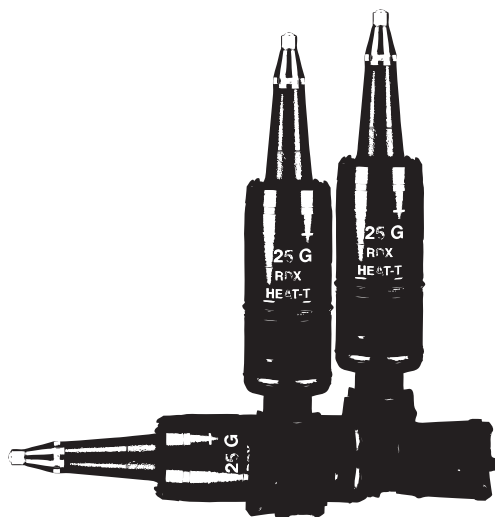


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SECTION
AMMUNITION &
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GROUP

2



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2

▣ AMMUNITION & METALLURGY INDUSTRIES GROUP (AMIG):

Ammunition & Metallurgy Industries Group (AMIG) affiliated to Defense Industries Organization (DIO) produces a wide range of ammunition from medium to large caliber based on both western and eastern standards.

Having more than seven decades of brilliant background in manufacturing military products, AMIG, has not only met the requirements of local armed forces for many types of conventional ammunition but also been able to apply an active role in international markets.

AMIG, comprising of several industrial subsidiaries and utilizing modern technology and advanced machineries together with well qualified experts, is active in manufacturing military and civil products and has achieved receiving types of ISO and other international standards.

Apart from manufacturing military and civil products, AMIG is also capable of transferring the production technology and offering engineering services related to any of its products to anywhere any time.

AMIG PRODUCTS:

Medium Caliber: 12.7x108 mm in different types of ball, Armor piercing and Tracer,

Anti Aircraft Ammunition: Including Aircraft and Anti Aircraft 20mm, 23mm, 30mm, 35mm and 100mm in different types of HE, HEIT, APT. The 30mm is also available in two fields; one for BMP2 and the other for naval purposes.

Mortar Bombs: In various calibers as 60mm, 81mm and 120mm and in different types of HE, Smoke, Illuminating, Rocket Assisted with normal and enhanced ranges.

Tank and Anti Tank Ammunition: From 105mm to 125mm in different types of HE, HEAT, APFSDS and HESH.

Field Artillery Ammunition: From 105mm to 203mm in different types of HE, Smoke, Illuminating, Base Bleed and HERA

Miscellaneous: Including military and civil products such as Pyrotechnics, Hand Grenades (Fragmentation and Smoke), Electric and Non Electric Detonators, Primers, Fuzes, Demolition Materials, Cutting Tools, Industrial Valves, Perforating Charges for Oil Industries, and many other industrial parts.

AMMUNITION & METALLURGY INDUSTRIES GROUP PRODUCTS :

Medium Caliber, Aircraft and Anti Aircraft Ammunition

- 12.7x108mm (Ball & AP)
- 12.7x108mm (Tracer)
- 20x128mm Anti Aircraft (TPT)
- 20x102mm Anti Aircraft (HEIT)
- 23x152mm Anti Aircraft (APIT)
- 23x152mm Anti Aircraft (HEI)
- 23x152mm Anti Aircraft (HEIT)
- 30x155mm Aircraft (TP)
- 30x165mm Aircraft (HEI)
- 30x165mm Aircraft (TP)
- 30x165mm Anti Aircraft (APT)
- 30x165mm Anti Aircraft (HEI)
- 30x165mm Anti Aircraft (HEIT)
- 30x210mm Naval Anti Aircraft (HEI)
- 30x210mm Naval Anti Aircraft (Tracer)
- 30x210mm Naval Anti Aircraft (TP)
- 35mm Anti Aircraft (HEI & HEIT)
- 35mm Anti Aircraft (TPT)
- 100mm Anti Aircraft
- **Naval Ammunition**
- 76/62mm Naval (HE-VT)
- 40mm L/70 (PFHE)
- 40mm/L70 (HET)
- 40mm/L70 (TPT)



AMMUNITION & METALLURGY INDUSTRIES GROUP

SECTION 2

AMMUNITION & METALLURGY INDUSTRIES GROUP PRODUCTS :

- **Mortar Bombs**

- 60mm HE
- 60mm HE-LR
- 60mm Smoke
- 81mm HE
- 81mm HE-LR
- 81mm Smoke
- 81mm Illuminating
- 120mm HE
- 120mm HE-LR
- 120mm HE-RA
- 120mm Smoke
- 120mm illuminating

- **Tank & Anti Tank Ammunition**

- 105mm HEAT (M456A1)
- 105mm HE-Tk (M60)
- 105mm APFSDS
- 106mm RR (HE & HEAT)
- 120mm HESH
- 122mm HEAT (T54 & T83)
- 125mm HEAT
- 125mm APFSDS (BM22)
- 125mm APFSDS (BM42)
- 125mm HE (FS, 3OF22)



AMMUNITION & METALLURGY INDUSTRIES GROUP

SECTION 2

AMMUNITION & METALLURGY INDUSTRIES GROUP PRODUCTS :

• **Field Artillery Ammunition**

- 105mm HE (M1)
- 105mm Smoke (HC)
- 105mm Illuminating
- 122mm HE-HB (OF-462)
- 122mm Smoke (WP & HC)
- 122mm Illuminating
- 130mm HE (OF-482M)
- 130mm BB
- 130mm HERA
- 130mm Smoke (WP, DTS-1)
- 130mm Illuminating (SP-46)
- 155mm HE & BB
- 155mm Smoke (WP-M110A2)
- 155mm Illuminating (M485A2)
- 203mm HE (M106)

• **Pyrotechnics**

- 81mm Smoke Grenade (HC)
- Colored Smoke Hand Grenade (M18)
- Irritant Cartridge & Hand Grenade
- Smoke Pot
- Mini Flare & Trip Flare (M49A1)
- Flare Rocket (MK 5)
- Flare Target (MK 2)
- JATO (MK 34)



AMMUNITION & METALLURGY INDUSTRIES GROUP

SECTION 2

AMMUNITION & METALLURGY INDUSTRIES GROUP PRODUCTS :

- **Grenades**
- 40mm GMG (HE-M383)
- 40mm GMG (Training-M385)
- Hand Grenade (Fragmentation)
- Hand Grenade 72/91 Practice (Sound)
- Hand Grenade Practice (Smoke)
- Rifle Grenade BTU (HE-RFL-35)



AMMUNITION & METALLURGY INDUSTRIES GROUP

SECTION 2

AMMUNITION & METALLURGY INDUSTRIES GROUP :

- **Miscellaneous Items (Fuzes, Detonators, Primers & Demolition Materials)**
- Remote Control & Receiver
- Electronic Timer Fuze (YMETF)
- Fuze AZ 111A2
- Fuze M84A1E1
- Fuze V-15
- Fuze B429 & B429E
- Fuze M509A1
- Fuze M572
- Fuze F61
- Fuze ETM 86
- Fuze Proximity
- Fuze EITF
- Detonators – Shock Tube
- Detonators - Plain No. 8
- Detonators - Delay Electric (Half & Milli Second No. 8)
- Detonators – Instantaneous Electric (No. 8)
- Detonators – Seismic
- Primers
- Demolition Materials (Shaped Charges and TNT Blocks)
- Demolition Materials (Firing Devices)



AMMUNITION & METALLURGY INDUSTRIES GROUP

SECTION 2

▣ **General Specifications:**

This ammunition is produced for training purposes and is fired by 20 mm anti-aircraft cannons. The shell body is same as HEIT type with front section empty and rear section filled with tracer.

▣ **Technical Specifications:**

Type	Training, Practice
Length of shell	203.5 mm
Weight of shell	340 gr
Length of Projectile	92.3 mm
Weight of Projectile	125 gr
Type of primer	Percussion
Muzzle velocity	1050 m/s
Armament	OERLIKON



▣ **General Specifications:**

This ammunition can be fired by Vulcan guns mounted on helicopter. The rimless bottlenecked case is of steel and electrically primed.

▣ **Technical Specifications:**

Type	HEI
Length of shell	168 mm
Weight of shell	266 gr
Type of primer	Electric
Muzzle velocity	1030 m/s
Armament	VULCAN



▣ **General Specifications:**

This round forms part of 23mm series fired by ZU-23 air defense gun. The projectile is a solid steel body with steel ballistic cap and tracer assembly in the base. The tracer burns for at least 5 seconds.

▣ **Technical Specifications:**

Type	APIT
Tracer Time	Min 5s
Length of shell	235 mm
Weight of shell	450 gr
Length of projectile	99 mm
Weight of projectile	190 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	ZU 23



▣ **General Specifications:**

This round is another type of 23mm Anti Aircraft series fired by ZU-23 air defense gun. The projectile consists of a steel shell filled with explosive material and ignited by a PD MG-25 nose fuze and the round is equipped with self destruction mechanism with duration of 5-11 seconds.

▣ **Technical Specifications:**

Type	HEI
Self destruction duration	5-11 s
Length of shell	237 mm
Weight of shell	450 gr
Length of projectile	108.8 mm
Weight of projectile	180 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	ZU 23



▣ General Specifications:

This round is the same as HEI type being fired by ZU-23 air defense gun but with tracer assembly burning for at least 5 seconds.

▣ Technical Specifications:

Type	HEIT
Tracer Time	Min 5s
Self destruction duration	5-11 s
Length of shell	237 mm
Weight of shell	450 gr
Length of projectile	108.8 mm
Weight of projectile	185 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	ZU 23



▣ **General Specifications:**

This round is just for training purposes and fired by air to ground gun type 1 being mounted on Aircraft F7 fighter.

▣ **Technical Specifications:**

Type	TP
Length of shell	268 mm
Weight of shell	840 gr
Length of projectile	187.5 mm
Weight of projectile	97 gr
Type of primer	Percussion
Muzzle velocity	790 m/s
Armament	30 mm gun



▣ **General Specifications:**

This round is one of 30mm Aircraft cannon ammunition range being fired by GSH-301 aircraft gun mounting on MIG-29 fighter. It has a nose-fuzed (PD) streamlined steel-walled projectile containing explosive payload fixed with brass case primed electrically.

▣ **Technical Specifications:**

Type	HEI
Length of shell	283 mm
Weight of shell	835 gr
Length of projectile	143.5 mm
Weight of projectile	385 gr
Type of primer	Electric
Muzzle velocity	870 m/s
Armament	GSH-301,GSH30K,GSH-6-30,GSH-30



▣ **General Specifications:**

This round is the target practice type of 30mm Aircraft cannon ammunition range being fired by GSH-301 mounted on fighter MIG-29 aircraft and intended to be used for training purposes.

▣ **Technical Specifications:**

Type	TP
Length of shell	283 mm
Weight of shell	835 gr
Length of projectile	143.5 mm
Weight of projectile	385 gr
Type of primer	Electric
Muzzle velocity	870 m/s
Armament	GSH-301,GSH30K,GSH-6-30,GSH-30



▣ **Technical Specifications: 12.7 X 108 mm Ball**

Model	FMJ
Type of core	Steel - Lead
Type of Gun	DShK
Quantity per Lot	100 000
Muzzle velocity	810 - 840 m/s
Max. Gas Pressure	$P \leq 3300 \text{ kgf / cm}^2$
Accuracy at 100 m	$a + b \leq 20 \text{ cm}$
Packing	Standard



▣ **Technical Specifications: 12.7 X 108 mm AP**

Model	AP
Type of core	Steel - Lead
Type of Gun	DShK
Quantity per Lot	100 000
Muzzle velocity	810 - 840 m/s
Max. Gas Pressure	$P \leq 3300 \text{ kgf / cm}^2$
Accuracy at 100 m	$a + b \leq 25 \text{ cm}$
Penetration in steel plate (St 37)	$\geq 80\%$ thickness 40 mm at 15 m
Packing	Standard





► **Technical Specifications:**

Model	Tracer
Type of core Lead	Lead - Tracing material
Type of Gun	DShK
Quantity per Lot	100 000
Muzzle velocity	810 - 840 m/s
Max. Gas Pressure	$P \leq 3300 \text{ kgf / cm}^2$
Accuracy at 100 m	$a + b \leq 25 \text{ cm}$
Tracing in 800 m from muzzle	$\geq 80 \%$
Packing	Standard



▣ **General Specifications:**

This is the APT type of 30mm Anti Aircraft Ammunition which is fired by dual feed cannon 2A42 fitted to BMP-2 and intended to be used against lightly armored targets as well as low flying aerial targets such as helicopters.

▣ **Technical Specifications:**

Type	APT
Tracer Time	Min 3.5s
Length of shell	292 mm
Weight of shell	860 gr
Length of projectile	148.5 mm
Weight of projectile	405 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	2A42-2A38-2A72



▣ **General Specifications:**

This is the HEI type of 30mm Anti Aircraft Ammunition which is fired by dual feed cannon 2A42 fitted to BMP-2 and intended to be used against lightly armored targets as well as low flying aerial targets such as helicopters. It is equipped with a PD fuze having a self-destructed device functioning between 6 and 14 seconds.

▣ **Technical Specifications:**

Type	HEI
Self destruction duration	6 - 14s
Length of shell	291 mm
Weight of shell	845 gr
Length of projectile	151 mm
Weight of projectile	394 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	2A42-2A38-2A72



▣ **General Specifications:**

This is the HEIT type of 30mm Anti Aircraft Ammunition which is fired by dual feed cannon 2A42 and is the same as HEI type but with tracer assembly burning for at least 6 seconds.

▣ **Technical Specifications:**

Type	HEIT
Tracer Time	Min 6s
Self destruction duration	6 - 14s
Length of shell	292 mm
Weight of shell	835 gr
Length of projectile	147.5 mm
Weight of projectile	387 gr
Type of primer	Percussion
Muzzle velocity	960 m/s
Armament	2A42-2A38-2A72



▣ General Specifications:

This ammunition is produced to be used with 30 mm AK630 naval gun intended for the short range defense of warships or as the main armament of small vessels. The HEI type of this ammunition is equipped with self destruction device with duration of 12 to 28 seconds and primed electrically.

▣ Technical Specifications:

Type	HEI
Self destruction duration	12-28s
Length of shell	307 mm
Weight of shell	1085 gr
Length of projectile	128.7 mm
Weight of projectile	356 gr
Type of primer	Electric
Muzzle velocity	1035 m/s
Armament	AK630



▣ **General Specifications:**

This ammunition is produced to be used with 30 mm type 69 or AK630 naval gun intended for tracing purposes. The tracer of this ammunition burns for at least 6 seconds.

▣ **Technical Specifications:**

Type	Tracer
Tracer time	Min 6s
Length of shell	307 mm
Weight of shell	1085 gr
Length of projectile	120 mm
Weight of projectile	356 gr
Type of primer	Electric
Muzzle velocity	1035 m/s
Armament	AK630



▣ **General Specifications:**

The target practice type of 30 mm Anti Aircraft Naval ammunition (TP) is produced to be used with the same gun as HEI and Tracer types and intended for training purposes. The round ballistically matches the HEI type.

▣ **Technical Specifications:**

Type	TP
Length of shell	307 mm
Weight of shell	1085 gr
Length of projectile	128.75 mm
Weight of projectile	356 gr
Type of primer	Electric
Muzzle velocity	1035 m/s
Armament	AK630



▣ General Specifications:

The 35mm Anti Aircraft ammunition is produced to operate against enemy's air attacks and to defend the air territory of cities and important military and industrial places. It is fired from Oerlikon series cannon and provided in 3 types as HEI, HEIT and TPT. These types are all ballistically the same but different in purpose of use.

▣ Technical Specifications:

Type	HEI	HEIT
Round Length	387 mm	387 mm
Round Weight	1545 g	1565 g
Projectile Weight	558 g	550 g
Case Length	227 mm	227 mm
Max. Chamber Pressure	3900 bar	3900 bar
Muzzle Velocity	1175 m/s	1175 m/s
Self Destruction Time	6-16 sec	6-16 sec
Max. Range	11,000 m	11,000 m
Trace Duration	-	5 sec



▣ Packing Data:

Rounds in Wooden box	25
Wooden box weight	58 kg
Wooden Box Dim.	520 x 420 x 370 mm
Wooden Box per Pallet	12
Pallet Weight	710 kg

▣ **General Specifications:**

The target practice type of 35mm Anti Aircraft is produced to be used for training purposes. The tracer duration of this type is 7 seconds.

▣ **Technical Specifications:**

Type	TPT
Round Length	385 mm
Round Weight	1580 g
Projectile Weight	480 g
Case Length	227 mm
Max. Chamber Pressure	3600 kp/cm ²
Muzzle Velocity	1175 m/s
Max. Range	11,000 m
Trace Duration	7 sec



▣ **Packing Data:**

Rounds in Wooden box	25
Wooden box weight	58 kg
Wooden Box Dim.	520 x 420 x 370 mm
Wooden Box per Pallet	12
Pallet Weight	710 kg

▣ General Specifications:

100 mm Anti-aircraft ammunition manufactured to counter aerial threats posed by fighters, helicopters. This ammunition is equipped with electronic time fuze enabling it to explode and terminate the target from a close distance even if it fails to hit it directly. This Anti-aircraft gun is a system that can create a missile shield against enemies aircrafts in medium and low altitudes.

▣ Technical Specifications:

Total length, fuzed	1110 mm
Total projectile weight	30360 gr
Shell dia.	99.8 mm
Type and weight of filler material	1840 gr TNT
Propellant charge weight	5600 gr
Fuze	WC 100
Shell material	C60
Max. muzzle velocity	900 m/s
Max. chamber pressure	300 mp
Max. range (vertical)	11000 to 12000 m
Max. range	21000 m
Effective range	18000 m



▣ **General Specifications:**

76/62 mm naval ammunition is a high explosive round intended for firing against a wide range of targets either surface or air ones. By application of a point detonating fuze, it is used against surface targets and by applying a radio proximity fuze, it is used against air targets.

▣ **Technical Specifications:**

Max. Range (surface)	16000 m
Effective Range (Vertical)	7000 m
Muzzle Velocity	900 m/s
Chamber Pressure	3500 bar
Type of nose fuze	Proximity fuze/PD
Weight of explosive	455 gr
Type of explosive	Comp. A3
Armament	76/62 OTO melara



General Specifications:

The 40 mm L/70 PreFragmented High Explosive manufactured by DIO is a fixed round anti aircraft ammunition with a brass cartridge case crimped rigidly to its projectile. The projectile has a shell body manufactured from special high-fragmentation steel and a copper drive band encircles the projectile just above the cartridge case/projectile junction.

Technical Specifications:

Total weight of round	2450 g
Total weight of projectile	895 g
Weight of propellant	480 g
Weight of explosive	116 g
Type of explosive	Hegzal
Type of primer	M1
Length of round	534 mm
Length of projectile	365 mm
Muzzle velocity	1025 m/s
Type of fuze	PF-HE40
Type of primer	M 39 SX
Sefty time fuze	8.5 Sec
Firing rate	300 round/min
Max range	11 km



▣ **General Specifications:**

This is another DIO air defense ammunition in the range of 40 mm L/70 which is High-Explosive including Tracer (HE-T) and having technical specifications as follows.

▣ **Technical Specifications:**

Total weight of round	2450 gr
Total weight of projectile	895 gr
Weight of propellant	480 gr
Weight of explosive	114 gr
Type of propellant	M1
Type of explosive	Hegzal
Length of round	Max. 535 mm
Type of fuze	FZ104M12
Muzzle velocity	1025 m/s



General Specifications:

This cartridge is similar to 40 mm HE-T cartridge and is used for target practice purposes to simulate the ballistic properties of service projectile for training in marksmanship. The projectile, which is loaded with an inert material, is fuze with either a dummy or an inert PD fuze.

Technical Specifications:

Total Weight of Round	2500 g
Total Weight of Shell With Fuze	960 g
Weight of Propellant	480 g
Type of Propellant	NC1066
Length of Round	534 mm
Length of Case	365 mm
Chamber Pressure	3530 bar
Burning Time Of Tracer	Min. 4 s
Muzzle Velocity	1005 m/s
Type of Nose Fuze	Dummy
Type of Primer	M 39 SX
Firing rate	300 Round/min
Max. Range	11 km



General Specifications:

The high flexibility and easy handling on one hand and the accuracy of operation on the other, have made the Mortars to be considered as the most worldwide suitable weapons in infantry fighting particularly in hilly or jungle terrains fields. The 60 mm Mortar shell is the smallest mortar bomb produced by DIO and characterized by the special process of production and high quality material for the body, resulting in more effective blast and fragments and higher lethality for the ammunition.

Technical Specifications:

Type	High Explosive
Length, fused	265 mm
Weight, fused	1.270 kg
Caliber	60 mm
Color	Olive green
Filler material	170 gr TNT
Charge	1red + 2white
Body	Forged Steel
Tail	Aluminum extruded
Fuze	AZ111-A2
Primer	M35
Muzzle velocity	190 m/s
Max. chamber pressure	350 bar
Max. range	2300 m
Armament	60mm mortars



Packing Data:

Quantity per Box	10
Box Weight	22.5 kg
Box Dim.	445 x 330 x 220 mm
Box per pallet	45, (30)
Pallet Dim.	1380 x 1065 (920 x 1065) x 1300 mm

General Specifications:

D.I.O has improved this type of Mortar Shells to achieve Long Range for 60 mm. The improvement is not only in the range but also in their performance with more volume of explosive material. The new types have more explosive power and as a result causing much better fragments than the previous types, resulting in a better performance. All these improvements are made without any changes to the mortar launchers.

Technical Specifications:

Type	High Explosive LONG RANGE
Length, fused	305 mm
Weight, fused	1.635 kg
Color	Olive green
Filler Material	210 g TNT
Charge(s)	1red +3 white
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111- A2
Primer	M35
Muzzle velocity	230 m/s
Max. chamber pressure	450 bar
Max. range	3200 m
Armament	All 60 mm smoothbore mortars



Packing Data:

Quantity per Box	10
Box Weight	22.5 kg
Box Dim.	445 x 330 x 220 mm
Box per pallet	45, (30)
Pallet Dim.	1380 x 1065 (920 x 1065) x 1300 mm

General Specifications:

The high flexibility and easy handling on one hand and the accuracy of operation on the other, have made the Mortars to be considered as the most worldwide suitable weapons in infantry fighting particularly in hilly or jungle terrains fields. The 81 mm Mortar shell is another mortar bomb produced by DIO and characterized by the special process of production and high quality material for the body, resulting in more effective blast and fragments and higher lethality for the ammunition.

Technical Specifications:

Type	High Explosive
Length, fused	370 mm
Weight, fused	3,990 kg
Caliber	81mm
Color	Olive green/grey
Filler material	540 g TNT
Charge	6 White
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M35
Muzzle velocity	295 m/s
Max. chamber pressure	790 bar
Max. range	5300 m
Armament	All 81 mm smoothbore mortars



Packing Data:

Quantity per Box	4
Box Weight	24 kg
Box Dim.	480 x 255 x 265 mm
Box per pallet	32
Pallet Dim.	970 x 1080 x 1200 mm

General Specifications:

D.I.O has improved this type of Mortar Shell to achieve Long Range for 81 mm. The improvement is not only in the range but also in their performance with more volume of explosive material. The new types have more explosive power and respectively much better fragments than the previous types, resulting in a better performance. All these improvements are made without any changes to the mortar launchers.

Technical Specifications:

Type	High Explosive
Length, fused	522 mm
Weight, fused	4525 g
Caliber	81 mm
Color	Olive green/grey
Filler Material	900 g TNT
Charge	6 pcs white
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	M 35
Primer	AZ111-A2
Muzzle velocity	320 m/s
Max. chamber pressure	790 bar
Max. Range	6350 m
Armament	All 81 mm smoothbore mortars



Packing Data:

Quantity per Box	4
Box Weight	30 kg
Box Dim.	675 x 255 x 280 mm
Box per pallet	32
Pallet Dim.	1250 x 1080 x 1200 mm

General Specifications:

The high flexibility and easy handling on one hand and the accuracy of operation on the other, have made the Mortars to be considered as the most worldwide particularly in hilly or jungle terrains fields. The 120 mm HE Mortar shell (normal type) is the third type of mortar bombs produced by DIO as suitable ammunition widely applicable in infantry fighting. These mortars are characterized by the special process of production and high quality material for the body, resulting in more effective blast and fragments and higher lethality for the ammunition.

Technical Specifications:

Type	High Explosive
Length, fused	580 mm
Weight, fused	12600 g
Caliber	120 mm
Color	Olive green
Filler material	2300 g TNT
Charge(s)	1 red + 8 white
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M34
Muzzle velocity	310 m/s
Max. chamber pressure	900 bar
Max. range	6600 m
Armament	All 120 mm smoothbore mortars



Packing Data:

Quantity per Box	2
Box Weight	35 kg
Box Dim.	670 x 355 x 210 mm
Box per pallet	30 (15)
Pallet Dim.	1050 x 1370 x 1200 mm

General Specifications:

D.I.O has improved its type of Mortar Shells to achieve Long Range for 120 mm. The improvement is not only in the range but also in their performance with more volume of explosive material. The new types have more explosion power and as a result, much better fragments than the previous types, resulting in a better performance. All these improvements are made without any changes to the mortar launchers.

Technical Specifications:

Type	120 MM HE LONG RANGE
Length, fused	665 mm
Weight, fused	13650 g
Caliber	120 mm
Color	Olive green
Filler material	2100 g TNT
Charge(s)	1red+8white
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M34
Muzzle velocity	320 m/s
Max. chamber pressure	900 bar
Max. range	7200 m
Armament	All 120 mm smoothbore mortars



Packing Data:

Quantity per Box	2
Box Weight	50 kg
Box Dim.	1080 x 330 x 200 mm
Box per pallet	15
Pallet Dim.	1100 x 1000 x 1200 mm

General Specifications:

This is an enhanced range Mortar Shell to be used against light material and personnel, resulting both fragmentation and blast effect. The complete round consists of a symmetrical forged C60 steel projectile body, internal solid-fuel rocket motor and HE filling. The filler is 2.15 kg of Composition B and the shell is drop loaded and fired in the usual manner. Once the shell is fired and en route to its target, the rocket motor initiates during the final few seconds of the flight, adding approximately 4 km range over conventional bombs.

Technical Specifications:

Type	120 MM HE ROCKET ASSISTED
Length, fused	740 mm
Weight, fused	16.85 kg
Caliber	120 mm
Color	Olive green
Filler material	2100 g composition B
Charge(s)	1 red + 8 white
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M34
Muzzle velocity	265 m/s
Max. chamber pressure	1000 bar
Max. range	9800 m
Armament	All 120 mm smoothbore mortars



Packing Data:

Quantity per Box	2
Box Weight	50 kg
Box Dim.	1080 x 330 x 200 mm
Box per pallet	15
Pallet Dim.	1100 x 1000 x 1200 mm



General Specifications:

60 mm Smoke mortar bomb is one of the smoke generating ammunition intended to be used for concealing the combatants and materials from enemy observation or for signaling purposes. They use White Phosphorus or Red Phosphorus as the smoke generating agent.

Technical Specifications:

Type	Smoke
Length, fused	242 mm
Weight, fused	1.801 kg
Callber	60 mm
Color	Olive green
Filler material	150-200 gr WP
Charge(s)	M8 & M9 Powder type II
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M35
Muzzle velocity	158 m/s
Max. chamber pressure	350 bar
Max. range	1812 m
Armament	All 60 mm smoothbore mortars



Packing Data:

Quantity per Box	10
Box Weight	22.5 kg
Box Dim.	445 x 330 x 220 mm
Box per pallet	45, (30)
Pallet Dim.	1380 x 1065 (920 x 1065) x 1300 mm

General Specifications:

81 mm Smoke mortar bomb is one of the smoke generating ammunition intended to be used for concealing the combatants and materials from enemy observation or for signaling purposes. They use White Phosphorus or Red Phosphorus as the smoke generating agent.

Technical Specifications:

Type	Smoke
Length, fused	324 mm
Weight, fused	3.100 kg
Caliber	81 mm
Color	Olive green
Filler material	725 g WP
Charge(s)	M8 & M9 Powder type II
Body	Forged Steel
Tail	Extruded Aluminum
Fuze	AZ111-A2
Primer	M71A2
Muzzle velocity	264 m/s
Max. chamber pressure	674 bar
Max. range	5250 m
Armament	All 81 mm smoothbore mortars



Packing Data:

Quantity per Box	2
Box Weight	26 kg
Box Dim.	530 x 260 x 280 mm
Box per pallet	32
Pallet Dim.	1175 x 680 x 1060 mm

General Specifications:

120 mm Smoke mortar bomb is one of the smoke generating ammunition intended to be used for concealing the combatants and materials from enemy observation or for signaling purposes. They use White Phosphorus or Red Phosphorus as the smoke generating agent.

Technical Specifications:

Type	Smoke
Length, fused	581mm ±3
Weight, fused	13 kg
Caliber	120 mm
Color	Olive green
Filler material	1.8 - 2.1 g WP
Charge(s)	M8 & M9 Powder
Body	Forged Steel C60
Tail	Extruded Aluminum
Fuze	AZ111A2
Primer	M134B1
Muzzle velocity	301 m/s
Max. chamber pressure	900 bar
Max. range	6000 m
Armament	All 120 mm smoothbore mortars



Packing Data:

Quantity per Box	2
Box Weight	35 kg
Box Dim.	670 x 355 x 210 mm
Box per pallet	30 (15)
Pallet Dim.	1050 x 1370 x 1200 mm

General Specifications:

This Mortar Shell is intended for illuminating a desired point or area under the conditions of poor visibility. The complete round consists of a time fuze, thin-walled steel body-tube assembly, parachute assembly steel tail cone, fin assembly containing propellant increment charges, ignition cartridge and percussion primer.

Technical Specifications:

Type	M301A2
Length, fuzed	571 mm
Weight, fuzed	4.5 kg
Weight of illuminating composition	621 g
Weight of propellant charges	52 g
Fuze	M84A1E1 or equivalent
Primer	M34
Illuminating intensity	Min 400.000 cd
Burning time	60 sec
Rate of descent	5-6 m/sec
Max range	2150 m
Max. chamber pressure	674 kp/cm ²
Muzzle velocity	181 m/s



Packing Data:

Quantity per Box	3
Box Weight	24 kg
Box Dim.	700 x 340 x 118 mm
Box per pallet	42
Pallet Weight	1035 kg
Pallet Dim.	1430 x 1060 x 1300 mm



General Specifications:

The 120 mm illuminating Mortar Shell is intended for providing intense illumination for identification and engagement of all types of stationary and moving objects. The complete round consists of a time fuze, which functions along the trajectory at the pre-set time enabling illuminant canister supported by parachute to eject and deploy in the air.

Technical Specifications:

Type	M1
Length, fuzed	591 mm
Weight, fuzed	12.10 kg
Weight of illuminating composition	940 g
Weight of propellant charges	370 g
Fuze	M84A1E1 or equivalent
Primer	M134B1
Illuminating intensity	Min 700.000 cd
Burning time	65 sec
Rate of descent	5-6 m/sec
Max range	3850 m
Max. chamber pressure	900 kp/cm ²
Muzzle velocity	232 m/s



Packing Data:

Quantity per Box	2
Box Weight	35 kg
Box Dim.	720 x 330 x 180 mm
Box per pallet	30
Pallet Weight	1063 kg
Pallet Dim.	1020 x 1480 x 1140 mm



General Specifications:

This is a fixed round high explosive anti tank ammunition intended for use against armored targets. The ammunition consists of a steel body projectile and a brass case containing the propellant charges. The body contains a funnel shaped copper liner, a PIBD fuze at the bottom, a nose cap retaining piezoelectric element and is loaded with composition B. When the projectile is detonated on impact by fuze functioning, the cone collapses, creating a high velocity shock wave and a jet of metal particles which penetrate the target.

Technical Specifications:

Type	M456A1	
Total length, fuze	997 mm	
Total weight, fuze	22 kgs	
Filler material	1.1 kgs Composition B	
Propellant charge	M30 Seven Perforated type ,1-5.18 kgs	
Cartridge case weight	w/o charges	6.1 kg
	with charges	11.18 kg
Fuze	PIBD M509A1 or M509A2	
Primer	Electric M83 / Percussion	
Muzzle velocity	1174 m/s	
Max. range	7,000 m	
Max. chamber pressure	3300 kp/cm ²	
Penetration	356 mm RHA Plate at 90°	
Armament	Tank M60A1 Gun 105 mm	



Packing Data:

Quantity per Box	2 rds
Box Weight	65 kg
Box Dimensions	1120 x 375 x 240 mm
Box per pallet	12
Pallet Weight	795 kg
Pallet Dimensions	1220 x 1110 x 1050 mm

General Specifications:

The product is a High Explosive ammunition with the projectile secured to the brass cartridge case and is fired with M60 series tank guns. Having a muzzle velocity of 864 m/s the projectile reaches a max range of 17,000 m in the field being effective against enemy's personnel and materials by producing both fragmentation and blasts.

Technical Specifications:

Type	HE - Tk, M60
Total length, fuzed	1040 mm
Total weight, fuzed	27 kgs
Filler material	1.65 kgs TNT
Propellant charge	Triple base M26 powder - 4 bags of 1 kg/ea
Cartridge case length	617 mm
Fuze	PDM 557 or PDM 572
Primer	Electric M63
Muzzle velocity	864 m/s
Max. range	17000 m
Max. chamber pressure	3450 kp/cm ²
Armament	M60A1 Tank Gun



Packing Data:

Quantity per Box	2 rds
Box Weight	76 kg
Box Dimensions	1200 x 380 x 220 mm
Box per pallet	12
Pallet Weight	925 kg
Pallet Dimensions	1200 x 1140 x 960 mm

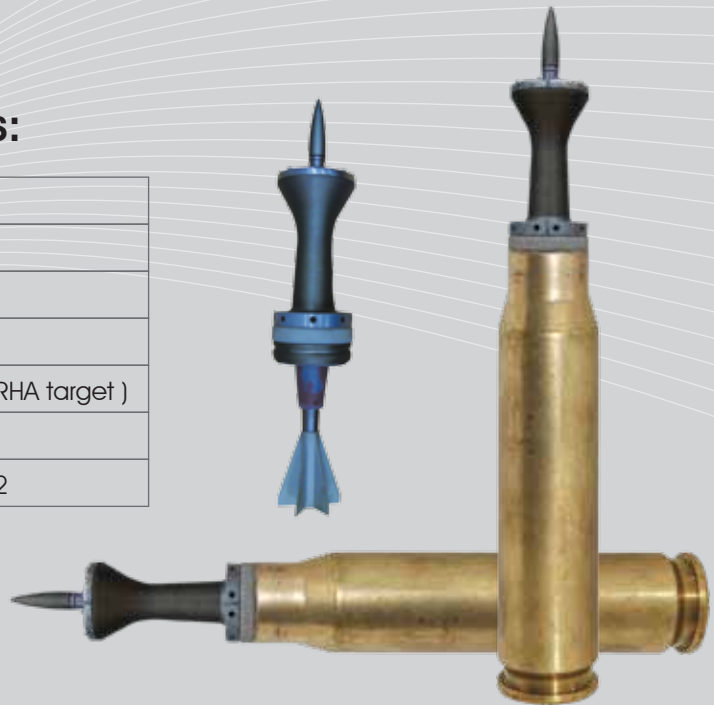


▣ **General Specifications:**

Anti tank 105 mm APFSDS – T ammo is one of the T – 55 or M60 Tank ammunitions intended to be used against tanks and armoured vehicles. This ammo is equipped with a long rod KE penetrator. High muzzle velocity and high density of its penetrator, create great amount of impact kinetic energy to penetrate in RHA armours.

▣ **Technical Specifications:**

Caliber	105 mm
Projectile length	542 mm
Projectile weight	5.3 Kg
Effective range	2000 m
Penetration depth	460 mm (In RHA target)
Total weight	~19 Kg
Max chamber pressure	4110 kgf/cm ²



General Specifications:

This product is provided in two types as HE and HEAT. The HE type is applied against enemy's personnel while the HEAT type against tanks and armored vehicles. Both are fired with Recoilless Rifles M40 or M40A1. The base of the projectile contains the PIBD M509A1 fuze and the fin assembly. The cartridge case has a steel perforated body and contains the propellant charge and fitted with a percussion primer at the base.

Technical Specifications:

TYPE	HE	HEAT
Total length, fuzed	999 mm	999 mm
Total weight, fuzed	16.35 Kg	16.25 Kg
Filler material	700 g A4	1200 gr Comp.B
Cartridge case length	609.6 mm	609.6 mm
Propellant charge	M26 type 1 Seven Perforated 3.8 kg	M26 type 1 Seven Perforated 3.8 kg
Cartridge case weight	4.3 kg (w/o charges) - 7.8 kg (with charges)	4.3 kg (w/o charges) - 7.8 kg (with charges)
Fuze	PD M121A	PIBD M509A1 or M509A2
Primer	M57	M57
Muzzle velocity	530 m/s	503 m/s
Max. range	6,000 m	6,000 m
Max. chamber pressure	700 kp/cm ²	702 kp/cm ²
Penetration	-----	152 mm RHA plate at 60°
Armament	M40 or M40A1 Recoilless Rifle	M40 or M40A1 Recoilless Rifle



Packing Data:

Quantity per Box	2 rds
Box Weight	52 kg
Box Dim.	1125 x 340 x 225 mm
Box P/Pallet	15
Pallet Weight	795 kg



General Specifications:

This D.I.O product is a general purpose round with a good anti-armour performance. It consists of a thin-walled projectile which collapses when striking a target allowing the explosive to be spread over the surface of the target before the base fuze function. The resultant detonation creates shockwaves which force off a large high velocity scab of material from the inner surface of the targeted armour.

Technical Specifications:

Type	HESH
Length	510 mm
Weight of the shell	17.1 kg
Propellant charge	NQIS 27-09
Propellant charge weight	2.73 Kg
Fuze	Fuze L56
Muzzle velocity	670 m/s
Max range	2530 m
Filling material	(RDX/WAX-8-1) A3
Filling material weight	3.55 Kg
Armament	120 mm L30A1 (CHARM) Tank Gun



Packing Data:

Quantity per Box	2
Box Weight	64 kg
Box Dim.	600 x 400 x 200 mm
Box P/Pallet	15
Pallet Dim.	610 x 410 x 220 mm



▣ **General Specifications:**

In order to have ammunition with HEAT property but capable of being fired from Howitzer Guns, D.I.O has provided this HOW HEAT types in 122 mm caliber. Below are two types of such ammunition with different armaments.

▣ **Technical Specifications:**

Type	122 mm T83	122 mm T54
Weight of complete round	27 kg	25 kg
Length of complete round	700 mm	590 mm
Length of cartridge case	394 mm	284 mm
Max range	8000 m	4000 m
Max chamber pressure	2600 kp/cm ²	2350 kp/cm ²
Muzzle velocity	618 m/s	450 m/s
Penetration	220/60°	220/60°
Fuze	V-15 PIBD	V-15 PIBD
Primer	MC22/30	MC22/30
Propellant charge	2.7 kg NC+CBI	2kg NC+CBI
Armament	T83 or similar	T54 or similar



General Specifications:

This is another D.I.O separate loading ammunition which is intended for use against armoured targets and fired with 2A46M main gun fitted to T-72 MBT. It is automatically loaded into the breech followed by a semi-combustible cartridge case. The projectile has a steel body encircled by two driving bands and its front, carries a standoff spike inside which is a piezoelectric contact sensor connected by an internal wire to a base-mounted fuze. This ammunition can penetrate 550 mm of Rolled Homogenous Armour (RHA) at normal angle or 273 mm at an angle of 60 deg. to the normal.

Technical Specifications:

Type	HE, Antitank,FS, 3BK18M
Total length, fuzed	677 mm
Total weight, fuzed	19.34 kgs
Filler material	1.637 kgs Composition A4
Propellant charge	× 52-5 kgs.
Cartridge case length	408 mm
Fuze	B-15
Primer	RYB-7
Muzzle velocity	905 m/s
Max. range	4000 m
Max. chamber pressure	3000 kp/cm ²
Armament	Tank T-72 Gun



Packing Data:

Quantity per Box	1
Box Weight	52 kg
Box Dim.	823 x 544 x 295 mm
Box P/Pallet	8
Pallet Weight	460 kg



General Specifications:

This product is an Armor Piercing Fin Stabilized Discarding Sabot anti tank ammunition fired by T-72 tanks and intended to be used against tanks and armored vehicles. It is a KE type ammunition so that its high muzzle velocity and high density of penetrator produce a great amount of kinetic impact energy for penetration in RHA and explosive reaction armors.

Technical Specifications:

Caliber	125 mm
Projectile length	560 mm
Projectile weight	6.5 kg
Effective range	2000m
Penetration depth	Min 360 mm (In RHA target)
Total weight (including steel packing)	~ 30 kg
Max chamber pressure	5100 kgf/cm ²



Packing Data:

Quantity per Box	1 rds
Box Weight	30 kg
Box Dim.	1208 x 200 x 200 mm
Box P/Pallet	20
Pallet Weight	530 kg



General Specifications:

This product is an advanced type of 125mm APFSDS- BM22 using Long Rod Penetrator. Its high muzzle velocity and high density of penetrator produce a great amount of kinetic impact energy for penetration in RHA, Multi Layer Targets and Advanced New Armors. As BM22 type, the ammunition is fired by T-72 tanks and intended to be used against tanks and armored vehicles.

Technical Specifications:

Caliber	125 mm
Projectile length	572 mm
Projectile weight	7.05 kg
Effective range	2000 m
Penetration depth	Min 420 mm (In RHA target)
Total weight (including steel packing)	~ 30 kg
Max chamber pressure	5100 kgf/cm ²

Packing Data:

Quantity per Box	1
Box Weight	30 kg
Box Dim.	1208 x 200 x 200 mm
Box P/Pallet	20
Pallet Weight	530 kg



General Specifications:

The product is a fin Stabilized and separate loading ammunition which is fired with 2A46M main gun fitted to T-72 MBT and T-80 UD. It is automatically loaded into the breech followed by a semi-combustible propellant case. Having a muzzle velocity of 850 m/s the projectile reaches a max range of 9,200m in the field being effective against enemy's personnel and materials by producing both fragmentation and blasts.

Technical Specifications:

Type	HE, FS,30F22
Total length, fuzed	677 mm
Total weight, fuzed	23 kgs
Filler material	3.4 kgs TNT
Propellant charge	⌘ 52-5 kgs.
Cartridge case weight	3.4 kgs (w/o charges)-10kgs (with charges)
Fuze	V-429E
Primer	RYB-7
Muzzle velocity	850 m/s
Max. range	9200 m
Max. chamber pressure	3500 kp/cm ²
Armament	Tank T-72 & T-80 Gun



Packing Data:

Quantity per Box	1 rds
Box Weight	52 kg
Box Dim.	800 x 480 x 280 mm
Box P/Pallet	8
Pallet Weight	430 kgs

▣ General Specifications:

105 mm Howitzer Ammunition series are semi-fixed rounds with the projectile being a free fit in the cartridge case to allow free access to the propellant increments inside the case for adjustment. The projectile is of a high-tensile steel forging with a streamlined ogive, a boat tailed base and a welded base cover and a single copper driving band.

▣ Technical Specifications:

Type	High Explosive, M1
Projectile length fuze	495 mm
Projectile weight fuze	14 kg
Cartridge case length	370.8 mm
Propellant charge	M 67 - 1350 gr
Cartridge case weight	2.68 kg (w/o charges)-4.03 kg (with charges)
Filler material	2.5 kg TNT
Primer	M28A2, M28B2 or M28C1
Fuze	PDM 557 or PDM 572
Muzzle velocity	494 m/s
Max. range	11,500 m
Max. chamber pressure	2285 kp/cm ²
Armament	105 mm HOW Gun M2A2

▣ Packing Data:

Quantity per box	2
Box weight	52 kg
Box dimensions	920 x 310 x 210 mm
Box per pallet	15
Pallet weight	795 kg
Pallet dimensions	940 x 920 x 1150 mm



General Specifications:

The 105 mm Smoke Cartridges are intended for screening and spotting purposes and are provided in two types depending on their filler materials and the process of smoke disposal. One type uses WP to screen and spot with a limited incendiary effect and the other type uses HC or colored smoke material for screening, spotting and signaling purposes. In the first type, WP is dispersed in the air, creating a dense white smoke cloud and in the other type which is fitted with a mechanical time fuze, the canisters containing smoke materials are ejected from the base and create the smoke cloud.

Technical Specifications:

Type	Smoke, HC	Smoke, WP
Projectile length fuze	790 mm	790 mm
Projectile weight fuze	15.65 kg	15.65 kg
Cartridge case length	371.8 mm	371.8 mm
Propellant charge	M 67 - 1.28 Kg	M 67 - 1.35 Kg
Cartridge case weight	2.68 kg (w/o charges)-4.03 kg (with charges)	2.68 kg (w/o charges)-4.04 kg (with charges)
Filler material	2.73 kg HC	1.57 kg WP
Primer	M28A2, M28B2 or M28C1	M28A2, M28B2 or M28C1
Fuze	M564 or M500A1	M564 or M500A1
Muzzle velocity	494 m/s	494 m/s
Max. range	11,500 m	11,500 m
Max. chamber pressure	2285 kp/cm ²	2285 kp/cm ²
Armament	105 mm HOW Gun M2A2	105 mm HOW Gun M2A2

Packing Data:

Quantity per box	2
Box weight	52 kg
Box dimensions	920 x 310 x 210 mm
Box per pallet	15
Pallet weight	795 kg
Pallet dimensions	940 x 920 x 1150 mm

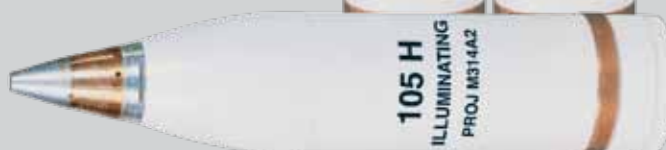


General Specifications:

This cartridge is intended for signaling or illuminating a designated area under conditions of poor visibility. The projectile is hollow and contains a payload consisting of a parachute and illuminant assembly. The illuminant is ignited and the parachute and illuminant assembly are ejected from the projectile by an expelling charge adjacent to a time fuze. The parachute and burning illuminant assembly slowly descend, lighting the target area.

Technical Specifications:

Type	M314A2E1
Projectile Length fuze	471 mm
Projectile Weight fuze	14.85 kg
Cartridge Case Length	371.8 mm
Propellant Charge	M 67 - 1350 gr
Cartridge Case Weight	2.68 kg (w/o charges)-4.03 kg (with charges)
Filler Material	789 gr illuminant in pellets
Illuminating intensity	700,000 cd
Burning time	60 sec
Rate of Descent	5-6 m/s
Primer	M28A2, M28B2 or M28C1
Fuze	PDM 557 or PDM 572
Muzzle Velocity	494 m/s
Max. Range	11,500 m
Max. Chamber Pressure	2285 kp/cm ²
Armament	105 mm HOW Gun M2A2



Packing Data:

Quantity per box	2
Box weight	52 kg
Box dimensions	920x310x210 mm
Box per pallet	15
Pallet weight	795 kg
Pallet dimensions	940x920x1150 mm

General Specifications:

122 mm Howitzer Ammunition series are separate loading munitions widely used all over the world since World War II as reliable artilleries in military services. High Explosive OF-462 intended for use with D-30 Howitzer Gun and High Explosive Hollow Base (HEHB) to be fired with PL83 Howitzer Gun as well as their relevant Smoke and Illuminating types are the various available products.

Technical Specifications:

Type	FRAG-HE,OF-462	HEHB
Projectile length fuze	560 mm	653.5 mm
Projectile weight fuze	21.760 kg	21.760 kg
Cartridge case length	446.4 mm	394± 0.1mm
Propellant charge	Full - 3.8 kg Reduced - 2.4 kg	2.70 kgs 7-perforated+CBI
Cartridge case weight	5.15 kg (w/o charges)	5.15 kg (w/o charges)
Filler material	3.55 kg TNT	3.20 kg TNT
Primer	MC22/30	MC22/30
Fuze	Fuze PDM 557 or PDM 572	Fuze PDM 557
Muzzle velocity	Full Chrg.:690 m/s Reduced Chrg.: 565 m/s	618 m/s
Max. range	Full Chrg.:16800 m Reduced Chrg.: 13430 m	15.600 m
Max. chamber pressure	Full Chrg.:2900 bar Reduced Chrg.: 2500 bar	2600 kp/cm ²
Armament	122 mm HOW D30	122 mm HOW PL83 & D30

Packing Data:

Quantity per box	1
Box weight	39 kg
Box dimensions	720 x 360 x 220 mm
Box per pallet	15
Pallet weight	600 kg
Pallet dimensions	1100 x 1200 x 750 mm



General Specifications:

The 122 mm Smoke ammunition is supplied in two types, depending on their filler materials and the process of smoke disposal. One type uses WP to screen and spot with a limited incendiary effect and the other type uses HC or colored smoke material for screening, spotting and signaling purposes. The ammunition is also separate loading with the projectile and cartridge case loaded separately so that where appropriate, the propellant charge can be altered to suit the fire mission.

Technical Specifications:

Type	WPD-462	HC,(base ejection)
Projectile length fuzed	571.8 mm	571.8 mm
Projectile weight fuzed	21.100 kg - 21.610 kg	22.05 kg
Cartridge case length	446.4 mm	446.4 mm
Propellant charge	Full - 3.8 kg Reduced - 2.4 kg	Full - 3.8 kg Reduced - 2.4 kg
Cartridge case weight	5.15 kg (w/o charges)	5.15 kg (w/o charges)
Filler material	2.20 kgs WP	3.60 kgs HC
Primer	MC22/30	MC22/30
Fuze	Fuze PDM 557	MTSQ - M564
Muzzle velocity	Full Chrg.:690 m/s Reduced Chrg.:565 m/s	Full Chrg.:690 m/s Reduced Chrg.:565 m/s
Max. range	Full Chrg.:16800 m Reduced Chrg.:13430 m	Full Chrg.:16800 m Reduced Chrg.:13430 m
Max. chamber pressure	Full Chrg.:2900 bar Reduced Chrg.:2500 bar	Full Chrg.:2900 bar Reduced Chrg.:2500 bar
Armament	122 mm HOW D30	122 mm HOW D30

Packing Data:

Quantity per box	1
Box weight	40 kg
Box dimensions	640 x 330 x 220 mm
Box per pallet	15
Pallet weight	620 kg
Pallet dimensions	1100 x 1500 x7 50 mm



General Specifications:

This ammunition is intended for signaling or illuminating a designated area under conditions of poor visibility. The projectile is hollow and contains a payload consisting of a parachute and illuminant assembly. The illuminant is ignited and the parachute and illuminant assembly are ejected from the projectile by an expelling charge adjacent to a time fuze. The parachute and burning illuminant assembly slowly descend, lighting the target area.

Technical Specifications:

Type	S-463
Projectile Length fuze	517 mm
Projectile Weight fuze	21.20 kg
Cartridge Case Length	446.4 mm
Propellant Charge	Full: 3.8 kg Reduced: 2.4 kg
Cartridge Case Weight	5.15 kg
Expelling Charge	Black powder - 50 g
Illuminating Material	750 g in Pellets
Illuminating intensity	700,000 cd
Burning time	50 sec. Min.
Fuze	MTSQ, M565
Muzzle Velocity	Full: 690 m/s Reduced:565 m/s
Max. Range	Full: 16800 m Reduced:13430 m
Max. Chamber Pressure	Full: 2900 kp/m ² Reduced:2500kp/m ²
Armament	122 mm HOW D30

Packing Data:

Quantity per box	1
Box weight	40 kg
Box dimensions	640 x 330 x 220 mm
Box per pallet	15
Pallet weight	620 kg
Pallet dimensions	110 x 1500 x 750 mm



General Specifications:

130 mm gun ammunition are separate loading series of munitions provided in various types as high explosive, extended range, smoke and illuminating. The extended range has base bleed unit which brings an enhanced range of 36000 m for ammunition.

Technical Specifications:

Type	FRAG-HE
Projectile length fuzed	662.8 mm
Projectile weight fuzed	33.30 kg
Cartridge case length	845.3 mm
Propellant charge	Full - 13.5 kg Reduced - 6.75 kg
Cartridge case weight	11.32 kg (w/o charges)
Filler material	3.64 kg TNT
Primer	MC22/30
Fuze	PDM 572
Muzzle velocity	Full Chrg.:930 m/s Reduced hrg.:705 m/s
Max. range	Full Chrg.:27500 m Reduced Chrg.:19130 m
Max. chamber pressure	Full Chrg.:3500 bar Reduced Chrg.:2800 bar
Armament	130 mm (M-46,Type 59-I) Gun

Packing Data:

Quantity per box	1
Box weight	75 kg
Box dimensions	980 x 410 x 230 mm
Box per pallet	12
Pallet weight	920 kg
Pallet dimensions	1000 x 1300 x1000 mm



General Specifications:

This is an improved type of 130mm HE ammunition which has a different aerodynamic shape to the normal one and is equipped with a gas generating system at its base called as Base Bleed Unit. The generated gas replaces the vacuum created at the rear side of the shell and therefore results reduction of the drag force and consequently a remarkable increasing in the range which is around 37,800 m at 1000 m above sea level for this ammunition.

Technical Specifications:

Type	BB
Total length (fuzed)	722±2 mm
Weight of shell	32 kg
Fuze	B429
Muzzle velocity	970 ± %2 m/s
Max range	37800 m
Propellant charge weight	13.5 Kg (Full)
Primer	MC 22/30
Filling material	TNT
Armament	T59-1 or M-46



Packing Data:

Quantity per box	1
Box weight	68 kg
Box dimensions	1200 x 300 x 200 mm
Box per pallet	12
Pallet weight	830 kg
Pallet dimensions	1000 x 1300 x 1090 mm

General Specifications:

This is a new developed type of 130mm HE-BB which in addition to the Base Bleed system, a rocket motor has been added to it and resulted its range to be increased up to 42,000 m.

Technical Specifications:

Type	HERA
Total length (fuzed)	800 mm
Weight of shell	32 kg
Fuze	B429
Muzzle velocity	970 ± %2 m/s
Max range	42000 m
Propellant charge weight	13.5 Kg (Full)
Primer	MC 22/30
Filling material	TNT or Comp.B
Armament	T59-1 or M-46



Packing Data:

Quantity per box	1
Box weight	75 kg
Box dimensions	980 x 410 x 230 mm
Box per pallet	12
Pallet weight	920 kg
Pallet dimensions	1000 x 1300 x 1000 mm

General Specifications:

As the HE type, this product is also separate loading ammunition allowing the variable charges (full and reduced), contained in a brass case to vary to suit any particular fire mission and as the other smoke ammunition, it is used to provide screening or marking smoke. The shell contains White Phosphorus as smoking agent which upon contacting the air, ignites and produces a thick cloud of white smoke.

Technical Specifications:

Type	Smoke, WP
Projectile length fuze	628.8 mm - 2.5
Projectile weight fuze	32.97 kg - 33.30 kg
Cartridge case length	845.3 mm - 1
Propellant charge	Full Chrg.: 13.500 kgs Reduced: 6.75 kgs
Cartridge case weight	11.32 kg (w/o charges)
Filler material	3.23 kgs WP
Primer	MC22/30
Fuze	PDM 572 / V-429 E
Muzzle velocity	Full Chrg.: 930 m/s Reduced: 705 m/s
Max. range	Full Chrg.: 27500 m Reduced: 19130 m
Max. chamber pressure	Full: 3200 kp/m ² Reduced: 2700 kp/m ²
Armament	130 mm (M-46, Type 59-I) Gun

Packing Data:

Quantity per box	2
Box weight	75 kg
Box dimensions	980 x 410 x 230 mm
Box per pallet	12
Pallet weight	920 kg
Pallet dimensions	1000 x 1300 x 1000 mm



General Specifications:

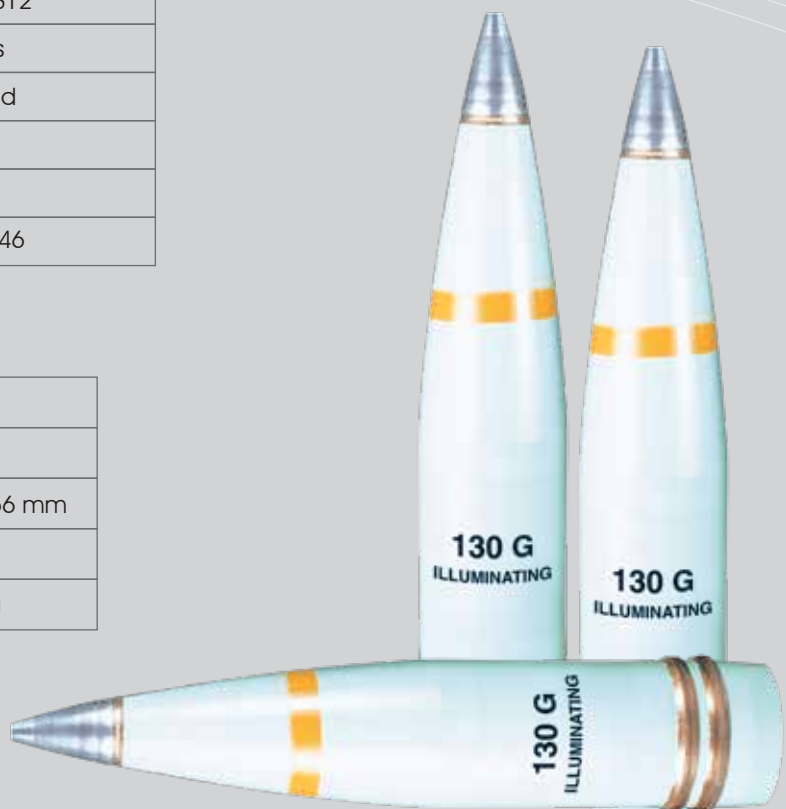
130 mm illuminating is another type of 130 mm ammunition having illuminating assembly and parachute to be used for signaling or illuminating a target area in military operation under conditions of poor visibility. The process of light emitting is like 122 mm illuminating.

Technical Specifications:

Type	Illuminating
Projectile length fuzed	661 ±5 mm
Projectile weight fuzed	29.7 ±0.3 kg
Filler material	2.6 kg Illuminant
Primer	MC22/30
Fuze	ET fuze - DRS12
Muzzle Velocity	930 ± 15 m/s
Illuminating intensity	≥500,000 cd
Max. range	27,000 m
Min. burning time	60 sec.
Armament	130 mm M-46

Packing Data:

Quantity per box	1
Box weight	approx.65 kg
Box dimensions	1000 x 450 x 256 mm
Box per pallet	15
Pallet weight	approx.1065 kg



General Specifications:

155 mm HOW Ammunition series are supplied in HE, M107, Extended range with base bleed unit, as well as smoke and illuminating types. The extended range one is equipped with base bleed unit resulting to an enhanced range of 32 km for the ammunition fired with the same armament.

Technical Specifications:

Type	High Explosive, M107	HE- ERFB/BB
Projectile length fuze	702 mm	871 mm
Projectile weight fuze	43 kg	41.40 - 43.40 kg
Weight zone group	4	5
Propellant charge	White Bag M4A2-6 kg M119A2-9.200 kg	zone 10 - 15.80 kgs - 16.30 kgs
Filler material	6.5 kg - 6.9 kg TNT	8.2 kgs - 8.6 kgs TNT
Primer	M82 or MK2A4	M82 or MK2A4
Fuze	PDM 557, PDM 572 or PDM 739	PDM 572 or PDM 739
Muzzle velocity	564 m/s	914 m/s
Max. range	14,600 m	32.000 m
Max. chamber pressure	2790 bar	3500 bar
Armament	155 mm HOW M1A2	GHN 45

Packing Data:

Discription	HE, M107	Fuzes	Propellant Charges
Quantity per box	-	20	4
Box weight	-	30 kg	50 kg
Box dimensions	-	320 x400 x180 mm	730x425x440 mm
Box per pallet	-	30	12
Quantity per pallet	8	600	48
Pallet weight	355 kg	920 kg	620 kg
Pallet dimensions	700x360x800 mm	1150x1000x1200 mm	1460x1275x900 mm



▣ General Specifications:

155 mm smoke is used to provide screening or marking smoke. It has the same general appearance as the 155 mm High-Explosive (HE) M107 and has the same design features. The shell contains white phosphorus and is normally fitted with a nose-mounted Point-Detonating (PD) fuze. On impact, the fuze ignites the internal buster charge, which then ruptures the shell casing to release WP filling. As it contacts the air, the WP ignites to produce thick clouds of white smoke.

▣ Technical Specifications:

Type	Smoke,WP
Projectile length fuze	700 mm
Projectile weight fuze	44.60 kg
Weight zone group	4
Propellant charge	White Bag M4A2-6 kg Green Bag M3A1 - 2.5 kg
Filler material	7 kgs WP
Primer	MK2A4
Fuze	PDM 557 / PDM 572
Muzzle velocity	564 m/s
Max. range	15000 m
Min. smoke time	100 sec.
Max. chamber pressure	2790 kp/m ²
Armament	155 mm HOW M1A2

▣ Packing Data:

Filled shell bodies with lifting plug	
Quantity per box	8
Box weight	375 kg
Box dimensions	700 x 340 x 800 mm



General Specifications:

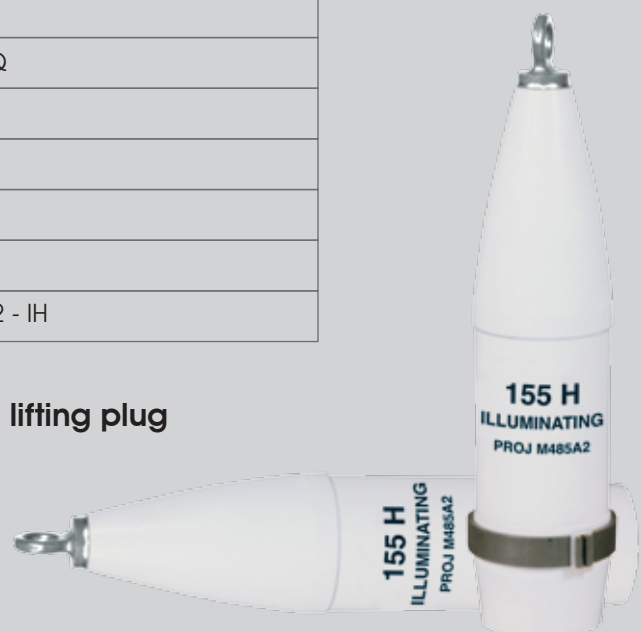
155 mm Illuminating is another DIO separate-loading ammunition of 155 mm series using a hollow forged steel body with a steel base plug press fitted to the rear of the projectile and held in place by shear pins and twist pins. The shell interior contains a primary expulsion charge, a canister assembly and a drogue parachute. The canister assembly contains a secondary expulsion charge, a delay holder, an illumination composition and the main parachute.

Technical Specifications:

Type	Illuminating
Projectile length fuzed	700 mm
Projectile weight fuzed	41.7 kg
Weight zone group	4
Propellant charge	White Bag M4A2 - 6 kg Green Bag M3A1 - 2.5 kg
Filler material	2.6 kg Illuminant
Illuminating Intensity	900,000 cd
Primer	M82 or MK2A4
Fuze	M565 MT or M577 MTSQ
Muzzle Velocity	576 m/s
Max. range	14,000 m
Min. burning time	100 sec.
Max. chamber pressure	2790 bar
Armament	155 mm Howitzer M1A2 - IH

Packing Data: Filled shell bodies with lifting plug

Qty /Pallet	8 rds
Pallet Weight	350 kgs
Pallet Dimensions	700 x 340 x 800 mm



General Specifications:

This product is the largest and heaviest artillery ammunition which is separate-loading projectile using a hollow steel-forging with a streamlined ogive, a boat-tailed base and a base cover welded to the base. The nose of the projectile is fitted with an eyebolt lifting plug for storage, transport and handling.

Technical Specifications:

Type	High Explosive
Projectile length fuze	895 mm
Projectile weight fuze	90 kg
Propellant charge	12.725 kg
Filler material	16 kg TNT
Primer	MK2A4
Fuze	PDM572, PDM739 or M557
Muzzle velocity	595 m/s
Max. range	17,000 m
Max. chamber pressure	3000 bar
Armament	M2, M2A1



Packing Data:

Discription	HE, M106	Fuzes	Propellant Charges
Quantity per box	-	20	4
Box weight	-	30 kg	50 kg
Box dimensions	-	320 x 400 x 180 mm	730 x 425 x 440 mm
Box per pallet	-	30	12
Quantity per pallet	8	600	48
Pallet weight	550 kg	920 kg	620 kg
Pallet dimensions	630 x 420 x 900 mm	1150 x 1000 x 1200 mm	1460 x 1275 x 900 mm

▣ General Specifications:

This D.I.O 40 mm Cartridge is a high velocity HE Grenade which is fired from automatic grenade launcher M19 either manual or automatic against enemy 's personnel. In comparison to the low velocity grenades, this cartridge is much stronger and has a much thicker base into which the forward part of the high pressure chamber is formed. The larger quantity of its propellant results in higher final chamber pressure and thus greater velocity and range.

▣ Technical Specifications:

Caliber	40 mm
Total length	112 mm
Total weight	≤ 340 gr
Average muzzle velocity	≥ 240 m/sec
Max. range	~ 2200 m
Effective range	~1500 m
Packing	60 Linked rounds in Wooden box.



▣ General Specifications:

This Cartridge is just for training purpose and as the same as M383 type can be fired from automatic grenade launcher M19 either manual or automatic.



▣ Technical Specifications:

Caliber	40 mm
Total length	112 mm
Total weight	≤ 340 gr
Average muzzle velocity	≥ 240 m/sec
Max. range	~ 2200 m
Packing	60 Linked rounds in Wooden box.



▣ **General Specifications:**

This product is a high quality grenade having both blast and fragmentation effects and designed for use against personnel or material in a close combat.

It achieves incapacitation of injury within a range of 8 m of the burst point, as the result of high velocity dispersion of steel shots. There are two types in use right now, one having steel shots in its body and the other without any shots. In the latter, the body which is made of cast iron will act as fragments after blast.



Fragmentation (with steel shots)



Fragmentation (with cast iron)

▣ **Technical Specifications:**

Type	Fragmentation (with steel shots)	Fragmentation (with cast iron)
Length	100 mm	114.5 mm
Dia. of the body	62 mm	57 mm
Total weight	480 gr	620 gr
Filling material	PETN, 45 gr	PETN, 38 gr
Delay	3.5 - 6.5 sec	3.5 - 6.5 sec
Lethal radius	8 m	8 m
Steel shots	300 g dia. 2.05 - 3 mm	300 g dia. 2.05 - 3 mm



▣ **General Specifications:**

The practice sound Hand Grenade is a little bit different in shape and color to the fragmentation one and by only changing the fuze, the body can be used for 1000 times. That is why the body and the fuze should be proportionally selected.



▣ **Technical Specifications:**

Type	Sound
Length	88±2 mm
Weight (without fuze)	400-420 g
Dia. of the body	60±2 mm
Material used for body	Cast iron covered by EPDM
Total weight	470±20 g
Max decible sound	100±10 db
Delay time	1.5 - 4 sec

▣ **Packing Data:**

Quantity per box	20
Box weight	17 kg
Box per pallet	30
Pallet weight	550 kg
Pallet dimensions	1150 x 100 x 720 mm



▣ **General Specifications:**

The practice smoke Hand Grenade has the same shape and size of fragmentation type but in blue color body and without any steel shots nor explosives and the smoke material is HC.



▣ **Technical Specifications:**

Type	H.G SMOKE
Length	116±2 mm (fuzed)
Diameter	60±1 mm
Burning Time	10 sec (min.)
Total weight	410±10 g (body)
Delay	3.5-4.5 sec



General Specifications:

This DIO product is a blast and fragmentation BTU rifle grenade with the ability to engage and defeat, light structures, material targets and personnel. The grenade may be launched from any standard military 5.56 or 7.62 mm rifle using standard ball ammunition.

Technical Specifications:

Type	M262A2
Caliber of the grenade	35 mm
Height	290±7 mm
Weight	470±10 g
Filler material	50 g Comp A4
Fuze	PDF61
Max firing range	400±50 m/s
Operation temp	-33°C to +50°C
Warehousing	15 years



Packing Data:

Quantity per box	10
Box weight	17.5 kg
Box dimensions	510x410x240 mm
Box per pallet	30
Pallet weight	520 kg
Pallet dimensions	1200x1170x1030 mm





► **Technical Specifications:**

Fuze type	PD fuze	
Compatibility	Weapon	60 mm, 81mm, 120 mm, Mortar
	Ammunition	HE
Operation mode	Super quick & delay	
Arming data	First safety	Pull wire
	Second safety	40 m
Safety	Set back	600 g
Function temperature	-40°C to +60°C	
Physical data	Weight	201 ± 10 g
	Length	87.8 mm
	Cross Section	49 mm
	Intrusion	27.7
	Thread	1.5" - 12 UNF-1A
Max. velocity	301 m/s	
Packing	100 pcs 62 X 33 X 27 cm & As per request	

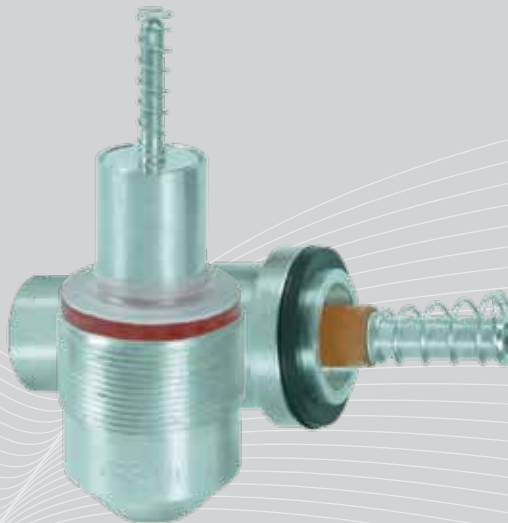




► Technical Specifications:

Fuze type	Time fuze	
Compatibility	Weapon	81 mm, 120 mm, Mortar
	Ammunition	Illumination
Operation mode	Time, Adjustable	
Arming data	First safety	Pull wire
	Second safety	Set back: 500 g non-arm, 1000 g arm
Safety	Set back	7070 g
Physical data	Weight	826 g
	Length	97.8 mm
	Cross section	76.2 mm
	Intrusion	16 mm dp
	Thread	8.4 - 18 UNS-1A
Max. velocity	250 m/s	
Packing	25 pcs 47 X 42 X 16.5 cm & As per request	





► **Technical Specifications:**

Fuze type	PIDB	
Compatibility	Weapon	Tank-125
	Ammunition	125mm HEAT-T
Operation mode	-----	
Arming data	First safety	-----
	Second safety	2.5 m
Function temperature	-40°C to +50°C	
Physical data	Weight	710±10 g
	Length	114 mm
	Cross section	42 mm
	Intrusion	-----
	Thread	M42X1.5 LH
Max. Velocity	905 m/s	
Packing	As per request	





► Technical Specifications:

Fuze type	PD	
Compatibility	Weapon	85,122,125,130, 152,155 mm
	Ammunition	HE , WP
Operation mode	Super quick & delay	
Arming data	First safety	-----
	Second safety acceleration	min : 2716 g max : 17043 g
Safety	Set back	-----
Physical data	Weight	438 g
	Length	105.71 mm
	Cross section	Ø 40 mm max
	Intrusion	46.8 mm
	Thread	M36.18X10 Thds/in
Max. Velocity	930 m/s	
Packing	As per request	





► **Technical Specifications:**

Fuze type	PIBD	
Compatibility	Weapon	90 mm gun M1 M2 ,105 tank gun, 106 mm rifle M40A6
	Ammunition	Cartridge 90 mm HEAT-TM431 M348 105 HEAT-T m456 A2. 106mm HEAT-T m344 A1
Operation mode	Super quick	
Arming data	First safety	2500 g non- arm, 4300 g arm Set back duration 1.5 to 3 ms
	Second safety	Set back electrical switch, approx 1800g (only in M456 A2)
Safety	Set back	40 000 g
Physical data	Weight	141.0 g
	Length	49.8 mm
	Cross section	34.3 mm
	Intrusion	49.8mm dp, 32.0mm dia
	Thread	-----
Max. Velocity	1173 m/s	
Packing	200pcs 45X35X20 cm & As per request	





► **Technical Specifications:**

Fuze type	PD	
Compatibility	Weapon	122mm D30, 105, 130,175,203 mm
	Ammunition	105, 122, 130, 203 mm HE, WP
Operation mode	Super quick & delay	
Arming data	First safety	16 rps. non-arm, 33 rps arm
	Second safety	delay: 40 m
Safety	Set back	21000 g
Physical data	Weight	1043 g
	Length	152.1 mm
	Cross section	61.3 mm
	Intrusion	56.1 mm dp 44.0 mm dio
	Thread	2-12 UNS-1A
Max. Velocity	914 m/s	
Packing	20 pcs 49X37X24 cm & As per request	
Function temperature	-54°C to +71°C	





► **Technical Specifications:**

Fuze type	PD	
Compatibility	Weapon	G3, M16
	Ammunition	BTU M262A1, Rifle grenade
Operation mode	Super quick	
Arming data	First safety	Pull wire
	Second safety	12 m
Safety	Set back	600 g
Physical data	Weight	114±5 g
	Length	59 mm
	Cross section	35 mm
	Intrusion	7.4
	Thread	M32X1 6g
Max. Velocity	100 m/s	
Packing	As per request	
Function temperature	-40°C to +60°C	





► Technical Specifications:

Fuze type	Electronic Time Fuze	
Compatibility	Weapon	81mm & 120 mm Mortars
	Ammunition	HE, Illumination, Cargo
Operation mode	-----	
Arming data	First safety	Manual
	Second safety	99.9 Sec
Safety	Set back	600 g
Physical data	Weight	365±1 gr
	Length	121.5±1 mm
	Cross section	49±0.15 mm
	Intrusion	27.7
	Thread	1.5"-12UNF-2A
Max. Velocity	301 m/s	
Packing	As per request	
Function temperature	-33°C to +60°C	

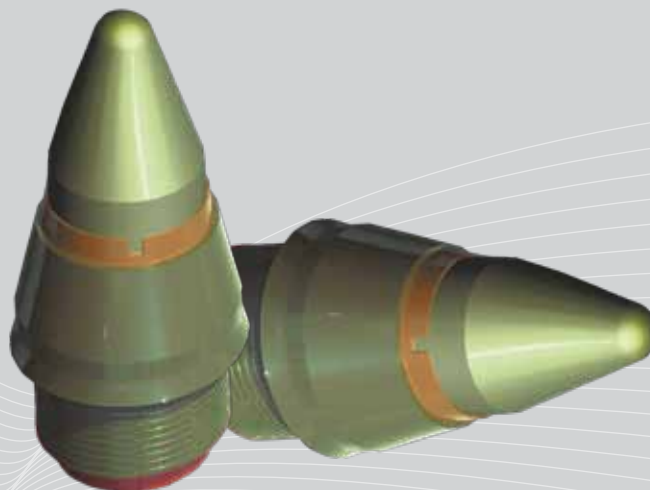




► **Technical Specifications:**

Fuze type	Proximity Fuze	
Compatibility	76/62 mm Naval Ammunition	
Arming data	-----	
Operation mode	Proximity	
	Point Detonating (PD)	Super quick (SQ)
Target data	Target size	Min 0.1 m ²
	Target velocity	0.2 to 3 mach
Power supply	Reserve battery	
Max. Velocity	Rotation	24600 rpm
	Muzzle velocity	930 m/sec
Function temperature	-30°C to +50°C	
Physical data	Weight	930 g
	Length	203 mm
	Cross section	62 mm
	Thread	M58 x 1.5 - 6 g
Safety	Distance (Mechanical)	70 m
	Distance (Electrical)	200 m to 500 m
	Electronic self destruction	18 sec to 22 sec
Packing	As per request	





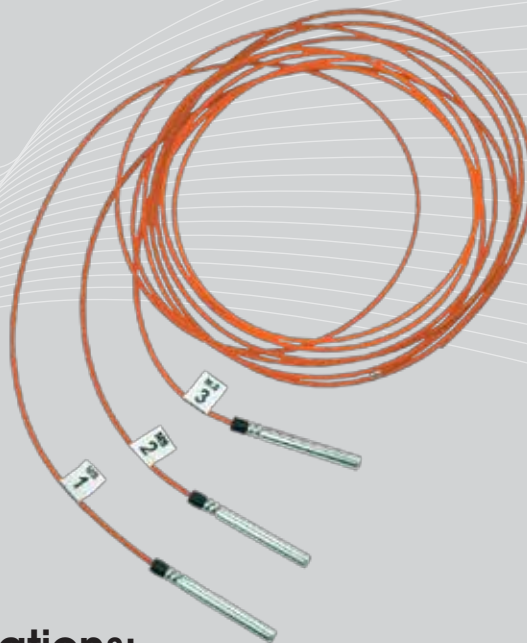
▣ **Technical Specifications:**

Fuze type	100 mm Induction Time Fuze	
Compatibility	Ammunition 100 mm	Anti aircraft
Arming data	2000 rpm	
Operation mode	ET Fuze	
Setting data	Setting mode	Manual induction (By setting unit)
	Total setting time	Less than 1 sec.
	Max. Setting time	31 sec.
	Min. Setting time	3 sec.
	Accuracy	0.1 Sec.
Power supply	Reserve battery	
Max. velocity	930 m/sec	
Function temperature	-40°C to +60°C	
Physical data	Weight	685 g
	Length	135 mm
	Cross section	63.5 mm
Safety	400 x Calibre	



▣ **General Specifications:**

SHOCK TUBE DETONATORS (INSTANTANEOUS & MILLISECOND DELAY) are intended for various blasting operations, except coal mines. Insensitivity of this detonator to electricity & its water proof properties have enabled it to be usable in even bad wheather conditions.



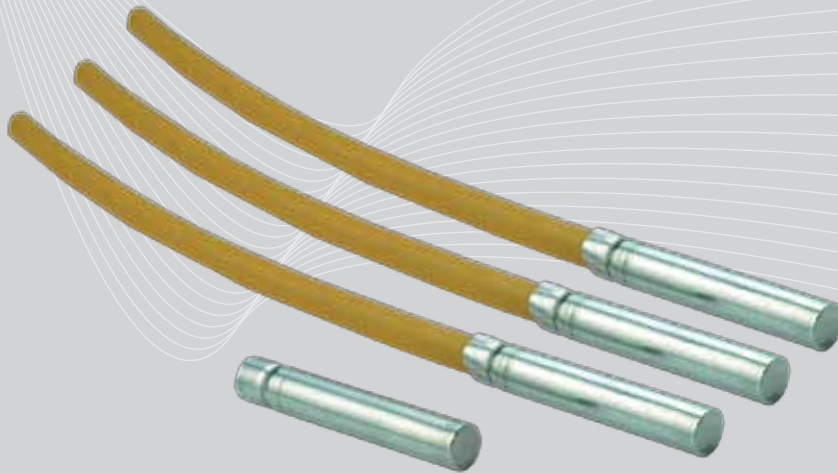
▣ **Technical Specifications:**

Shell material	Aluminium
Shell length of instantaneous type	52 mm
Shell length of delay type	62~82 mm
Tube material	P.V.C
Outside diameter of the tube	3 mm
Inside diameter of the tube	1.2 mm
Shock wave velocity	2000 m/s
Interval time (in delay type)	25 Millisecond
Period number (in delay type)	1-10



▣ **General Specifications:**

Plain detonator no.8 is a non electric detonator being used for blasting operations close to high pressure power transmission lines, except coal mines.



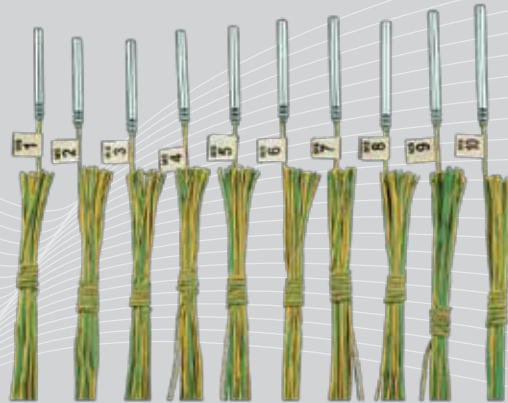
▣ **Technical Specifications:**

Shell material	Aluminium
Shell Length	42mm
Outside diameter	6.9mm



General Specifications:

DIO electrical delay detonators are provided in two types of half second & milli second .They are intended for various blasting operations but not for the coal mines.

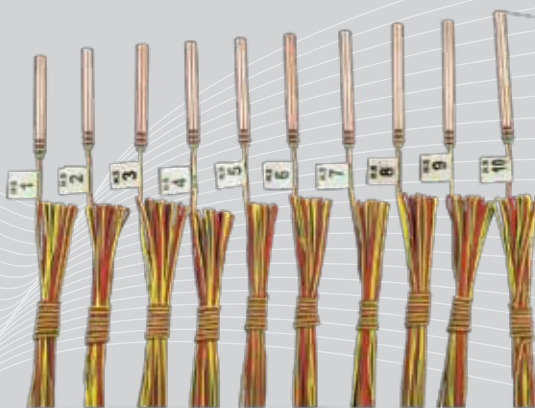


Technical Specifications:

Type	MILLISECOND	HALF SECOND
Shell material	Aluminium	Aluminium
Shell length	62~82 mm	62~82 mm
Outside diameter	7.3	7.3 mm
Lead wire length	2~11 m	2~11 m
Safety current (no fire)	0.45 Amp	0.45 Amp
Firing current (all fire)	1.5 Amp	1.5 Amp
Safety impulse (no fire)	8 Mws/ Ω	8 Mws/Ohm
Firing impulse (all fire)	18 Mws/ Ω	18 Mws/Ohm
Bridge wire resistance	0.5~0.6 Ohm	0.5~0.6 Ohm
Lead wire type	Copper / Steel	Copper / Steel
Diameter of lead wire	0.6 mm	0.6 mm
Diameter of lead wire with P.V.C coating	1.3~1.35 mm	1.3~1.35mm
Interval time	25 Millisecond	0.5 Second
Period number	1-10	1-10

▣ **General Specifications:**

The instantaneous electric detonators provided by DIO are no.8 (type f) and applied for various blasting operations, except coal mines.



▣ **Technical Specifications:**

Type	INSTANTANEOUS
Shell material	Aluminium
Shell length	52 mm
Outside diameter	7.3 mm
Lead wire length	2~11 m
Safety current (no fire)	0.45 Amp
Firing current (all fire)	1.5 Amp
Safety impulse (no fire)	8 Mws/Ohm
Firing impulse (all fire)	18 Mws/Ohm
Bridge wire resistance	0.5~0.6 Ohm
Lead wire type	Copper/Steel
Diameter of lead wire	0.6 mm
Diameter of lead wire with P.V.C coating	1.3~1.35 mm

▣ **General Specifications:**

Seismic detonators are intended to be used for geophysical tests & for prospecting of mines and oil wells.



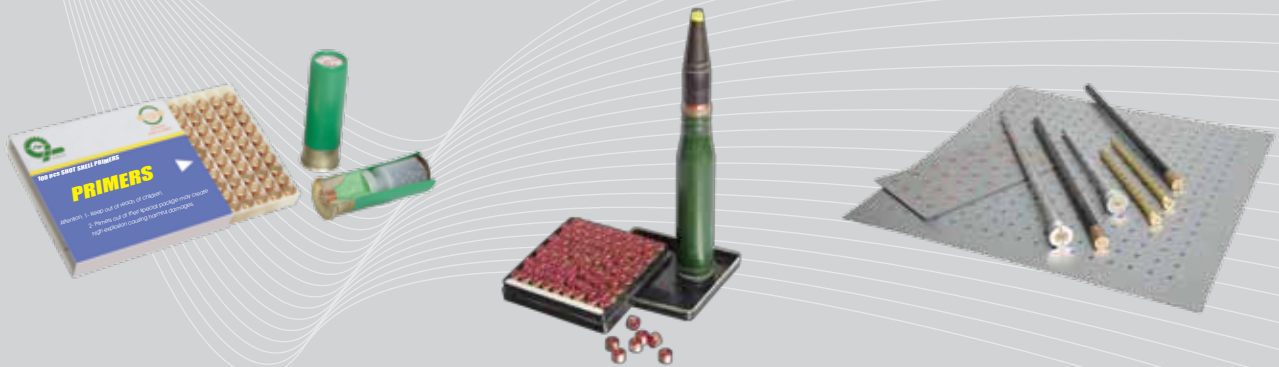
▣ **Technical Specifications:**

Shell material	Aluminium
Shell length	52 mm
Outside diameter	7.3 mm
Lead wire length	2-33 m
Firing time	<0.001 Second
Safety current (no fire)	0.45 Amp
Firing current (all fire)	1.5 Amp
Safety impulse (no fire)	8.0 Mws/Ohm
Firing impulse (all fire)	18 Mws/Ohm
Bridge wire resistance	0.5-0.6 Ohm
Lead wire type	Copper
Diameter of lead wire	0.6 mm
Diameter of lead wire with P.V.C coating	1.3-1.35 mm



General Specifications:

All primers and detonators ranging from small arms up to artilleries are produced in DIO Industries with very high quality. The primers for small arms consist of small capsules in either Berdan or Boxer form and when the question is large calibers then they will be accompanied with primer seat and igniting tube to be a complete primer. The detonators are required for completing the explosive chain in fuzes and other parts.



Technical Specifications:

Primer No.	Type	Application	Detonator	Type	Application
5608	Berdan	7.62 mm	M 24	Stab	Fuze M557,M572
8001	Berdan	12.7 mm & 0.50	M 14	Flame	Fuze M557,M572
8216	Boxer	105 mm	DM 1019	Stab	Fuze AZ111A2
5337	Boxer	Mortars	A 30 T	Flame	23 mm (fuze)
7206	Boxer	Shotgun Cartridge	M 31	Stab	Mine AT
5625	Berdan	AA 35 mm	M 50	Stab	Mine AT
7522	Boxer	5.56 mm	-----	-----	-----
7022	Boxer	9 mm & 0.38	-----	-----	-----
No. 1	Stab	23 mm (fuze)	-----	-----	-----
No.2	Stab	23 mm (fuze)	-----	-----	-----
No.3	Percussion	23 mm (Propellant Charge)	-----	-----	-----
M82	Percussion	Artillerires	-----	-----	-----
MK2A4	Percussion	Artillerires	-----	-----	-----
M28	Percussion	Artillerires	-----	-----	-----

General Specifications:

This DIO product is provided to illuminate the target at night and identify the own or hostile forces from various distances and to be used as a movable target in maneuvers or training operations. The Rocket is launched from a launcher mounted on the warship and can be adjusted in different angles from 5 to 45 degrees in Elevation and from 0 to 360 degrees in Azimuth due to its rotary launcher.



Technical Specifications:

Type	Mk-5
Length	51" (130cm)
Weight	13 lb
Caliber	2" (5.08 cm)
Illuminating material	435 g
Illuminating intensity	Min 200000 cd
Burning time	Min 70 sec
Weight of Propellant	1200 g
Fuze	Electrical
Delay time	3,5±0,5 sec
Ignition	Electrical
Max. Range	5000 yard
Rate of descent	Max 6 m/s
Armament	MK5 launcher



▣ General Specifications:

The Flare Target manufactured by DIO is a flare device to be used on RPV to make it visible at night and considered as air target for training purposes. It is fired by the 24V battery by remote control.

▣ Technical Specifications:

Weight	1.250 kg
Diameter	44 mm
Length	430 mm
Burning time	60 sec
Packing	6 in a woodem box
Intensity of light	250.000 cd
Ignition	Electrical

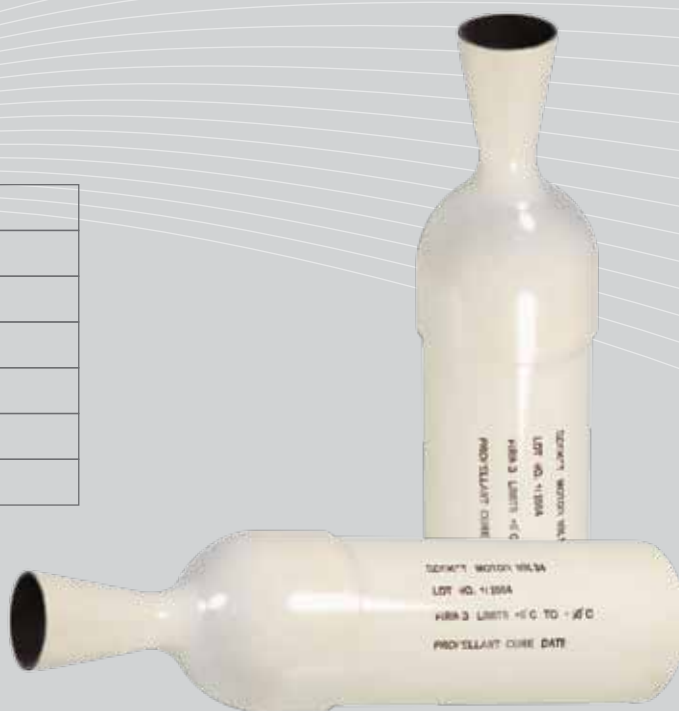


General Specifications:

This DIO product is a Jet-fuel Assisted Take Off device to provide additional thrust to heavy overloaded airplanes to assist them for a take off from short or damaged runways, high-altitude airfields, or to give rapid acceleration for a quick take off. It can be used for a wide range of applications such as providing additional energy to air launched targets like RPVs to test their performance or other characteristics.

Technical Specifications:

Total Weight	11.7 kg
Length	544 mm
Diameter	136.7 mm
Propellant	Solid
Nominal Thrust	2690 lb
Thrust Duration	0.7 sec
Nominal Impulse	1870 lb.sec



▣ **General Specifications:**

This is a smoke generator of 81 mm caliber manufactured by DIO and intended to be used for screening purposes fired by special launchers mounted on T72 tank.

▣ **Technical Specifications:**

Height	215±3 mm
Diameter	80.2 mm
Weight	2.80 kg
Smoke material	726 g HC
Burning time	90 sec ± 30
Capsule Delay	7-12 sec
Smoke screen	10-30m x 3-10m at 2-5 m/s wind speed
Primer	Electrical 3 KB/30M
Max range	350 m
Armament	81 mm launcher of T-72 or T-80 UD
Quantity per Box	8 pcs
Box weight	33 kg
Box dimensions	470x350x270 mm



▣ **Packing Data:**

Quantity per Box	8 pcs
Box weight	33 kg
Box dimensions	470x350x270 mm



General Specifications:

These are M18 Colored Smoke hand grenades manufactured by DIO in various colors and are used to emit smoke for signaling purposes as ground to air or ground to ground, marking of landing places for parachuters and to ascertain wind direction.

These are provided in smoke colors **Yellow, Blue, Green, Orange, Red, Violete & Grey.**

Technical Specifications:

Height	141 ± 2 mm
Diameter	60 mm
Weight	Max 450 gr
Fuze	Igniting type
Delay time	0.7-2 sec
Smoke duration	Min 50 sec



Packing Data:

Packing	20 grenades per wooden box
Gross weight	19 kg
Dimensions	49 x 39 x 22 cm



General Specifications:

DIO Riot Control irritant products are provided in two types as CS Hand Grenade and Tear Gas Cartridges. They are used for establishing a safe distance between law enforcement officers and crowds of demonstrators. The delay in ignition in hand grenade ensures that the thrower will not be affected by the emission and the rate of emission is such that there is almost no possibility of the grenade being retrieved and thrown back. The cartridge type can be fired with either pistol or rifle having 38 mm of caliber and can disperse a large crowd and prevent re-grouping. This product is an effective, simple-to-operate CS tear gas generator which creates a large dense cloud of CS smoke for crowd control and dispersal.

Technical Specifications:

Type	Mk2	CS Hand Grenade
Caliber	38 mm	-----
Length	122.5 mm	145 mm
Diameter	-----	60 mm
Weight	210±5 gr	355 g
Fuze type	-----	Impact
Chemical	Cs mixture	Cs mixture
Smoke emission	Min 20 sec	-----
Delay time	-----	0.7-2 sec
Burning time	-----	Min. 20 sec
Max range (rifle)	150 m	-----
Max range (pistol)	75 m	-----
Packing	10 cartridges per cardboard container sealed by parafin	-----
	10 containers per box	-----
	100 cartridges per box	20 cartridges per box
Box weight	31 kg	18 kg
Box dimensions	670x340x250	490x390x230



▣ **General Specifications:**

This is another pyrotechnic product of DIO intended for screening movements, live stationary and moving targets in wide areas as well as various objects and floaters in different tactical situations. The dense smoke of this product disturbs the visibility of the enemy 's Helicopter or Aircraft. Igniting the smoke pot can be done either manually or electrically.

▣ **Technical Specifications:**

Diameter	Ø213 mm
Height	247.5 ^{+0.5} mm
body	St 33 or St 44
weight	15.5 kg
Active charge	HC
Weight of active charge	14.3 kg
Primer	Electrical
Smoke emission time	~20 min
Smoke color	Grey to White



▣ **Pacing Data:**

Quality per box	1
Box weight	21 kg
Box dimensions	350 x 290 x320 mm
Box per pallet	45
Pallet weight	960 kg
Pallet dimensions	1440 x 1120 x 1050 mm



General Specifications:

To give warning of infiltrating troops by illuminating the field of the advancing enemy, trip flare M49A1 is recommended. To use as a distress signaling device for downed airmen or ground troops or as personal survival, the mini flare is provided.



Technical Specifications:

Type	Mini Flare	Trip Flare M49A1
Lenght	57 mm	151 mm
Diameter	12.8 mm	40 mm
weight	14.8 g	370 g
Trip wire Length	-	15 m
Burning Time	5-7 sec	60 sec
Light intensity	2500 cd (Green & White) 3000 cd (red)	-
Luminosity	-	8000 cd
Illumination color	Red, Green & White	Yellow & White
Altitude	75 m	-
Fuze Delay	-	1.2 -2 sec
Quantity per box	50 Kits	10 pcs
Box weight	14.5 kgs	22 kgs
Box Dimensions	370 x 290 x 260 mm	579 x 350 x 350 mm



▣ **General Specifications:**

These are various products to be used as demolition charges. TNT blocks or slabs as explosive materials, and shaped charges to be used in construction purposes.



▣ **Technical Specifications:**

Type	15 Lbs	40 Lbs
Total Weight	6.800 kg	18.50 kg
Explosive	Composition B	Composition B
Explosive Weight	5.30 kg	10.80 kg
Booster	TTRIL	TTRIL
Booster Weight	54 g	73 g
Container	Material Fiberglass Steel	Material Fiberglass Steel
Liner	Material Copper Steel	Material Copper Steel
Liner Weight	1.30 kg	4.10 kg
Stand-off	Stand-off 176 mm	360 mm
Penetration	350 mm	400 mm
Packing	As per request	As per request

TYPE	1 lb. TNT Block
Total Weight	1 lb.
Each half lb. Dim.	78x45x45 mm
Density	1.46 g/cm ³
TNT Type	Flake 80.2
Explosive Velocity	7000 m/s
Detonator	No.8

▣ **General Specifications:**

The Firing Devices have been designed to initiate a train of fire or detonation of demolition charges, booby traps or mines.

They are of two general types as tubular and box type and are packed as separate items. The tubular Firing Devices are M1, M1A1 and M3, and the box type is M5.



▣ **Technical Specifications:**

Specifications:	M1	M1A1	M3	M5
Type	Pull	Pressure	Pull- Release	Pressure - Release
Spring release load	3 - 5 lbs	20 lbs	6 - 10 lbs	5 lbs
Weight	60 g	100 g	70 g	54 g
Quantity per box	140 pcs	100 pcs	140 pcs	120 pcs
Box Weight	18 kgs	18 kgs	19 kgs	13 kgs
Box Dim.	550 x 340 x 180 mm			