

MORTAR AMMUNITION













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MUNITIONS INDIA LIMITED

(A Government of India Enterprise)

Munitions India Limited [MIL] is a Defence Public Sector Enterprise [CPSE] under the Ministry of Defence, Government of India.

MIL, the India's biggest manufacturer and market leader is engaged in Production, Testing, Research

& Development and Marketing of comprehensive range of ammunition & explosives for Army, Navy, Air force & Para-Military Forces.

With Corporate Office at Pune (India), MIL in its 12 state-of-the-art manufacturing units located across the country employs skilled workforce of around 25,000. These factories have proven integrated base for production of Small, Medium & High calibre ammunition, Mortars, Rockets, Hand Grenades etc. with in-house manufacturing of Initiatory Compositions, Propellants and High Explosives for

over 150 years. Our primary objective is to provide competitive edge to the Armed Forces by equipping them with modern and quality battlefield ammunition.

Our foreign customers include countries located in North America, South America, Europe, Africa and Asia. The patronage we receive from our customers both in India and abroad reflects their faith in quality of our products and services. We are the force behind the Armed Forces.

MIL with its 12 manufacturing units provide:

- A broad and versatile production base with multi-technology capabilities
- State-of-the-art manufacturing facilities
- Large pool of skilled and professionally qualified manpower and managerial personnel
- Strict adherence to quality standards (all units are ISO-9000 certified)
- Original as well as adaptive Research & Development to make need-base refinement and modifications
- > A strong base for industrial training & testing

MORTAR BOMB 51MM HE



PURPOSE:

Mortar Bomb 51 mm HE is designed for use as Area Targeted / Anti-personnel.it explodes immediately on impact and effictive against troops,soft skinned vehicles and light shelters.It is muzzle loaded and fin stabilized Bomb at low muzzle velocity employed for high angle fired in a short span of time.It is fired from 51 mm Mortar Weapon.

CHARACTERISTICS:

• Mass of the Filled Bomb 850 g

• Maximum dia 50.7 ± 0.1 mm

• Filling type (Standard) TNT

Length of Bomb with 282.96 mm

Fuze & Tail Unit

• Filling mass $215 \pm 5g$

• Fuze Mechanical Fuze

• Shelf Life 10 years

PERFORMANCE:

Muzzle velocityRange101 m/s ± 101000 m

PACKAGES:

Packing consists of inner and outer packages. Inner packages are HDPE/LDPE containers. 6 such containers are packed in canvas bag with shoulder strap. Canvas bags are then packed in wooden box.



MORTAR BOMB 51 MM SMOKE



PURPOSE:

Bomb 51 mm smoke is an emission type screening smoke ammunition capable of producing effective screen over wide area. Used for facilitating tactical deployment of troops and screening from enemy fire. Bomb is fired from 51 mm mortar, smooth bore, muzzle loading weapon. Ammunition is provided with delay unit of 10 sec. to facilitate emission of the smoke just on landing on the ground.

CHARACTERISTICS:

Mass of the Filled Bomb
 Maximum dia
 50.85 mm

Filling type (Standard)
 Hexachloroethane based composition

Length of Bomb with 282 ± 1mm
 Fuze & Tail Unit

• Filling mass 500 g (approx.)

Colour of smokeShelf LifeWhite10 years

• Hazard Division 1.2 G

PERFORMANCE:

Muzzle velocityRange830 m

Range
Duration of screening smoke
830 m
120 Sec. min

• Time required to build up smoke 10 Seconds

PACKAGES:

Packing consists of inner and outer packages. Inner packages are HDPE/LDPE containers. 6 such containers are packed in canvas bag with shoulder strap. Canvas bags are then packed in Steel Box.



MORTAR BOMB 51 MM ILLG



PURPOSE:

Bomb 51 mm Illuminating belongs to the family of Illuminating ammunition extensively used to support night warfare. The bomb provides enough illumination to support infantry for combats, aerial photography and army movements. Bomb is fired from 51 mm mortar, smooth bore, muzzle loading weapon.

CHARACTERISTICS:

Mass of the Filled Bomb
Maximum dia
Length of Bomb
Filling mass
Shelf Life
Hazard Division
Compatibility
930 ± 25 g
50.7 -0.1 mm
283 ± 2mm
215 g (approx.)
10 years
1.2
G

PERFORMANCE:

Muzzle velocity
Range
Height of burst
Time of burning
Area of illumination
Luminosity
115 ± 2.5 m/s
600 m. (Optimum)
30 Sec.(min)
600 m (radius)
2.5 Lakh Candela (min)

PACKAGES:

Packing consists of inner and outer packages. The inner package is HDPE/LDPE container. 6 such containers are packed in a canvas bag with shoulder strap. 4 bags are then finally packed in a Steel Box.



MORTAR BOMB 81 MM HE



PURPOSE:

Mainly used for firing at troops in the open and enemy assembly areas, which cannot be engaged by flat trajectory. Very effective for counter mortar task and enemy position on reverse slope of mountains.

CHARACTERISTICS:

• Mass of the Filled Bomb $4.4 \text{ kg} \pm 0.125 \text{ kg}$

• Maximum dia 80.8 mm

• Filling type (Standard) TNT Grade 1 E

• Length of Bomb with 379 mm (Max.)

Fuze & Tail Unit

• Filling mass $705 \pm 5g$

Fuze
 Mechanical Fuze

• Shelf Life 10 years

PERFORMANCE:

Muzzle velocity 305 m/s ± 10

• Range 5000 m

PACKAGES:

Two Bombs are Packed in one Plastic Carrier. Further Two plastic Carriers are Packed in One Steel Carrier.



MORTAR BOMB 81 MM SMOKE



PURPOSE:

Basically, a smoke type screening Ammunition. Achieves a dense smoke screen for facilitating tactical deployment of troops and screening from enemy observation and aimed fire.

CHARACTERISTICS:

Mass of the Filled Bomb
 4.31Kg to 4.51 Kg

• Maximum dia 80.80 mm

Filling type (Standard)
 Plasticized White Phosphorous

Length of Bomb with
 379 mm approximately

Fuze & Tail Unit

• Filling mass $0.500 \pm 0.025 \text{ kg}$

• Fuze Mechanical Fuze

Colour of smoke
 White

• Shelf Life 10 years

PERFORMANCE:

• Muzzle velocity 300 m/sec

• Range 5000 Meters

Duration of screening smoke
 25 Seconds

• Time required to build up smoke 5 Seconds

PACKAGES:

Two Bombs are Packed in one Plastic Carrier. Further Two plastic Carriers are Packed in One Steel Carrier.



MORTAR BOMB 81 MM ILLG



PURPOSE:

It is an illuminating Mortar Ammunition. It is fired from 81mm mortar, smoothbore, muzzle loading weapon. On firing, the gas pressure from the Primary Cartridge and Augmenting Cartridges propel the Bomb. The explosive charge contained in magazine of the fuze ignites the Buster Bag which in turn ignites the star / Candle through hole provided in the metallic disc (Baffle Plate) placed below.

CHARACTERISTICS:

Mass of the Filled Bomb 3.85 kg

• Maximum dia 80.6 - 0.1mm

Length of Bomb 552 mm

• Filling mass 743 gm (approx)

Fuze Mechanical Fuze

Shelf Life 10 years

• Hazard Division 1.2

Compatibility Group

• Fire Fighting 2

PERFORMANCE:

• Muzzle velocity 321m/s

• Range 4800 m

Height of burst
 600 m. (Optimum)

Time of burningArea of illumination40.0 sec. (min)600 m (radius)

Luminosity9 Lakh Candela (min)

PACKAGES:

Packing consists of inner & outer packages.
The inner package is HDPE/LDPE carrier which accommodates 2 bombs. 2 such packages are then put in a carrier



MORTAR BOMB 120 MM HE



PURPOSE:

Mainly used for firing at troops in open areas and enemy assembly areas which cannot be engaged by flat trajectory weapons, very effective for counter mortar task and enemy position on reverse sloped mountains.

CHARACTERISTICS:

Mass of the Filled Bomb 13.4 Kg

Maximum dia 119.6 mm

Filling type (Standard)
 TNT 1E

Length of Bomb with 674.64 mm approximately

Fuze & Tail Unit

• Filling mass 2.488 kg ± 0.08 Kg

Fuze Mechanical Fuze

Shelf Life
 10 years

PERFORMANCE:

Muzzle velocity
 335 m/sec approximately

Range
 Not less than 6500 Meters

PACKAGES:

One Bomb Packed in Container 63A Further Two Containers 63A Packed in Steel Box B7A



MORTAR BOMB 120 MM SMOKE



PURPOSE:

Basically, a smoke type screening Ammunition. Achieves a dense smoke screen for facilitating tactical deployment of troops and evading from enemy firing.

CHARACTERISTICS:

Mass of the Filled Bomb
Maximum dia
Filling type (Standard)
Length of Bomb with
Fuze & Tail Unit
13.5 Kg
119.6 mm
Plasticized White Phosphorous
674.64 mm approximately

Filling mass
 Fuze
 Colour of smoke
 Shelf Life
 1.700±0.025kg
 Mechanical Fuze
 White
 10 years

PERFORMANCE:

Muzzle velocity 335 m/sec
Range 6500 Meters
Duration of screening smoke 25 Seconds
Time required to build up smoke 5 Seconds

PACKAGES:

One Bomb Packed in Container 63A Further Two Containers 63A Packed in Steel Box B7A



MORTAR BOMB 120 MM ILLUM



PURPOSE:

Bomb 120mmilluminating belongs to the family of illuminating ammunition used extensively to support night warfare and aerial survey. The bomb is fired from 120 mm Mortar, smooth bore, Muzzle Loading Weapon. The bomb is provided with Time Mechanical Fuze which function along the trajectory at the pre-set time enabling illuminate canister supported by parachute to eject an deploy in the air.

CHARACTERISTICS:

 Mass of the Filled Bomb $13.05 \text{ kg} \pm 0.20 \text{ kg}$

 Maximum dia 119.6mm

 Length of Bomb 677 mm (max)

 Filling mass 1.030 Kg (approx)

Fuze Mechanical Fuze

 Shelf Life 10 years

 Hazard Division 1.2

 Compatibility G

PERFORMANCE:

 Muzzle velocity $330 \pm 4.30 \text{ m/s}$

Range 6000 m

 Height of burst 600 m. (Optimum)

Time of burning 40.0 sec. (min)

 Area of illumination 600 m (radius)

10 Lakh Candela (min) Luminosity

PACKAGES:

Packing consists of inner and outer packages. Inner packages are LP containers with steel end caps. Two such container bombs are packed in steel box







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