball & Tracer



This ammo is available in two variants:

- a. 7.62 x 54 mm Ball
- b. 7.62 x 54 mm Tracer

Cartridge 7.62 x 54 mm for use in any 7.62 x 54 mm caliber weapon, in single shot or burst in diverse field conditions

Technical Data

	7.62 mm Ball	7.62 mm 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

	7.62 mm Ball	7.62 mm Tracer
Muzzle Velocity (at 27.43 meters)	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

Wah Brass Mills

We take pride to Introduce Wah Brass Mills (Pvt) Ltd, formerly known as POF Brass Mills. Wah Brass is engaged in producing premium quality brass conforming to international standards, since 1954, for Pakistan Ordnance Factories and various other organizations of repute, as well as exporting to international markets.

Wah Brass owns newly installed production facility, equipped with state of the art Machinery, originated from EU, producing premium quality brass with efficient Manufacturing that could best satisfy the needs of our valued customers.

Wah Brass is capable of casting 24000 MT, which distinguishes us as one of the largest Brass, Gilding Metal and Gilding Metal Clad Steel catering needs of major industries in domestic and international markets.

Wah Brass is a name of superior quality, experience, variety and large production capacity to cater in time delivery, WAH BRASS, being producer of preeminent brass products has human capital having proven skills in foundry, extrusion, rolling and heat treatment.

Quality

At Wah Brass, quality ranks higher among all priorities. An in house Met Lab is a part of Wah Brass, equipped with most recent analytical equipment of the day. Wah Brass having in place the supply chain management systems coupled with QC, right from the supply of raw materials from the source to the supply of finished goods from our works, continuous sampling, testing and verification are conducted throughout the manufacturing process to ensure the quality is conforming to international standard.

With our Quality Policy serving as the foundation, Wah Brass takes an unyielding approach on quality. The quality guidelines are reviewed periodically for up-gradation to stay in compliance with the most international standards set for quality conformation worldwide.



Product Mix

Product Mix
Brass Ingots/Billets
Brass Coil
Brass Strip
Brass Sheet
Brass Foil
Gilding Metal Coil
Gilding Metal Strip
Gilding Metal Sheet
Gilding Metal Clad Steel Coil

Gilding Metal Clad Steel Strip
Gilding Metal Clad Steel Strip
Brass Rods Round/Hexagonal/Square
Copper Rods Round/Hexagonal/Square
Brass Tubes
Copper Tubes
brass Pipes
Copper Pipes
Coin Blanks
Cups for Small Arms Ammunition
Brass Discs for Artillery Ammunition

International Standards

Our products comply with following standards;
BSI (British Standard Institutions)
ASTM (American Society of Testing Materials)
Defense Standards
Mill Specs
Any other requirement as per customer's order/demand

Industries We Serve

Sanitary Ware and Water Fittings
Automobiles
Metal Working/Light Engineering
Sporting & Defense Ammo
Garmenture
AC & Refrigeration
Ornamental
Musical Instruments Industry

Ingots & Slabs

Size Range				Composition Range
Length	Width	Thickness	Weight	
1 Meter	280 mm	120 mm	103 MT	Brass as per: i Def-Stan 95-9 (70/30) (Latest) ii IU-92 (60/40 Leaded)
1 Meter	280 mm	160 mm	0.4 MT	
1 Meter	340 mm	120 mm	0.35 MT	Gilding Metal (90/10) as per: Def-Stan 95-11 (latest)
1 Meter	650 mm	120 mm	0.67 MT	
3 Meter	320 mm	175 mm	1.5 MT	Pure Copper as per: QQC-576 (Latest)
3 Meter	340 mm	175 mm	1.6 MT	
3 Meter	450 mm	175 mm	2 MT	
3 Meter	630 mm	175 mm	3 MT	
6 Meter	630 mm	175 mm	6 MT	
				Cupro-Nickel Will be produced as per requirement of customer. Customized composition is also offered



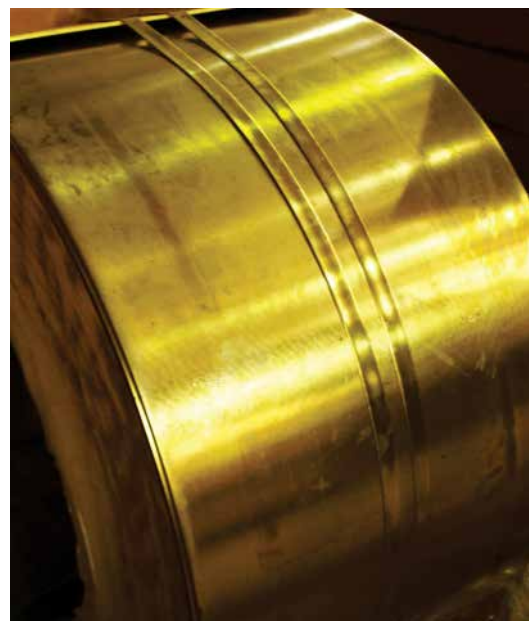
Brass/Copper/Gilding/Metal/ Gilding Metal Clad Steel

Plates/Sheets/ Strips/Coils <ul style="list-style-type: none"> • Brass • Copper • Gilding Metal • Gilding Metal Clad Steel 	Thickness	0.2 - 13mm (Plates up to 30mm)	As per Def-Stan 95-9 (Latest) BS-2870 or EN-1652 or Conforming to customer's requirements
	Width	20-630mm	
	Coil Weight	1.2 - 2.4 MT	
		200,350,500,520,800mm (Smaller diameter can also be provided)	
	Coil Inner Dia	Products will be supplied finished, heat treated, cut to size with proper wrapping/packing in good quality wrapping papers/cloth	

Tolerance & Thickness

WBM has the capability to manufacture the Strips, Sheets and foils in the tolerances mentioned below;

0.5mm (incl.) to	2mm = + 0.01mm
2.0mm (incl.) to	4mm = + 0.015mm
4.0mm (incl.) to	7mm = + 0.03mm
7.0mm (incl.) to	13mm = + 0.05mm



Brass and Copper Rods

Shapes

- Hexagonal
- Round
- Square

DIA (mm)	Length (mm)	
50 - 125	2400 Max	Extruded
20 - 50	3000 Max	Drawn & Straightened
30 Max*	3000 Max	Drawn & Straightened

*Cross Section other than Round Shape

Brass And Copper Tubes And Pipes

Outer Dia (mm)	Wall Thickness (mm)	Length Max (mm)	
30 - 70	2.0 - 3.0	4000	Drawn, straightened and extruded
70 - 90	3.0 - 6.0	3000	Drawn, Straightened and extruded
90 - 158	4.0 - 8.0	2000	Extruded

Coin Blanks

WahBrass has earned a reputation as a trusted supplier of coin blanks to the National Institution. The company secured contract from the Pakistan Mint for the coin blank manufacturing in 2003.

WahBrass with its well-proven technologies and high-performance state of the art machines can Fulfill the demands of any mint around the world. Production includes coin blanks from non-ferrous alloys (copper-nickel, brass alloys).



Defence Products

Brass Disc

	Diameter	70 - 308mm	as per Def-Stan 95-9 (Latest) or Conforming to the customer's requirements
Brass Discs	Thickness	15 - 24mm	
	Weight	1.5kg - 15kg	

Brass Disc 25mm PDR

Size: 6.31 Inches +/- 0.0025 Inch DIA x
0.56 Inch +/- 1.005 Inch Thick

Brass Disc 30mm

Size: 70mm + 0.4mm DIA x 15.24 -
0.25mm Thick for Case Cartg

Brass Disc 37mm

Size: 79.76mm - 0.38 mm DIA x 15.24
- 0.25mm Thick for Case Cartg

Brass Disc 57mm

Size: 140mm +/- 0.2mm DIA x 22mm
+/- 0.1mm Thick for Case Cartg

Brass Disc 105mm HE HOWITZAR

Size: 180.975mm + 0.254mm DIA x
13.2mm +/- 0.254mm Thick

Brass Disc 105mm He TK / APFSDS

Size: 240.66mm - 0.4mm x 20.3 - 0.25

Brass Disc 122mm HOW HE & HE TK & APFSDS

Size: 200mm +/- 0.1mm DIA x 17 +/-
0.1mm Thick for Case

Brass Disc 125mm HE TK & APFSDS

Size: 215mm +/- 0.1mm DIA x 18 +/-
0.1 mm Thick for Stub Base

Brass Disc 130mm

Size: 308mm + 1.5mm DIA x 24 +/-
0.1mm Thick



Brass Cups for Cases & Bullets

Cups for Case	Small arms ammo Calibers		Complying to NATO Standards
	●	7.62 x 54mm	
	●	7.62 x 51mm	
	●	7.62 x 39mm	
	●	5.56 x 45mm	
●	9.00 x 19mm		
Cups for Bullet	●	7.62 x 54mm	Complying to NATO Standards
	●	7.62 x 51mm	
	●	7.62 x 39mm	
	●	5.56 x 45mm	
	●	9.00 x 19mm	



Brass Strip / GM Strip and GMCS Strip

Break Strips

62 - 0.5 x 9.5 + 0.2mm Thick for 23mm

65 - 0.5 x 8 + 0.5 x 2000mm for 20mm

Cold Rolled 3.988mm for 7.62 x 51mm

Cold Rolled Finished 3.048mm for 9 x 19mm

Cold Rolled Finished 3.7 ± 0.04mm Thick x 117.35 + 1mm for 5.56mm

Cole Rolled 3.25 / 3.35mm + 0.06mm Thick x 98.425 + 1.5mm Wide for 7.62 x 39mm

Gilding Metal Strip

1.397 +/- 0.02 Thick x 134mm Wide for Ball Bullet 7.62 x 51mm
0.5 +/- 0.02mm x for Bullet 9mm 1Z & 2Z
0.82 +/- 0.025mm Thick x 10 + 1mm Wide for Bullet 5.56mm
0.92 +/- 0.04mm Thick x 134.5 + 0.06mm Wide for Bullet Cups 7.62 x 39mm

Gilding Metal Clad Steel Strip

1.686 +/- 0.025 Thick x 94mm Wide for Tracer Bullet 7.62 x 51mm
1.15 + 0.05mm Thick x 135mm Wide for Bullet Cup 7.62 x 54mm
3.1 - 0.1mm Thick x 139.5 - 2mm Wide for Case Cup 7.62 x 39mm
0.99 + 0.07mm Thick x 135 - 2mm Wide for Bullet Cup 7.62 x 39mm
1.37 - 0.07mm 124mm Wide for 12.7mm API/APIT
2.9 - 0.1 x 139.5 - 2mm Wide for 12.7mm API/APIT
49 + 0.05mm Wide x 1.02 - 0.02mm Thick 37mm

Copper Strip

3.5 +/- 0.1mm Thick x 104 - 0.2mm Wide for Copper cone (QQC-576A)
3.1 +/- 0.05mm Thick x 105mm Wide For Funnel (RPG-7)
In addition to the above any other sizes and tolerance could be offered as per customer's demand.



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/cm ²
Max	3300 kg/cm ²

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

Anti Missile Ammunition

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/cm ² 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 Ammunition 23mm



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

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 & Anti-Aircraft Ammunition

Aircraft Ammunition 30 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:

- Ball (Training)
- HEI (High Explosive Incendiary)
- 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
Fuze	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
Weight of wooden crate	48 Kg

HEI/API: 27 rounds HEI-I/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

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
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Average chamber pressure	2800 Kg/cm ²
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Maximum Range	8500 m
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Accuracy:

PE Horizontal	1.15 m
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PE Longitudinal	1.05 m
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Firing rate	180 Rounds/minute
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Technical Data

Weight of complete round	1.417 kg (approx)
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Length of complete round	381-385 mm (Approx)
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Projectile	Forged steel
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Main Charge	RDX/Aluminum
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Tracer	No. 405 time \geq 6 sec
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Fuze	HE-I with SD mode (9-12 sec delay)
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Weight of projectile	732 gm (Aprox.)
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Cartridge Case	Brass 70/30
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Propelling Charge	Single base propellant HN7/14
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Primer	Percussion type No. 12 MK4 / LA (Modified)
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Packing

Each round packed in waterproof re-useable plastic container. 20 rounds packed in a wooden box C-13/P

Size of box	46 x 36 x 30 cm
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Weight of box	43 Kg
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Colour & marking	Service brown with yellow/white stencilling
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Aircraft Ammunition

Bomb HE GP 500 LBS

(250 Kg) MK-P8 (Low Drag)



This is a multi-purpose bomb similar to US type MK82, 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 (MK-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
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ii). Conventional fin assembly	2210 mm
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Bomb body diameter	275 mm
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Weight of bomb with:

i). Retarder fin assembly	254.54 Kg
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ii). Conventional fin assembly	241.36 Kg
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Explosive charge, RDX/TNT	90 Kg (Approx)
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Packing (Without Links)

6 bombs packed in steel fixture:

Size of steel fixture	1680 x 98 x 78 cm
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Gross weight of steel fixture	1600 Kg
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Colour & marking	Black with yellow / white stencilling
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Bomb HE GP 1000 LBS

(500 Kg) PK-83 (Low Drag)



This is a multi-purpose bomb similar to US type MK83, 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	1784 ± 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

Packing (Without Links)

03 x Mk-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

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)	110-125 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 flash less propellant NQ 018 & NQ 050, weight 867 gm (Approx)
Super Charge	Triple base flash less 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

- 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

Gross Weight of box 34 Kg

Colour & marking 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:

- HE P4 MK-1:** Fired with normal bursting charge
- Smoke P2 MK-1:** Produces white smoke with incendiary effects
- Blank P1A3:** Fired for ceremonial purposes and acclimatization

Performan: (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	3.75 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

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/white stencilling

Artillery Ammunition

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
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. Charged packed in a brass cartridge case and then packed in a chipboard container.

Size of box	85.8 x 18.3 x 16.4 cm
Gross weight	38.70 Kg
Color & marking	Service brown with yellow/white stencilling

Artillery Ammunition

122 mm HOW HE D-30



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)	≤ 1/425
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 charge system 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 then packed in a chipboard container.

Size of box	109.5 x 21 x 16.5 cm
Gross weight	44 Kg (Approx)
Colour & Marking	Service Brown with Yellow / White Stencilling.

Artillery Ammunition

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
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	3150 kg/cm ²
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	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. Reducible Reduce charge (RRC)	6.7 Kg (Approx)
ii. Reducible 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. Charged packed in a brass cartridge case and then packed in a chipboard container.

Size of box	93 x 41.6 x 21.5 cm
Weight of box	81 kg (RRC), 88.5 kg (RFC)
Colour & marking	Service brown with yellow/white stenciling

155 mm HOW HE M 107



This is semi-fixed 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	M3A1
White Bag	M4A2
Charge 8W	M119A2
Primer	M-82 Percussion type

Performance (With charge M4A2- white bag)

Muzzle Velocity	564 m/sec
Average Pressure	2560 kg/cm ²
Range	14600 m

Chamber pressure for performance proof tests:

Strength	2870 ± 50 kg/cm ²
Charge stability	2870 ± 50 kg/ cm ²
Detonation	2560 kg/cm ²

Accuracy:

PE (Range)	46 m
PE (Lateral)	04 m

Packing

	8 shells packed in a wooden pallet.
	Propellant charges & Fuzes supplied in steel container
Colour & marking	Service brown with yellow / white stenciling

Tank & Anti-Tank Ammunition

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	1800 kg/cm ²
Max Range	10400 m
Dispersion:	
PE/Range	1/190 m (max)
PE Lateral	15 m (max)
Accuracy at 1000 m:	
SD (Vertical)	0.36 meters
SD (Horizontal)	0.36 meters

Technical Data

Length of Complete Round	1020 mm (Approx)
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 ± 0.10 Kg
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	118 x 21 x 19 cm
Gross weight	46.9 kg (Approx)
Colour & marking	Service brown with yellow / white stenciling

Tank & Anti Tank Ammunition

105 mm APFSDS P1A1



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
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 stenciling

Tank Ammunition

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
Chamber pressure	3500 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

Packing

Charge structure is packed in fiber 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	67 x 44 x 25.5 cm
Gross weight of box	59 Kg
Colour & marking	Service brown with yellow / white stenciling

Tank & Anti Tank Ammunition

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
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Chamber pressure at 21°C	4850 ± 50 kg/cm ²
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Effective Range	2000 m
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Accuracy at 1000 m:

SD (Vertical)	0.3 m
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SD (Horizontal)	0.3 m
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Penetration	460 mm, against RHA target at zero obliquity, confirming DEF-STAN 95-13/2
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Technical Data

Length of Complete Round	1086 mm
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Weight of Complete Round	21.47 Kg
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Projectile	Tungsten Alloy core with discarding sabot and fin stabilization
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Length of Projectile	555 mm
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Weight of Projectile	7.37 Kg
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Penetrator (Tungsten alloy)	Dual density: Tail ≥ 17 gm/cm ³ , Head ≥ 17.5 gm/cm ³
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Main Cartridge Case:

Case	Semi combustible cartridge case with steel base and cover
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Propelling Charge	16/19 Single base granular
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Weight of Propellant	6 Kg
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Primer	Electric/Percussion Primer No. 2
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Secondary Cartridge Case:

Case	Semi combustible with projectile
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Propellant Charge	Granular 16/19 2.50 Kg and Tubular 19/1-25 0.8 Kg
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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
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Gross weight	53 Kg (Approx)
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Colour & marking	Service brown with yellow /white stenciling
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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/m ³ (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.

Rockets

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)	0.5 m
SD (Vertical)	0.5 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 25.4 x 46.7 cm
Weight of box	35 Kg
Colour & marking	Service brown with yellow / white stenciling

Anti Tank Rocket

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 (Vertical)	0.5 m
SD (Horizontal)	0.5 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	48 Kg (Approx)
Colour & marking	Service brown with yellow/white stencilling

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 73 mm.

Performance

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

SD (Horizontal)	0.5 m
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SD (Vertical)	0.5 m
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Technical Data

Length of rocket	1131 mm
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Weight of rocket	4.6 Kg
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Weight of projectile	2.7 Kg
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Type and weight of charge	RDX /WAX, 0.31 Kg
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Primer	Electric type
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Base Fuze	Bottom part VP 9
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Nose Fuze	Head part VP 9
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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
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Weight of box with 6 rockets	45 Kg (Approx)
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Colour & marking	Service brown with yellow/white stencilling
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Rockets

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
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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 stencilling

Mortar
Bombs

Mortar Bomb

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:	
PE (Longitudinal)	1/70
PE (Lateral)	1/180

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). 112 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
Primer	No. 303 percussion type
Tail unit	10 steel fins

Packing

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 stencilling

Mortar Bomb

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	1.5 Kg (Approx)
Length 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
Augmenting charge	Double base propellant 3 ring shaped charges
Tail unit	10 steel fins

Packing

9 x bombs are packed in waterproof chip/cardboard 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 Bomb

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
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Illuminating time:

i. Illumination round	35 - 45 sec
ii. Signal rounds	8 - 12 sec

Illumination power	125,000 to 150,000 cd
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Technical Data

Complete Round

Weight	1 Kg
Length	246 mm (Approx)
Diameter	60 mm
Color	White

Main charge:

i. Illuminating	SR 562
ii. Green Signal	SR 429
iii. Red Signal	SR 406

Projectile

Body material	Seamless steel tube
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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

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

Size of box	55 x 26 x 26 cm
Weight of box	30 Kg
Colour & marking	Service brown with yellow/white stencilling

Mortar Bomb

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
- ii) 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/Exploader	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 cardboard/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	29 Kg
Colour & marking	Service brown with yellow /white stencilling

Mortar Bomb

81 mm Smoke M57 DA1



This bomb produces smoke for screening and spotting purposes and is fired with Hotchkiss Brandt mortars of the following types:

- i). MO-81-61 C Short barrel
- ii). 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
Smoke duration	35 sec (minimum)

Technical Data

Complete Round

Weight with Fuze	3.2 Kg (Approx)
Length with Fuze	382 mm (Approx)

Projectile

Body material	Forged steel
Colour	Sea green or Eau-de-nil
Charge	650 ± 25 gm
Bursting charge	10 ± 3 gm CE (1 x Pellet)
Fuze	V 19 PA-A2, Impact & Delay 0.05 sec Optional

Other Components

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

Packing

3 bombs packed in waterproof chipboard/cardboard carrier with carrying handle and 3 carriers (9 bombs) packed in a steel box:

Size of box	34 x 34 x 44 cm
Weight of box	50 Kg
Colour & marking	Service brown with yellow / white stencilling

Mortar Bomb

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
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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

3 bombs packed in waterproof chipboard/cardboard 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

Mortar Bombs

120 mm HE M 44 A2



This bomb is suitable for use with Mortar AM-50 (Brandt) with 1.75 meter barrel length and is used against personnel and light material creating fragmentation and blast effect.

Performance

Muzzle velocity at charge 7	331 m/s
Max pressure	820 kg/cm ²
Chamber pressure for performance proof tests:	
Strength	920±20 kg/cm ²
Charge stability	920±20 kg/cm ²
Detonation	820 kg/cm ²
Max. range	6745 m

Accuracy

PE (Range)	50 m
PE (Lateral)	13 m

Technical Data

Complete Round

Weight of projectile as fired	13.0 Kg
Length of projectile with Fuze	676 mm

Projectile

Body material	Forged steel
Colour	Deep bronze green
Exploder charge	TNT Pellets
Main Charge	TNT, 2.6 Kg
Fuze	V 19P A2, SQ / delay

Other Components

Primary cartridge	CL-3, Ballistite 74 gm (Approx)
Augmenting charge	7 charges of 75 gm (Approx) each of Ballistite GB Pa in Cellunyl horse shoe container
Tail unit	12 steel fins (6 pairs)

Packing

Each round packed individually in plastic tube alongwith fuze and aug charge (in plastic container) Two plastic tubes (two bombs) packed in a steel box:

Size of box	82.0 x 32.3 x 15.8 cm
Weight of box	42 Kg (Approx)
Colour & marking	Service brown with yellow/white stencilling

Mortar Bombs

120 mm Smoke M 44 A1



This bomb is suitable for use with mortar AM-50 (Brandt) with 1.75 meter barrel length and produces smoke for screening and spotting purposes.

Performance

Muzzle velocity at charge 7	331 m/s
Max pressure	820 kg/cm ²
Chamber pressure for performance proof tests:	
Strength	920 ± 20 kg/cm ²
Charge stability	920 ± 20 kg/cm ²
Detonation	820 kg/cm ²
Max. range	6745 m
Accuracy :	
PE (Range)	50 m
PE (Lateral)	13 m
Smoke duration	60 Sec

Technical Data

Complete Round

Weight of projectile as fired	13.0 kg
Length of projectile with Fuze	676 mm

Projectile

Body material	Forged steel
Colour	Eau de nil to shade 218 to BS - 381C
Exploser charge	C.E Pellets
Main Charge	2.6 kg
Fuze	V19 P A2, SQ / delay

Other Components

Primary cartridge	CL-3, Ballistite, 74 gm (approx)
Augmenting charge	7 charges of 75 gm. each of Ballistite GB Pa in cellulynyl horse shoe container
Tail unit	12 steel fins (6 pairs)

Packing

Each round packed individually in plastic tube alongwith fuze and aug charge (in plastic container) Two plastic tubes (two bombs) packed in a steel box:

Size of box	79.50 x 33.6 x 34.4 cm
Weight of box	47.10 Kg (Approx)
Colour & marking	Service brown with yellow/white stencilling

Mortar Bombs

Training (Inert)

60, 81, 120 mm



Training (Inert) rounds are used to meet training needs of troops in short ranges at low cost. These bombs can be used minimum for 10 x times with charge of primary cartridges. These bombs are fired with their standard mortars.

Technical Data

Complete Round	60 mm	81 mm	120 mm
Weight with PRF (Kgs)	1.37	3.2	13
Length with PRF (mm)	240 ± 2	382	676
Projectile material	Cast Iron	Cast Iron	Forged Steel
Color	Artic blue	Artic blue	Deep saxe blue
Main charge	HES (Sand + Wax)	HES (Sand + Wax)	HES (Sand + Wax)
Fuze (PRF)	Alluminium Alloy	Alluminium Alloy	Alluminium Alloy
Primary Charge	Double base propellant	Double base propellant	Double base propellant
Augmenting charge	Nil	Nil	Nil
Range	180 ± 20	200 ± 20	200 ± 20

Packing

Size of Box (mm)	54.6 x 26.7 x 26.7	26.0 x 7.4 x 21.5	82.0 x 32.3 x 15.8
Weight of Box (Kgs)	39	29	42
No of Rds in box	18	06	02
Colour & Marking	Service brown with white stencilling		

Grenades,
Pyrotechnics,
Demolition,
Fuzes,
Primers &
Detonators

Grenade Hand

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:

Size of box	33.5 x 26.5 x 14.5 cm
Weight of box	11 Kg
Colour & marking	Service brown with yellow / white stencilling

Grenade Hand

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 clours:

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 Stencilling

Grenade Hand

Discharger P3 MK1



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

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 Stencilling

Demolition

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	3.250 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



This is used for detonation of high explosive charges and consists of pure tetryl.

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

Flare Trip Wire MK 2/2



This is a safety device used for giving a signal and light to people being protected by this arrangement. A spool of wire is supplied along with the device, which activates the mechanism when any hostile intruder or trespasser trips over the wire, a candle of illuminating composition is initiated.

Technical Data

Height of flare candle	98 ± 1mm
Diameter	62.5 mm
Primer	Percussion type ABC
Illuminating composition	SR 547
Time	Not less than 60 sec
Intensity	40,000 candles
Weight of complete flare	1.84 Kg

Packing

Each flare placed in carton, further packed in a tin box with arm link assembly and one trip wire spool with cardboard fitments. 12 flares packed in a steel box:

Size of box	67 x 28 x 25 cm
Weight of box	34 Kg
Colour & marking	Service brown with yellow / white stenciling

Cartridge Signal Pencil Shooting Type



These cartridges are meant for firing by a Shooting Pencil and are used for signalling during day or night. On firing, the star is propelled to the prescribed height and emits the specific colour of light.

Available in following types:

- Red
- Green
- Illuminating

Note: Pencil Shooting Gun (Pyrotechnic Pistol) is also in production line of POF.

Technical Data

Burning time	5.5 sec
Height to which ejected	70 m

Packing

216 cartridges packed in a steel box:

Size of box	29.2 x 19.7 x 21.7 cm
Weight of box	6 Kg
Colour & marking	Service brown with yellow / white stencilling

Fuze, Primers & Detonators



Detonators

Type	Utilization
Detonator M-17	Fuze PDM 557
Detonator M-24	Fuze PDM 557
Detonator No. 32	81 & 120 mm Mortar Bombs
Detonator No. 108	37 mm HE/T
Detonator No. 137	37 mm HE/T
Detonator No. 237	37 mm HE/T
Detonator No. 208	60 mm Mortar Bomb

Fuzes

Type	Utilization
No. 6 & 8	30 mm HEI API
HE-1	37 mm HE/T
V9P1/A2	60 mm Mortar Bomb HE & Smoke
V 19 PA-A2	81 mm Mortar Bomb HE & Smoke
PDM 557 M	25 PDR HE
PDM 557	105 mm HOW HE & Smk, 155 mm HOW HE
L 56	105 mm TK HESH
V 19 P A2	120 mm Mortar Bomb HE & Smoke
LIU 4	122 mm HOW HE T-54 & D-30
LIU 5	130 mm HE
PF-1A Proximity	105 mm HE & 203 mm HOW HE

Primers

Type	Utilization
Percussion type No. 304 A-1	122 mm HOW HE
Percussion type D-5	130 mm Gun HE & 122 mm HOW D-30
Percussion type MK2A4	155 mm HOW HE
Percussion type P-6	106 mm HEAT
Electric type L20 A1	105 mm APFSDS
No. 303	60,81 & 120 mm Mortars
No. 12 MK4/LA	37 mm HE/T
No. P1 MK3	105 mm HOW HE, Smk & Blank
No. 330	30 mm Ball & HEI
Percussion type No. M-82	155 mm HOW & 8" HOW
Primer Percussion type P-5	100 mm APFSDS

Military
Explosives &
Propellants

Military Explosives

EXPLOSIVES

S. No.	Type of Explosive	Specification	Melting point	Utilization
1	TNT	DEF-STAN 07-4/1(a)	80.2 – 80.4°C	Manufactured in the form of flakes suitable for filling shells, bombs and for preparation of different compositions with RDX.
2	RDX	DEF-STAN 07-23	201-208°C	Crystalline product used for manufacture of plastic explosive like PE-3A, and compo A&B.
3	COMPO B 1. RDX/TNT 60:40 2. RDX/TNT 70:30	CS 5446 (b) Pak Explo-38A (a)	- -	Manufactured in the form of flakes and biscuits. Suitable for filling shells and bombs.
4	RDX/WAX/Al No. 2 71:9:20	DEF-STAN 07-31	-	Filling of shells.
5	PE-3A (Plastic Explosives)	CS 2436 A(a)	-	Demolition works.
6	PETN	DEF-STAN 07-08/1	139-142°C	Crystalline products used in the manufacture of detonators and Fuses.
7	PETN Plasticised	Pak Explo 31	-	Filling of Hand Grenades.
8	Tetryl (CE)	DEF-STAN 13-165/1	128.5- 129.1°C	Manufactured in granular form. Pressed tetryl pellets are used in different primers, detonators, bombs and shells.
9	Picrite	DEF-STAN 07-12/1	-	Manufactured in the form of fine white powder (Nitro Guanidine) triple base propellant.
10	Gun Powder G-7, G-12, G-20,G-40, GP-Mealed Sulphurless/ G.P Sulphurless/M.P	DEF-STAN 13-167/1 DEF-STAN 13-166/1		Suitable for use in various primers and pyro compositions.
11	Styphnic Acid	DEF-STAN 07-50/1	176-181°C	Lead salt of this acid is used in the preparation of Cap composition for different ammunition.
12	Di-Nitro-Resorcinol	DEF-STAN 13-43 (b)	146-148.5°C	Used in initiator composition.
13	RDX/WAX 95.5 RDX/WAX 96:4 RDX/WAX 98:2	PAK EXPLO 32 PAK EXPLO 55		Manufacture in the form of grains, used for filling of Shells.
14	Strontium Peroxide	DFF-STAN 13-15/1		Used in tracer Compositions

Mortar Bombs and Rockets

Mortar Bombs

S. No.	Discription	Type, Shape and Major Characteristic	Applicable Specifications	Applicable Weapons
1	Propellant for 60 mm Mortar	Strips 10-2.5/33, perforated Mortar Gun rings 10-24/48 separation disk 11 x 46 x 100	60 mm	WJ 19-67W (chinese)
2	Propellant for 81 mm Mortar	Ballistite GB Pa(1.5), Ballistite GB Pa(2.5)	81 mm Mortar Gun	Hotchkiss Brandth No. 922103, 922104
3	Propellant for 120 mm Mortar	Ballistite GB Pa(2.5), Ballistite GB Pa(8)	120 mm Mortar Gun	Hotchkiss Brandth No.IU-922106 PAK Ammo-134

Rockets

1	Propellant for 122 mm Rocket	Types SQ-2, extruded solventless double base, single perforated cylindrical grains with ends inhibition	6m -21 Field MBRL	WE-1017 JTW (Chinese)
2	Propellant for 40 mm antitank rocket assisted HEAT projectile type 69	Double base solventless expelling and booster charges	RPG-7 Launcher	WE 131 JTW (Chinese) Pak Ammo-104, 136
3	Propellant for cartridge RG 7.62 x 51 mm P2A1	Double base smokeless powder Ballistite 3.5	G3A3 Rifle	Pak Ammo-123
4	Propellant for 73 mm FSRA HEAT round SPG-9	Double base solventless expelling and booster charges	SPG-9 Launcher	Pak Ammo-124, 125

Small Arms Ammunition

1	NC-1055	Single base, Single perforated grains, deterrent coated	7.62x51 mm Ball & 7.62x51 mm Tracer	Pak Ammo-86(c) Pak Ammo-76(F) Firing (ballistics)
2	NC 1111	Single base, square flakes	12 bore cartridge	TM 826 (Bofars)
3	P-2 MK 2Z	Single base cylindrical grains	9 mm MP5A2 Sub machine gun	Pak Ammo-117
4	HN 4/7	Single base, 7 perforated cylindrical grains	12.7x108 mm	WJ 16-67W (Chinese)
5	HN 5/7 Glazed (Chinese design)	Single base, 7 perforated cylindrical grains	Practice, API & HEI cartridges for 30 mm, aircraft gun ammunition	WJ 16-67W (Chinese)
6	P-3	Single base, cylindrical grains	7.62 x 51 mm Blank	Pak Ammo-122

Propellants

(For Guns & Howitzers Ammunition)

S.No	Description	Type, shape and major characteristics	Applicable ammunition	Applicable specification
1	HN7/14 (Chinese design)	Single base 14 perforated rosette grains	Cartridges for anti 37 mm aircraft machine gun	WJ 7-67 W (Chinese)
2	P-1	Double base, 7 perforated cylindrical Grain	Cartridge 106 mm HEAT	Pak Ammo 75
3	NQ/M 0.046	Triple base, 7 perforated cylindrical grains	100 mm tank gun APFSDS ammunition & 105 mm Tank gun APFSDS ammunition	P-323 A(g) U.K
4	Prop MI SP & MP	Single base with DNT, single & 7 perforated grains	Charges for 105 mm HOW M67	Pak Ammo 98
5	4/1 & 9/7	Single base single & 7 perforated grains	122 mm charges	WJ-17-67 W (Chinese)
6	12/1 & 9/7	Single base single & 7 perforated grains	130 mm S.R gun charges	WB-005 PFI WJ-17-67 W (Chinese)
7	Prop 3-23/1-37	Double base solventless single perforated	130 mm L.R gun charges	WJ-18-64
8.a	Prop M1 SP (0.0157 inch)	Single base with DNT, single perforated grains with flash reducing agent	155 mm HOW for charges M3A1 (green bag)	MIL-STD 652 D(AR) MIL-C-60418 B(AR) Jan-P-309
8.b	Prop M1 MP (0.0336 inch)	Single base with DNT, 7 perforated grains with flash reducing agent	155 mm HOW for charges M4A2 (white bag)	MIL-P-60397 B(AR) JAN-P-309
9.a	Prop M1 SP (0.0171 inch)	Single base with DNT, single perforated	203 mm HOW for charges M1 (green bag)	MIL-STD 652 D(AR) MIL-P-46698 MU JAN-P-306
9.b	Prop M1 MP (0.043 inch)	Single base with DNT, multi perforated	203 mm HOW for charges M1 (white bag)	MIL-STD 652 D(AR) MIL-C-46695 A(MU) JAN-P-309
10	Propellant for 100/105 mm HESH	Single base with DNT, 7 perforated	Charges for mm 100/105 HESH	P-328
11	Propellant 3-18/1-26 for 100 mm HE	Double base solventless single perforated	100 mm HE	WJ-18-67W (Chinese)
12	Propellant 19/1-25 & 16/19	Single base, single hole sticks of 250 mm, length & 19 hole hexagonal Grains	125 mm APFSDS	WMD 603 AJT

S.No	Description	Type, shape and major characteristics	Applicable ammunition	Applicable specification
13	Propellant 16/1-35 & 14/19	Single base, single hole sticks of 350 mm, length & 19 hole hexagonal Grains	125 mm HE	WMD 603 AJT
14	Propellant 4/1 & 9/7	Single base, single hole grain & 7 hole grain	122 mm HOW D-30	Pak Ammo-137
15	Prop M6-MP (0.055 inch)	Single base with DNT, cylindrical grains with 7 longitudinal perforations with flash reducing agent	155 mm HOW for charges M119A2 (Red Bag)	Pak Ammo-130
16	Prop 12/1-27 & 12/7	Single base, single hole sticks of 265 mm length & 7 longitudinal perforations cylindrical grains	122 mm HOW D-30 FC	Pak Ammo-139 Pak Ammo-138
17	Propellant 3/1	Single Base	122 mm HOW D-30	Pak Ammo-135
18	Prop M11MP (0.0336 Inch)	Single Base multi Perforated with DNT	105 mm TK HE	Pak Ammo-60

Propellants - Small Arms Ammunition

S.No	Description	Type, shape and major characteristics	Applicable ammunition	Applicable specification
1	NC-1055 for 7.62 x 51 mm Ball & Tracer Ammo.	Single base, Single perforated grains, deterrent coated	G3A3 and MG-3	Pak-Ammo. - 86 (c) Pak-Ammo. -76 (F) (Ballistics)
2	P-3 for 7.62 x 51 mm BLANK Ammo	Single base, cylindrical grains	G3A3 and MG-3	Pak Ammo-122
3	Pyroxyle Powder for 7.62 x 39 mm Ammo	Single base, Single perforated grains, deterrent coated	7.62 x 39 mm SMG Chinese Ammo	Pak Explo.-57
4	NC-1055 for 7.62 x 54 mm Ammo	Single base, Single perforated grains, deterrent coated	7.62 x 54 mm HMG Ammo	Pak Ammo.-86 (c)
5	NC1111	Single base, square flakes	12 Bore Gun	TM-826
6.	P-2 Mk-1Z & 2Z for 9mm	Single base cylindrical grains	Wallther Pistol and MP5A2 Sub Machine Gun	Pak Ammo.-117
7	HN 5/7 Glazed (Chinese design)	Single base, 7 perforated cylindrical grains	30 mm Aircraft Gun	WJ 17-67 (W)

Propellants - for Guns & Howitzers Ammunition

1	CBI for 125 mm APFSDS & HE Ammo	Single base, Single perforated grains, deterrent coated	125 mm Tank Gun	Pak Ammo-133
2	CBI for 155 mm HOW Ammo.	Single base, square flakes	155 mm HOW	Pak Ammo.-127
3.	Propellant for 23 mm Ammunition	Single base, Single perforated, cylindrical grains	23 mm Aircraft Gun	EPD-1
4	NQ/M 0.046 for 100 mm APFSDS & 105 mm APFSDS Ammo.	Triple base, 7 perforated cylindrical grains	100 mm & 105 mm Tank Gun	P-323 A (g)
5.	WM-017 for 105 mm & 122 mm HOW (BLANK) Ammo.	Double base Propellant cords	105 mm Gun & 122 mm HOW	P/331-1
6.	Propellant 3/1 for 122 mm HOW	Single base, Single perforated grains	122 mm HOW (D-30)	Pak Ammo.-135
7.	NQ-018 & NQ-050 for 25 Pdr Ammo.	Triple base Propellant cords	25 Pdr Gun	P-323 A (g)
8.	P-1 for cartridges 106 mm HEAT	Double base, 7 perforated Cylindrical Grains	106 mm R.R	Pak Ammo.-75



Commercial Explosives

Nitroglycerine Based Dynamites

S-3 (Seismic Explosive)

The severe conditions encountered in oil prospecting demand explosives of a special type. S-3. The seismic explosive manufactured by Wah Nobel is the best answer to such demands. S-3 has excellent water resistance and is capable of withstanding extremely high hydrostatic pressure. It is cartridge in specially designed high density rigid plastic tubes which can be coupled with one another to make the desired length of the column of charge.

Technical Data

Density	1.50-1.55 g/cc
Gas Volume	520 lit./kg
V.O.D (Unconfined)	+5500 m/sec
Sensitivity	Detonator No. 8
Consistency	Gelatinous



Wabox

Wabox is suitable for all types of rock blasting operations. It is manufactured in different grades, i.e. 80, 60 and 40 percent. These explosives have excellent blasting properties, so highest level of safety in handling and transportation as well as in storage is maintained. They are meant for hard and medium hard rocks and are suitable in dry and wet conditions for quarrying, stripping and underground mining. These explosives give excellent results in underwater blasting as well. All grades of Wabox are manufactured according to the requirements of the customers.

Technical Data

Density	1.40-1.45 g/cc
Gas Volume	860 lit./kg
V.O.D (Unconfined)	+5000 m/sec
Sensitivity	Detonator No. 8
Consistency	Gelatinous



Wabofite

Wabofite is an oxygen-balanced semi-gelatinous dynamite. It is employed for pre-splitting, smooth and controlled blasting. It can also be used as a base charge in medium, hard and soft rocks. In dry and wet bore holes it is also used as a column charge in quarrying and is ideal for tunnel blasting.

Technical Data

Density	0.90-1.00 g/cc
Gas Volume	873 lit./kg
V.O.D (Unconfined)	3000-3500 m/sec
Sensitivity	Detonator No. 8
Consistency	Semi Gelatinous



All explosives are available in cartridge (paper/polyethylene) of dimensions 25 mm x 200 mm, 32 mm x 200 mm, 50 mm x 500 mm, 63 mm x 500 mm & 75 mm x 500 mm. S-3 is also available in hard plastic tubes of 57 mm x 410 mm.

Powder Explosives

Wabonite

Wabonite is a low-density explosive of relatively high weight strength, well suited mainly as column charge in all types of rocks where conditions are moderately dry. It is a non-cap sensitive explosive and requires a primer for initiation. Wabonite has excellent storage properties and offers maximum safety in handling and transportation.

Technical Data

Density	0.90g/cc - 0.95 g/cc
Gas Volume	918 lit./kg
V.O.D (Unconfined)	3000 m/sec
Sensitivity	Primer Required
Consistency	Powder



Wapril (ANFO)

Wapril is a mixture of Ammonium Nitrate and fuel oil having a special sensitizer designed to give optimum blasting performance. Wapril is a low cost explosive which is extensively employed as column charge in all types of rock blasting operations and is particularly used as main charge (with primer) in large diameter hole blasting.

Technical Data

Density	0.80 g/cc - 0.85 g/cc
Gas Volume	988 lit./kg
V.O.D (Unconfined)	2500 m/sec
Sensitivity	Primer Required
Consistency	Prills



Powder explosives are available in polyethylene tubes of 50mm x 500mm, 63mm x 500mm & 75mm x 500mm. It is also available in 25 Kg Polyethylene lined bags.

Emulsion Explosives

Emulite - 150 / Emulite - 150 (G)

This cap sensitive explosive has plastic consistency and is very suitable for achieving high loading density. It has excellent blasting properties. It can be used as bottom charge for any kind of blasting. Due to its consistency and high water resistance, it can be confidently employed for deep underwater blasting.

Technical Data	EMULITE-150	EMULITE-150 (G)
Density	1.25 g/cc	1.25 g/cc
Gas Volume	830 lit./kg	860 lit./kg
V.O.D (Unconfined)	5000-5500 m/sec	4600-5000 m/sec
Sensitivity	Detonator No. 8	Detonator No. 8
Consistency	Emulsion	Emulsion



Emulite-100 / 100 (G)

Suitable for pre-splitting, smooth and controlled blasting. In dry and wet bore holes it is also used as a column charge and is ideally suited for tunnel blasting.

Technical Data	Emulite-100	Emulite-100 (G)
Density	1.20 g/cc	1.20 g/cc
Gas Volume	900 lit./kg	932 lit./kg
V.O.D (unconfined)	5000-5500 m/sec	4500-5000 m/sec
Sensitivity	Detonator No. 8	Detonator No. 8
Consistency	Emulsion	Emulsion

Seismic Emulite (ES-3)

Seismic emulsion explosives meet the highest standard of safety required in rough and tough conditions of seismic prospects. Seismic Emulite has excellent storage properties especially for high temperature and humid climate.

Technical Data	
Density	1.20 – 1.24 g/cc
Volume	796 lit./kg
V.O.D (Unconfined)	> 5400 m/sec
Sensitivity	Detonator No. 8
Consistency	Emulsion

Permissible Emulite (E-408)

Emulite-408 is of special composition for use in gassy coal mines. It produces short lived detonation flames and prevents firedamp or coal dust explosion in underground coal mines. This explosive can be employed in underground mining of other ores as well.

Technical Data	E-408
Density	1.12-1.15 g/cc
Gas Volume	820 lit./kg
V.O.D (unconfined)	4400 m/sec
Sensitivity	Detonator No. 8
Consistency	Emulsion

All explosives are available in cartridges (paper/polyethylene) of dimensions 25 mm x 200 mm, 32 x 200 mm, 50 mm x 500 mm, 63 mm x 500 mm & 75 mm x 500 mm.



ES – 3
(Seismic Emulite)

Blasting Accessories

Wabocord (Detonating Cord)

Wabocord consists of a core of high explosive contained in polythene and wrapped in various layers of cotton/jute yarn. The detonating cord is then coated with PVC, giving it a high tensile strength and making it water proof. The structure of Wabocord assures its efficient field performance as it is unaffected by both heat and cold within a wide range of temperatures i.e. from -60°C to 30°C .

Technical Data

Velocity of detonation	6000-7000 m/sec
Water resistance	Water proof, can withstand pressure of 25 meter water head for 48 hours
Explosive grammage	10 ± 1 g/m
Packing:	4 reels of 250 meters each, packed in a cardboard box. Also available in 20 and 40 g/m



Safety Fuse

Safety fuse consists of a central core of specially formulated black powder with jute and cotton counterling, Water proofing is done by bitumen, wax as well as PVC. It is designed to propagate flame to the plain detonator within specified time limits.

Technical Data

Burning Time	100-120 sec/m and dry conditions
Coating	PVC/ Bitumen
Packing:	4 reels of 250 meters each, packed in a cardboard box.



MS/Hs Electric Delay Detonators

Milli second and half second delay detonators are meant to effect delayed blasting action in multi-row bench blasting and tunneling. This action greatly improves blasting results as better fragmentation and ground vibration control is achieved. MS delays are used only for surface blasting while in underground blasting, a combination of both MS and HS detonators is employed.

MS Delay Electric Detonators

Period	Delay Time	Internal	Standard leg wise
1-20	25-500 ms	25 ms	3.5 mtr

HS Delay Electric Detonators

1-10	500-5000 ms	500 ms	3.5 mtr
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Detonators

Detonator No. 8 (Plain)

Standard type Plain Detonator No. 8 consists of a base charge of high explosive and a primer charge of an initiating explosive pressed into an Aluminum tube. It is used with safety fuse.

Technical Data

Length of Aluminium casing	38 ± 1 mm (Nominal)
Outer Dia	7 ± 0.1 mm
Use	In combination with safety fuse

Packing

100 Dets. are packed in a smaller card box. 50 small boxes are packed in a master cardboard box containing a total of 5000 detonators.

Electric Detonator No. 8

Electrical energy is required to initiate electric detonators. The advantage of electric firing over firing with safety fuse and plain detonator is that several shots can be connected up and fired simultaneously with much greater control over the blast.

Technical Data

Length of Aluminum casing	45 ± 0.6 mm
Standard Leg Wire	3 mtr.
Outer Dia	7 ± 0.1 mm

Packing

10 Dets. are packed in a smaller card box. 50 small boxes are packed in a master cardboard box containing a total of 500 detonators.



Seismic Detonators

Seismic Detonators are specially formulated, high density, high energy, detonator sensitive seismic explosive designed exclusively to meet the rigid requirements and environmental extremes associated with geophysical exploration. Offering moderate velocity and extraordinarily low gas production, they improved seismic energy across usable bandwidth for superior final data as well as improved signal-tonoise ratios.

Material	Aluminum
Length	45 - 45.7 mm
Diameter	7.0 - 7.2 mm
Available in 4.5, 12, 24 and 30 meters wire length.	

Leher Ignition System

Leher is the trade name of the latest "Non-Electric Initiation System"

Advantages

- No stray current or radio transmission hazards
- No side initiation.
- No noise problem.
- Simple and rational connections.
- No limits on the size of blast round.

Varieties of Leher Ignition System

- Leher GD/MS
- Leher MONODET
- Leher Instantaneous



Leher GD/MS

Period No	Delay Time (ms)	Interval (ms)	Standard Tube length (mt.)
1-20	25-500	25	5,10,15,20,25

Leher Monodent

Description	Basic Detonators		Surface Delays/Connectors		
Code	MD 475	MD 500	SD 0	SD 25	SD 50
Delay Time ms	475	500	0	25	50
Colour	-	-	Yellow	Blue	Red

Leher Instantaneous

For specific operations, Leher Instantaneous are also available in various tube lengths.

Packing

10 detonators are vacuum packed in Polythene bag. Leher with tube lengths above 10 mtr
 05 Nos dets are vacuum packed in Polythene bag
 10 Polythene bags are packed in a cardboard box.



Formaldehyde - FA 37%

Applications

General purpose formalin is suitable for Tanneries, Poultry/Sugar Industries and for manufacturing Urea and Phenolic Glues

Specifications

Grade	Commercial
Appearance	Water like
*Formaldehyde content	36.8 - 38.6 % (w/w)
*Methanol content	2.5 - 10 % (w/w)
Density	1.032-1.11 g/cc at 25 °C
Acidity as Formic Acid	0.005 - 0.03 % (w/w)
Ash content (max.)	2 % by wt.



Packing: 30 liters is packed in plastic can, 200 liters in GI drum while bulk quantities are packed in SS tanker.

* Formaldehyde concentrations 36.5 – 38.5 % with 3 – 11 % Methanol contents are produced on request

Urea Formaldehyde Concentrate 85% - UFC 85

Applications

Used as anti Urea (granular) manufacturing process. Also suitable for manufacturing U.F Glue.

Specifications

Appearance	Water like
Viscosity	250 – 600 cps at 25°C
Density	1.310 – 1.330 g/cc at 25°C
pH	8.0 – 9.0 at 25°C
Formaldehyde	60 ± 2 % by weight
Urea	25 ± 1 % by weight
Water	15 ± 1.0 % by weight
Shelf life	6 months at 25°C



Packing: 60 liters in plastic can and bulk quantities in SS tanker.

Urea Formaldehyde Concentrate 63% - UFC 63

Applications

Used in the manufacturing of Moulding Compounds. Also suitable for manufacturing U.F. Glue.

Specifications

Appearance	Water like
Viscosity	10 – 20 cps at 25°C
Density	1.200 – 1.250 g/cc at 25°C
pH	7.0 - 8.0 at 25°C
Formaldehyde	45 ± 1 % by weight
Urea	18 ± 1 % by weight
Water	37 ± 1.0 % by weight
Shelf life	6 months at 25°C

Packing: 60 liters packed in plastic can while bulk quantities are packed in SS tanker.

Chemicals (Polymers)

Phenol Formaldehyde (RESOLE) – KN 400

Application

Suitable for coating the Rock Wool.

Specifications

Appearance	Reddish Brown liquid
Viscosity	10 - 25 cps at 25°C
Density	1.10 – 1.2 g/cc at 25°C
pH	7.5 - 8.5 at 25°C
Shelf life	15 days at 25°C
Packing: 60 liters in plastic can, 200 liters in GI drum & bulk quantities in SS tanker.	

Phenol Formaldehyde (RESOLE) – KN 300

Application

Suitable for the production of water proof Plywood.

Specifications

Appearance	Maroon Red liquid
Viscosity	200 – 400 cps at 25°C
Density	1.10 – 1.2 g/cc at 25°C
pH	12.0 – 13.5 at 25°C
Solid Content	43 ± 2 % by wt.
Shelf life	Two months at 25°C

Packing : 60 liters in plastic can, 200 liters in steel drum & bulk quantities in MS tanker.

Phenol Formaldehyde (RESOLE) – KN 900

Application

Suitable for coating of abrasive in the manufacturing of Cutting / Grinding Disc

Specifications

Grade	Abrasive binder
Viscosity	200 – 400 cps at 25°C
Density	1.19– 1.23 g/cc at 25°C
pH	8.0 – 8.5 at 25°C
Solid Content	70 - 80 % by wt.
Shelf life	Two months at 25°C

Packing : 60 liters in plastic can.

Phenol Formaldehyde (RESOLE) – KN 750

Application

Used as Cold-setting foundry sand (Silica/Quartz) binder for the production of Moulds and Cores.

Specifications

Grade	Foundry
Viscosity	200 - 400 cps at 25°C
Density	1.17 – 1.22 g/cc at 25°C
pH	12.0 - 14 at 25°C
Solid Contents	50 ± 2 % by wt.

Packing: 60 liters packed in plastic can & 200 liters in steel drum

Chemicals (Polymers)

Phenolic Resin (NOVOLAC) – KF 800

Application

Suitable for coating silica sand in the hot sand coating process

Specifications

Appearance	Granules
Softening point	90 ± 10 °C
Moisture (max.)	1.0 % by wt.
Ash	1.0 ± 0.2 % by wt.
Shelf life	Six months at 25°C

Packing: 50 kg in polypropylene bag

Foundry Resin (NOVOLAC) – FN 700

Applications

Used in the manufacturing of tundish board and ingot mould hot tops and in corning shell moulding process.

Specifications

Appearance	Powder (85% 200 mesh)
Nitrogen	3.8 – 4.0 % by wt
Moisture contents	0.5 – 0.9 %
Ash contents	0.8 – 1.2 % at 950°C
Shelf life	One year at 25°C

Packing: 50 kg in polypropylene bag

Lamp Capping Cement – LCC 760

Application

Suitable for bonding cap and glass portion in bulb manufacturing process

Specifications

Appearance	Fine powder
Bulk Density	0.7 - 0.95 g/cc
PH (in ethanol)	6.5 - 7.1
Curing time	180 sec at 350°C
Torque strength of bonded cap after curing	5 - 7 kg
Shelf life	One year at 25°C

Packing: 25 kg is packed in a cardboard box.

Urea Formaldehyde – KR 3000

Application

Used as abrasive binder in the manufacturing of Sand Paper.

Specifications

Appearance	Opaque
Viscosity	2000 – 4000 cps at 25°C
Density	1.290 – 1.310 g/cc at 25°C
pH	8.0 ± 0.5 at 25°C
Free formaldehyde	1.5 – 2.0 %
Gel. time	30 – 40 sec at 100°C
Solid content	65 ± 1 %
Shelf life	Two months at 25°C

Packing : 30 and 60 liters in cans and 200 liters in GI drum.

Chemicals (Polymers)

Phenolic Resin (Novolac) – FN 600

Applications

Used in the manufacturing of Cutting/Grinding disc

Specifications

Appearance	Powder (90% 250 mesh)
Softening point	100 ± 10°C
Moisture content	0.5 – 0.9%
Ash content	0.8 – 1.2 % at 950°C
Shelf life	Six months at 25°C

Packing : 15 kg are packed in a cardboard box.

Urea Formaldehyde-KR 60

Application

Suitable for the production of ordinary plywood/Chipboard.

Appearance	Opaque
Viscosity	200-300 cps at 25°C
Density	1.252-1.262 g/cc at 25°C
pH	8.0-8.5 at 25°C
Free formaldehyde	Below 1%
Gel. time	40 – 60 sec at 100°C
Solid content	60 ± 1%
Shelf life	Two months at 25°C

Packing : 30 liters in plastic can, 200 liters in steel drum & bulk quantities in MS tanker.

Urea Formaldehyde-KR 50

Application

Suitable for the production of Chipboard.

Appearance	Opaque
Viscosity	40-80 cps at 25°C
Density	1.200-1.250 g/cc at 25°C
pH	8.0-8.5 at 25°C
Free formaldehyde	Below 5%
Gel. time	50 – 70 sec at 100°C
Solid content	50 ± 1%
Shelf life	Two months at 25°C

Packing : 30 liters in plastic can, 200 liters in steel drum & bulk quantities in MS tanker.

Chemicals (Polymers)

Lamp Capping Cement – LCC 770

Application

Suitable for coupling caps with tube rods.

Specifications

Appearance	Fine powder
Bulk Density	0.70 – 0.95 g/cc
pH (in ethanol)	6.5 – 7.1
Curing time	180 sec at 350 °C
Torque strength of bonded cap after curing	5 – 7 kg
Shelf life	One year at 25°C

Packing: 25 kg in a cardboard box.

Urea Formaldehyde – KR 60

Application

Suitable for the production of ordinary Plywood/Chipboard.

Specifications

Appearance	Opaque
Viscosity	200 – 300 cps at 25°C
Density	1.252 – 1.262 g/cc at 25°C
pH	8.0 – 8.5 at 25°C
Free formaldehyde	Below 1 %
Gel. time	40 – 60 sec at 100°C
Solid content	60 ± 1 %
Shelf life	Two months at 25°C

Packing: 30 liters is packed in plastic can and 200 liters in steel drum while bulk quantities are packed in MS tanker.

Urea Formaldehyde – KR 50

Application

Suitable for the production of Chipboard.

Specifications

Appearance	Opaque
Viscosity	40 – 80 cps at 25°C
Density	1.200 – 1.220 g/cc at 25°C
pH	8.0 – 8.5 at 25°C
Free formaldehyde	Below 1 %
Gel. time	50 – 70 sec at 100°C
Solid content	50 ± 1 %
Shelf life	Two months at 25°C

Packing: 30 liters is packed in plastic can and 200 liters in steel drum while bulk quantities are packed in MS tanker.

Chemicals

Glacial Acetic Acid

Acetic Acid is a clear and colourless liquid having pungent and vinegary odour with burning taste. Major uses of Acetic Acid are in the manufacturing of cellulose acetate Fiber, PTA, ester solvents, dyes, metal salts and many other chemicals. Its user industries are Textile, Leather, Food, Pharmaceuticals, Plastic and Rubber.

Technical Data

Content	≥ 99.5% (weight %)
Freezing point	15.5°C
Density at 20°C	1.042 gm/ml
Methanoic acid	0.35%
Acetaldehyde	0.10%
Heavy metal (as pb)	0.0004%
Evaporation residue	0.02%
Content of iron	0.0002%
Time of oxidation of potassium permegrate	5 minutes



Packing: 30 kg in plastic cans and bulk quantities in tankers

Ethyl Acetate

Ethyl Acetate is a stable, colourless and inflammable liquid with a pleasant odour. It is used widely in formulating gravour, printing inks, adhesives and lacquers. It is used extensively as a cellulose nitrate solvent in the Manufacturing of products such as artificial and patent leathers, inks, cement, photographic films and linoleum. Ethyl Acetate is also used in the formulation of products like candy glaze, cleaning fluids, flavours and spirit varnishes. .

Technical Data

Content	≥ 99.5% (weight %)
Density	0.878 – 0.883 gm/ml
Moisture	0.20%
Acidity (as CH ₃ COOH)	0.005%
Evaporation residue	0.005%



Packing: 180 kg in steel drums and bulk quantities in tankers

Butyl Acetate

Butyl Acetate is a colourless inflammable liquid with a pleasant and fruity odour. It is widely used in cellulose nitrate lacquers. It is also an active solvent for cellulose acetate batryle, ethyl cellulose chlorinated rubber, polystyrene, methaerylate resins, natural gums and paints. This ester is also used as a solvent in the preparation of artificial leather, textile and plastics and as an extraction solvent in processing various oils and pharmaceuticals.

Technical Data

Content	≥ 99.5% (weight %)
Density	0.897-0.902 gm/ml
Moisture	≤ 0.20%
Acidity (as CH ₃ COOH)	≤ 0.005 %
Evaporation residue	≤ 0.005%

Packing: 180 kg in steel drums and bulk quantities in tankers.

Clothing & PLCE

Military Uniforms/PLCE/Clothing Products

Clothing Factory employs state of the art equipment and technology to maintain consistency and quality. It also ensures a perfect finishes. Designing and cutting of all garments is carried out on the latest GGT CAD/CAM system. Stitching is done on the latest Japanese Sewing Machines.

Our Product Range

- Full Range of Military Garments
- Industrial Garments
- Anti Mosquito Nets (For tropical areas)
- Hospital Clothing
- Clothing for Danger Building (Explosive & Chemical Industries)
- Maintenance Coversals
- Fabric Bags (Different Types)
- Trousers & Shirts
- Bullet Proof Jacket
- PLCE (Personal Load Carrying Equipment)



PLCE Items

Ruck Sack



Compatible for Operational and Logistic requirements of individual Soldier to provide him the flexibility for operating more than 48 hours

Specifications

Type : Ruck Sack Complete
Load Capacity : 21 kg
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Ammo Carrier RPG-7



Designed to carry four RPG-7 shells with Molle System for attachment of Small Pack, Hydration System, Entrenching Tool Cover and other accessories

Specifications

Type : Ammo Carrier RPG-7
Load Capacity : 13 kg
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Chest Rig



Facilitates the soldier in patrolling and operation of short duration while carrying his essential combat loads with Molle System for attachments/ detachments

Specifications

Type : Chest Rig
Load Capacity : 03 kg
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Ammo Carrier 60mm Mortar



Designed to carry four RPG-7 shells with Molle System for attachment of Small Pack, Hydration System, Entrenching Tool Cover and other accessories

Specifications

Type : Ammo Carrier 60mm Mortar
Load Capacity : 19 kg
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

PLCE Items

Military Hydration System



Used to facilitate the troops to meet their drinking water needs during combat movements / training

Specifications

Type : Military Hydration System

Storage Capacity : 2.5 liters

Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Pistol Holster



Used to carry Pistol / Ammunition in battle field

Specifications

Type : Pistol Holster

Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Detachable Small Field Pack



Used to enable a soldier to carry his personal kit items during operational environments

Specifications

Type : Detachable Small Field Pack

Load Capacity : 03 kg

Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Water Bottle Cover



Used to carry Water Bottle and keep water cool for long period

Specifications

Type : Water Bottle Cover

Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

PLCE Items

Entrenching Tool Cover



Designed for carrying Entrenching Tool

Specifications

Type : Entrenching Tool Cover
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Frog for Scabbard



Used to carry the scabbard during Water / Training by troops

Specifications

Type : Frog for Scabbard
Material : Polypropylene Webbing

First Aid Medical Kit Pouch



Used to carry essential Medicines / Battle Dressing items in warfield

Specifications

Type : First Aid Medical Kit Pouch
Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Bullet Proof Jacket



Tactical Body Armour Vest designed to fully integrate with special operations

Key Features

- Compatible with MOLLE equipment and array of auxiliary components
- Integrated pockets for hard armour magazines radios and other equipments
- Fully adjustable height and girth for exact fit
- Light weight construction
- Finished edges for increase durability

Material : Cordura Cloth 1000 Den
Polypropylene Webbing
Misc. Garniture Items

Miscellaneous Products

Non-Ferrous Products



Brass, Copper, Gilding metal, extruded & rolled materials.

1. Rods, Bars & Wire Round 65 to 125 mm dia.
2. Hexagonal, square 6.5 to 65 mm across flats
3. Tubes Round 6 to 90 mm outer dia.
4. Square Tubes 27 to 90 mm outer dia.
5. Various shapes Area of cross section up to 64 sq. cm.



6. Plates 6.5 to 65 mm thickness
7. Strips 0.50 to 6 mm thickness
8. Foils 0.05 to 0.75 mm thickness



9. Sheets/Strips 0.5 to 25 mm thickness 25 mm to 600 mm in coil up to 600 kgs.

10. Gilding Metal clad steel strip 0.5 mm to 0.9 mm thickness, 250 mm wide in coils or strips.

11. Disc (Brass) For Cal. 30, 37, 100, 105, 122, 130, 125, 57 & 122 D-30

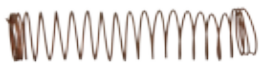
12. Ingots Brass, Copper Ingots of Dias 150 mm, 185 mm & 225 mm with 1 meter length (approx)

Phosphorised and Gilding

Metal to International
Standard Specifications

Billets sizes:-

- i) 177 mm x 75 mm x 1M
- ii) 300 mm x 75 mm x 1M
- iii) 650 mm x 120 mm x 1M
- iv) 340 mm x 120 mm x 1M
- v) 280 mm x 160 mm x 1M
- vi) 200 mm x 200 mm x 1450 mm



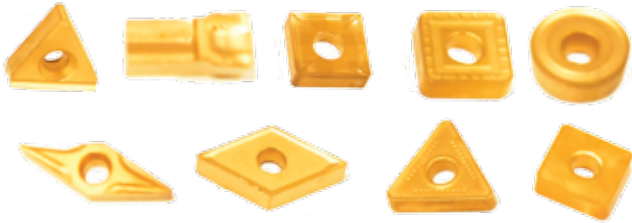
Tungston Carbide Products

Cemented Carbide Cutting Tools for Machining

A

i. Indexable Inserts (ISO Standard)

In all shapes and sizes and grades P, M & K (Coated, Uncoated)



Applications

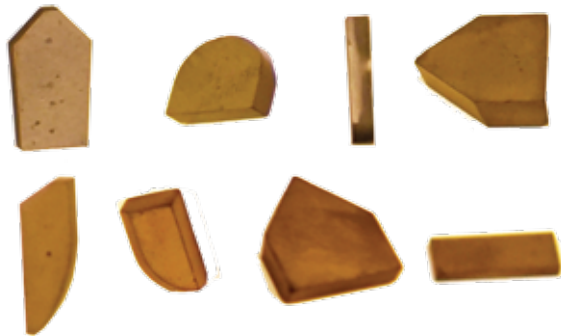
Used for Machining operations (Turning/Milling) of steel, alloy steels, steel castings, cast iron and all ferrous and non-ferrous metals on conventional and CNC Machines for rough cutting and High Finishing.

Coated Inserts: Extra Hard and wear Resistant multilayer coating titanium Carbide to Enhance tool life by 200-300% witch allows deeper cuts, faster feeds and higher speed.

B

i. Brazable Tips

In ISO Standard, Chinese Standard



Brazable Tips for machining (Turning/Grooving/Parting) all ferrous and non-ferrous metals.

ii. Brazed Tip Tools

In All Sizes / Shapes of Shanks, having any shape and Grade of T.C Tip

Used for machining on conventional machines.

C

i. Sintered Carbide Nibs / Die Blanks

Draw Dies
Blanking and Cupping dies
Extrusion dies
Stamping dies
Forming dies

Die Blanks in all ISO Grades



Available Size Range

	MIN.	MAX.
Ø OUTER =	4 mm	150 mm
Ø INNER =	2 mm	130 mm
HEIGHT =	4 mm	75 mm

D

I. Special Tungsten Carbide Products / Wear Parts

Nozzles for Blasting



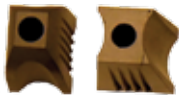
Mechanical Seal for Centrifugal Pumps.



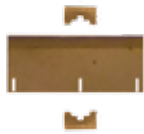
Cutters for Polyester Fiber/Cigarette Industries.



T.C Cores for Ceramic Industries



T.C Teeth / Plates for Shaving Blade Industries.



Cutting Bits for Asbestos Pipes/Sheets Industries.



Special Tips for turning of Railway wheels/Sugar rollers for Sugar Industries.



Surgical Tips (Without Serration) for Surgical Industries.



Wear resistant Linings/Bushes



Also any other Carbide Part required by the Customer.

E

I. Industrial Gassess

Compressed Hydrogen (H ₂),	Purity	= 99.95%, 99.99%
Compressed Oxygen (O ₂),	Purity	= 99.8%

Plastic Packing Materials



POF's specializes in the supply of a wide range of sophisticated plastic packing and products for various ammunition. All the products produced undergo strict quality checks from raw materials to final product stage. All the products can be supplied in customized colours. Specifications of regular plastic products are given below:

S.No.	Product	Used For	Storage Capacity	Weight Empty	Weight Filled	Material
1.	BOX H-10P	7.62 x 51 mm link belt Ammo.	250 x link belted rds.	1.30 kg ± 50 gms	8 kg	ABS
2	BOX H-14P	<ul style="list-style-type: none"> • 7.62 x 51 mm CTN Ammo. • 12.7 mm Ammo • .50 browning Ammo. 	100 x 7.62 x 51 rds.	3.475 kg ± 50 gms	28.75 kg	ABS
3	18 /PA -1 TRIPLET Carrier	81 mm Mortar bomb (HE)	03 x Mortar bombs	1.330 kg	10.930 kg	LDPE
4	60 mm TRIPLET Carrier	60 mm Mortar bomb (HE & ILLU)	06 x Mortar bombs	1.235 kg	9.215 kg	LDPE
5	76 / PA-1 TUBLAR Packing with LIDS	120 mm Mortar bomb	01 Mortar bomb with Aug. Charge	1.3 kg	19.3 kg	HDPE & LDPE
6	52 / P Ammo. Container	Packing for Hand Grenade MK 1AP HE P2A1	01x Grenade	0.1 kg	0.6 kg	LDPE
7	54 / P MK1 Ammo. Container	Target Indication Grenade	01 x Tgt. Grenade	0.1 kg	0.45 kg	LDPE
8	Holding Tray	<ul style="list-style-type: none"> • 9x19 mm Parabellum Ammo. • 30 mm Ammo 	50 rds.	0.20 gms	-	ABS
9	PPRC & HDPE Pipes	20 mm to 63 mm	13 ft. Length / 200 mtr coil	-	-	PPRC / HDPE

Research & Development

A lot of focus is placed on R&D in POF regarding the new product development as well as the improvement in the existing inventory. POF gets R&D projects from Pakistan Armed Forces as well as from the customers around the world. Some of the areas where POF has made technological developments are as following:

Sr. #	Name of Projects and
1.	Design and Development of NATO Electronic Pressure Velocity Action Time (EPVAT) System for 7.62 x 51 mm Ammo.
2.	Development of latest Closed Vessel Test System (CVT).
3.	Development of ETSQ Fuze for 155 mm HOW as replacement to MTSQ Fuze (Imported American).
4.	Development of Rechargeable Battery Pack for Weapon System.
5.	Development of State-of-the-art Primer Action Time Measurement System (20x102 mm for Helicopter & F-16).
6.	Audio Video Communication System for Weapon System.
7.	Development of Ballistic Data Measurement System for Shot Gun Ammunition Factory.
8.	Design Analysis of Steel & Brass Stub Base 125 mm APFSDS anti-tank ammunition using ABAQUS.
9.	Lead Analyzer

POF can undertake R&D projects from our customer's on case-to-case basis.

Sporting Ammunition

Sporting Ammunition

12 Bore Shotgun Ammunition is being manufactured under the brand name of "Shaheen" and is best known for its quality among professionals and amateurs alike. The cartridge case and WADS are manufactured with special grade plastic (HDPE). Heads and Primers are manufactured with high quality Sheets meeting international standard. NC 1111 is used as the propelling charge to produce smokeless cartridges.

12 BORE SHOTGUN CARTRIDGES

	HUNTING RANGE						
Type of Shell	4	5	6	7	8	SG	LG
Pellets Quantity	200	230	310	390	510	9	6
Pellets Diameter	3.00 mm	2.75 mm	2.60 mm	2.40 mm	2.21 mm	8.43 mm	9.14 mm
Shell Load	31 gms	31 gms	31 gms	31 gms	31 gms	31 gms	31 gms
Shell Length	58 mm	58 mm	58 mm	58 mm	58 mm	64 mm	64 mm
Head Length	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm
Velocity (m/sec)	300	300	300	300	300	300	300

PACKING 25 Nos. cartridges are packed in a cardboard carton. 400 Nos. cartridges are packed in 16 cartons and further stuffed in a single solid board box, as follows:

Solid Board Box Size:	L 333 mm x W 180 mm x H-222 mm
For shot # 4 to 9 & BB Gross wt:	18.5 Kg.
Solid Board Box Size:	L 348 mm x W 182 mm x H-222 mm
For Super/Excel Gross wt:	21.0 Kg.



								TARGET RANGE	
BB	AAA	4S	6S	8S	4E	6E	8E	7T	9Sk
									
76	40	240	360	600	240	360	600	300	480
4.25 mm	5.25 mm	3.00 mm	2.60mm	2.21 mm	3.00 mm	2.60 mm	2.21 mm	2.40 mm	2.00 mm
31 gms	36 gms	36 gms	36 gms	36 gms	36 gms	36 gms	24 gms	24 gms	Load
58 mm	64 mm	58 mm	58 mm	58 mm	64 mm	64 mm	64 mm	58 mm	58 mm
8 mm	8 mm	16 mm	16 mm	16 mm	16 mm	16mm	16 mm	8 mm	8 mm
300	300	340	340	340	320	320	320	300	300

For Super Shots:
For SG/LG & AAA Gross wt:

21.0 kg
19.0 kg

