

Elbit Systems Land Mortar Ammunition Portfolio

Proven Artillery Solutions for the Modern Battlefield



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Elbit Systems has earned an outstanding global reputation for innovation and reliability, with its name synonymous with excellence in artillery systems. With the acquisition of IMI, Elbit Systems can draw upon more than six decades of unmatched experience in mortar ammunition. Combining the know-how of Elbit Systems, Soltam (acquired in 2010) and IMI, the company's wide range of high-quality and combat-proven mortar ammunition is used to provide effective Fire Support (FS) to troops worldwide. As the world leader in self-propelled mortars, the expertise in both ammunition and weaponry gives Elbit Systems a unique edge.

Extensive arsenal of high quality mortar ammunition

Renowned for their reliability, pinpoint accuracy and performance, Elbit Systems' mortar ammunition can be fired from any suitable and qualified smoothbore mortars in the customer's inventory. The company offers a variety of products and effects, including High-Explosive (HE), Smoke, Illumination, and training rounds - available in 60mm, 81mm and 120mm calibers - and equipped with point detonating, proximity, and electronic fuzes.

Cutting edge advanced munitions

Modern advanced munitions, including Enhanced Lethality munitions and various Guided Munitions, comply with the demand for effectiveness with low collateral damage, and allow increasing firepower with reduced manpower.

Battle-proven solutions

As the premier artillery supplier to the Israel Defense Forces and active across the international defense market for decades, Elbit Systems' comprehensive array of mortar solutions have seen extensive use in dozens of different countries worldwide with delivery of over 10 million mortar rounds. The company has developed mass production programs for the IDF, and serves as a supplier to the US Army and other NATO countries.

Production capabilities and sophisticated facilities

Elbit Systems' munitions production facilities feature advanced production infrastructure and highly skilled staff encompassing an area of 20,000 square meters, enabling a production capacity of more than 250,000 bombs of all calibers per year. Capabilities cover all aspects of manufacturing, metallurgic, assembly, packing, quality assurance and control, ballistics and full in-house live firing testing.



120mm Guided Mortar Munitions



➤ “Styler” - Guided Mortar Munition (GMM)

High-precision guided mortar munitions

Ideal for tactical combat units, Special Forces and other units, the Styler GMM is a highly affordable solution for traditional mortar targets. GPS and INS-based and with a range of 1000-8500m depending on the mortar system, the GMM offers autonomous fire control, and multi-target assault with single positioning. No ranging is required to achieve first-round on target. The mortar bomb's fuze has three modes of operation: Point Detonation (PD), Point Detonation Delay (PDD) and proximity (PRX). Mission loading time is up to 15 seconds, and no meteorological data is required.



➤ “Rapier” - Extended Range Guided Mortar Munition

High-precision extended-range GMM

The Extended Range Guided Mortar Munition offers an extended range of up to 15 km, and uses GPS and INS to achieve high accuracy even in severe weather conditions. The mortar shell expands fire support options by eliminating the need for spotting targets and delivers superior targeting precision. The mortar bomb's fuze has three modes of operation: Point Detonation (PD), Point Detonation Delay (PDD) and proximity (PRX). Mission loading time is up to 15 seconds, and no meteorological data is required.



➤ Iron Sting - Laser and GPS-Guided Mortar Munition (GMM)

Dual guidance high-precision GMM

Iron Sting Guided Mortar Munition offers a range of 1-12 km, depending on mortar tube, with dual- mode GPS + SAL and delivering 1m CEP with its SAL accuracy. The warhead is capable of penetrating 20cm DRC with a blast and fragmentation effect. The mortar bomb's fuze has three modes of operation: Point Detonation (PD), Point Detonation Delay (PDD) and proximity (PRX). Mission loading time is 15 seconds, and no meteorological data is required.



➤ Laser and GPS-Guided Mortar Kit (LG²MK)

Convert standard ammunition to Guided Munition with an add-on kit

The Laser and GPS-Guided Mortar Kit (LG²MK) converts an existing 120mm standard mortar shell into pinpoint accurate guided ammunition without any modification to the existing warhead and fuse and while maintaining the warhead lethality. The LG²MK features 1m CEP and moving target capability in laser mode and less than 10m CEP in GPS mode. The multi-purpose LG²MK delivers maximum accuracy against soft or lightly armored targets and in an urban environment, providing first shot hit and minimum collateral damage. The kit is an ideal, affordable guided munitions solution for front-line infantry, providing rapid and efficient full sensor-to-shooter capability, enhanced firepower, and unmatched weapon guidance from launch to hit. The solution is compatible with STANAG 3733 NATO laser designation.

120mm Guided Mortar Munitions

| Model | | | | | |
|------------|-----------------|-----------------|---------|--|---------------------|
| "Styler" | HE | GPS and INS | 8500m | Blast, Fragmentation | PD/PDD/PRX |
| "Rapier" | HE | GPS and INS | 15000m* | Blast, Fragmentation | PD/PDD/PRX |
| Iron sting | HE | SAL & GPS + INS | 12000m | Penetrating 20cm DRC ,Blast and Fragmentation effect | PD/PDD/PRX |
| LG²MK | Kit for HE Bomb | GPS/IMU+SAL | 7000m | Blast, Fragmentation | Pending bomb in use |

*Depending on specific mortar type and its safety restrictions



120mm Mortar Munitions Series



› M933D/M98

Long-Range high explosive mortar ammunition

The 120mm M98 HE extended range mortar bomb is NATO qualified, NSN 1315-31-016-6926 (typically delivered with M211DS fuze). It is highly accurate up to its maximum range of 8000m, and is also extremely effective with a 3kg warhead.



› M8713 ELMA

Enhanced Lethality Mortar Ammunition

With a range of up to 7300m, ballistically matched with M98 HE, the ELMA mortar bomb is compatible with all smoothbore barrel mortars and substantially increases lethality, using enhanced controlled pre-fragmentation technology.



› M996/M930E1

Illuminating mortar ammunition

A high performance, highly reliable illuminating mortar bomb, the M996 has a range of up to 7000m. Its duration of illumination is more than 50 seconds, with 1 million cd (million candle light) intensity. The bomb is USA Army type M930 qualified



› M974

Grey smoke mortar ammunition

Suitable for screening and obscuring the movement of friendly forces, the M974 smoke bomb produces a very dense grey smoke screen of up to 3 minutes to a range of up to 6800m.



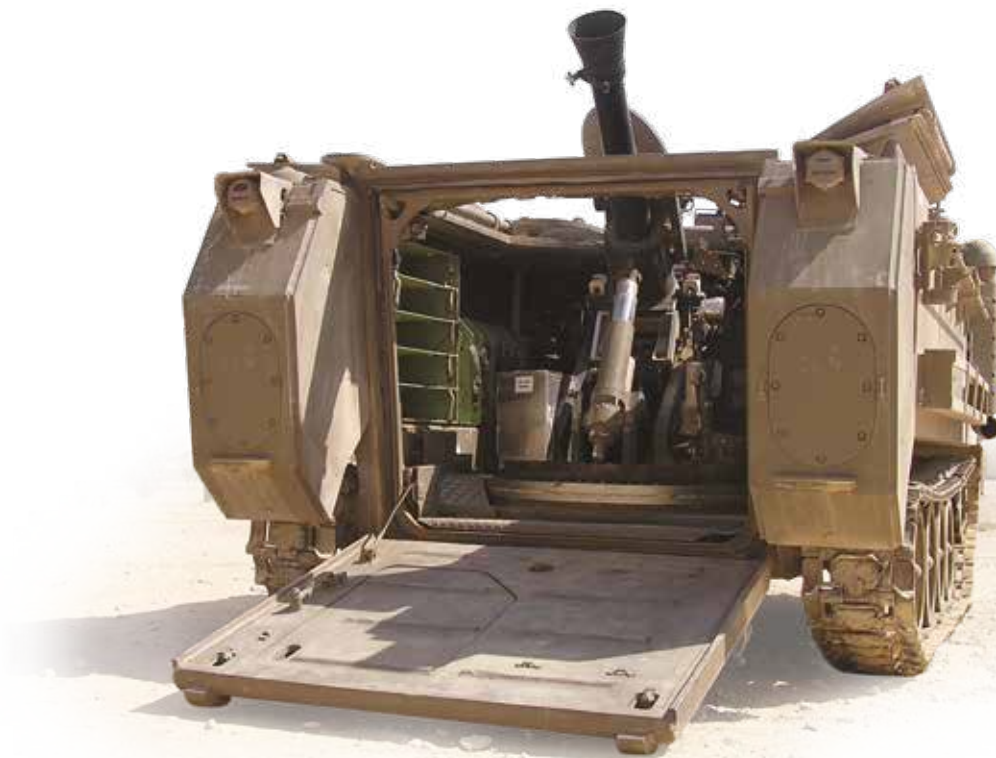
➤ M8718 SRPR

Multiple use short-range practice mortar ammunition

The 120mm short-range practice mortar ammunition delivers realistic mortar crew training and practice in firing areas with limited range or space. The MIL-STD and NATO-compliant ammunition can be fired multiple times utilizing a user-replaceable propulsion unit, in the field, without tools.

120mm Mortar Munitions Series

| Model | | | | |
|-------------|----------------------|-------|--------------------------|------------|
| M933/98 | HE | 8000m | Blast, Fragmentation | PD/PDD/PRX |
| M8713 ELMA | HE | 7300m | Controlled Fragmentation | PD/PDD/PRX |
| M996/M930E1 | Illuminating | 7000m | 50sec. with 1million cd | Time Fuze |
| M974 | Smoke | 6800m | 2-3min | Time Fuze |
| M8718 SR | Training (Multi-use) | 100m | | |



81mm Mortar Munitions Series



› M91

The M91 high explosive mortar bomb is 369mm in length and has a range of 5000m. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified mortars. The propelling system includes an ignition cartridge and 7 charge increments and is fully adjustable for various mortars.



› M64

A long-range high-explosive mortar bomb that is 490mm in length and has a range of 6500m. The M64 is an aerodynamically shaped, fin-stabilized bomb, designed to yield maximum stability in flight and maximum accuracy on target. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified mortars (NSN 1315-27-008-1173). The propelling system includes an ignition cartridge and 8 charge increments and is fully adjustable for various mortars.



› M97

The M97 is an extended-range high-explosive mortar bomb that is 517mm in length and has a range of 7000m. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified reinforced mortars. The propelling system includes an ignition cartridge and 9 charge increments and is fully adjustable for various mortars.



➤ M939 SRPR

The M939 is a short-range practice mortar ammunition that delivers realistic mortar crew training and practice in areas with limited range or space. The MIL-STD and NATO-compliant ammunition can be fired multiple times utilizing a user-replaceable propulsion unit, in the field, without tools.

81mm Mortar Munitions Series

| Model | | | | |
|-----------|----------------------|-------|----------------------|------------|
| M91 | HE | 5000m | Blast, Fragmentation | PD/PDD/PRX |
| M64 | HE | 6500m | Blast, Fragmentation | PD/PDD/PRX |
| M97 | HE | 7000m | Blast, Fragmentation | PD/PDD/PRX |
| M939 SRPR | Training (Multi-use) | 80m | | |





60mm Mortar Munitions Series



› M61 High-Explosive mortar ammunition

Part of the 60mm ammunition family, the M61 HE mortar bomb is 300mm in length and has a range of 2550-3200m. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified mortars. The propelling charge system includes an ignition cartridge and 4-5 charge increments and is fully adjustable for any user mortars.



› M38A1 Long-range mortar ammunition

Part of the 60mm ammunition family, the M38A1 Series is 351mm in length and has a range of 4000m. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified mortars. The propelling charge system includes an ignition cartridge and 6 charge increments and is fully adjustable for any user mortars.



› M83 Extended-range mortar ammunition

Part of the 60mm ammunition family, the M83 Series is 390mm in length and has a range of 6000m. These mortar bombs are compliant with NATO standards and can be fired from all authorized NATO and other qualified reinforced, long-barrel mortars. The propelling charge system includes an ignition cartridge and 9 charge increments and is fully adjustable for any user mortars.



› M89

Ultra-light weight commando mortar bomb

60mm M89 is an ultra-light weight Commando HE Mortar bomb with increased lethality and high effect on target. It weighs less than 1.1 kg and can be fired up to a range of 2800m (ground fixture) and up to 1900m (charge 2 - commando fixture).



› M828

Smoke mortar ammunition

A high performance mortar bomb, the M828 can be relied on in any military environment. With a range of 1800m, the smoke bomb features an increment charge propulsion system that includes an ignition cartridge and 5 charge increments and is fully compatible with any smoothbore barrel.



› M813

Illuminating long-range mortar ammunition

The highly reliable M813 carries a payload of an illuminating flare with a parachute. The bomb has a range of 3500m, and its duration of illumination is 35 seconds. The M813 features an increment charge propulsion system that includes an ignition cartridge and 8 charge increments and is fully compatible with any smoothbore barrel. The M813 is NATO qualified NSN 1310-13-121-5065.



› M822

Illuminating mortar ammunition

The highly reliable M822 carries a payload of an illuminating flare with a parachute. The bomb has a range of 1100m, and its duration of illumination is more than 30 seconds. The M822 features an increment charge propulsion system that includes an ignition cartridge and 4 charge increments and is fully compatible with any smoothbore barrel 60mm mortar. The M822 is NATO qualified NSN 1310-15-187-2512.



➤ M824

Illuminating mortar ammunition

The highly reliable M824 carries a payload of an illuminating flare with a parachute. The bomb has a range of 2200m, and its duration of illumination is 35 seconds. The M824 features an increment charge propulsion system that includes an ignition cartridge and one charge and is fully compatible with any smoothbore barrel.

60 mm Mortar Munitions Series

| Model | | | | |
|-------|--------------|-------|----------------------|------------|
| M61 | HE | 3200m | Blast, Fragmentation | PD/PDD/PRX |
| M38A1 | HE | 4000m | Blast, Fragmentation | PD/PDD/PRX |
| M83 | HE | 6000m | Blast, Fragmentation | PD/PDD/PRX |
| M89 | HE | 2800m | Blast, Fragmentation | PD/PDD/PRX |
| M828 | Smoke | 1800m | Smoke screen | Time Fuze |
| M813 | Illuminating | 3500m | 35 sec. | Time Fuze |
| M822 | Illuminating | 1100m | 30 sec. | Time Fuze |
| M824 | Illuminating | 2200m | 35 sec. | Time Fuze |



Mortar Fuze Series



› M111 B1

The M111 B1 is a qualified point detonating fuze from the Elbit family of traditional mortar mechanical fuzing systems with simplicity, ruggedness and reliability as characteristics. The fuze may be used with all types of HE mortar bombs of calibers: 60 mm, 81mm, 82mm and 120mm. The fuze was tested in accordance with MIL-STD-331/STANAG 4157, with application of test methods as per AOP-20. The fuze is safe to fire, to handle, store and transport. The fuze was proved for double loading safety, in-bore safety and trajectory safety of 50m minimum.



› M211DS

A modified derivative of the qualified M111 Series Mortar Fuze, the mechanical M211DS offers 50 msec delay and improved functionality but above all enhanced safety features developed from the Elbit family of traditional mortar mechanical fuzing systems with simplicity, ruggedness and reliability as characteristics. The fuze may be used with all types of HE mortar bombs of calibers: 60 mm, 81mm, 82mm and 120mm. The fuze was tested in accordance with MIL-STD-331/STANAG 4157, with application of test methods as per AOP-20. The fuze is safe to fire, handle, store and transport. The fuze was proved for double loading safety, in-bore safety and trajectory safety of minimum 50m.



› M138

The M138 is an advanced qualified proximity Fuze for mortar, compatible with all types of HE ammunition from 60-120mm, the M138 features an advanced integrated electronic fuze system with smart proximity sensors and two independent safety mechanisms, for enhanced reliability and effectiveness. HoB can be custom adjusted and calibrated by factory set-up. The fuze offers increased accuracy and lethality, and operates in three modes: PRX, PD, and Backup. The M138 is designed to enable future component upgrades and is compliant with STANAG 4187/MIL-STD-1316 and STANAG 4157/MIL-STD-331.

