



## FIELD ARTILLERY AMMUNITION **EXTENDED RANGE FAMILY 105 MM/155 MM**

**TAKING RESPONSIBILITY** IN A CHANGING WORLD

 **RHEINMETALL**  
EXPAL MUNITIONS

# FIELD ARTILLERY AMMUNITION

Rheinmetall Expal Munitions (REM) develops and produces a wide and complete range of high performance ammunition to meet the real needs of armies and security forces. REM has many years of experience and deep knowledge of ammunition and its technologies and manufacturing processes, which enables continual improvement of these products.

REM is a leading field artillery ammunition provider, with a long trajectory of supplying a significant number of Armed Forces around the world.

In addition to conventional field artillery ammunition for 105 and 155 mm, REM has developed the ER family, offering a significant increase in range over standard ammunition.

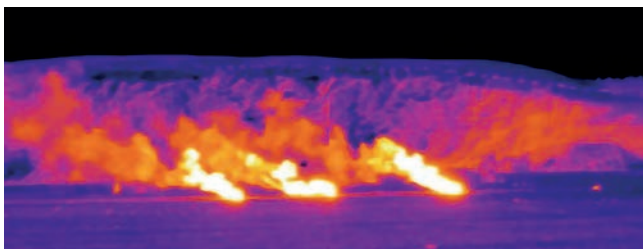
The leadership of REM reveals a constant product improvement, with important developments to increase the types and the capabilities of its projectiles.



ILL VIS & IR



SMK HC



SMK RP

## TECHNOLOGY

The extended range family of REM consists of projectiles with an improved aerodynamic profile, available with base bleed unit, for versions of high explosive, illuminating and smoke to illuminate and screen in both visible and infrared spectra. This ammunition complies with JBMOU and is tested by NATO standards.

REM also develops and manufactures high technology electronic fuzes and propelling charges that allow independency in providing complete rounds, assuring global operability to fulfil the user's requirements.

## CAPABILITIES

REM covers the entire life cycle of ammunition including the design, development, manufacturing, testing, maintenance, modernization and demilitarization at the end of its service life. These capabilities allow REM to be a reference in conventional and high performances field artillery ammunition.

Furthermore, our vertically integrated structure enables us to control all stages of the process, from the design phase through the development of all the components, propelling charges, projectiles and fuses, to testing and final delivery. This ensures a high level of quality and customer satisfaction.

# THE SOLUTION FOR 105 MM ER COMPLETE ROUNDS

## MISSION

Compliant with NATO standards, the 105 ER50 family ammunition provides lethal and non-lethal effects at long range for combat and training, being compatible with the modern 105 howitzers in service.

The ER50 projectiles contain high performance payloads such as conventional explosives, multispectral smoke canisters and illuminating visual or infrared flare.

With EC102 & EC103 electronic fuzes the projectiles enhance safety distance and functioning precision.

Depending on the howitzer, the propelling charges M200A3 and GTB350/360 considerably increases the range in comparison with projectile 105 HE M1 and M67 charge.



## TECHNICAL DATA

Projectile length (wof)	BB568/512 mm
Projectile weight (wof)	16 kg
High explosive	2.2kg Comp B or TNT
Operating temperature	-46°C to +63°C
Smoke	Multispectral canisters
Illuminating	VIS or IR flare

## BALLISTIC DATA

Howitzer's type	M119	M119	L118	
Propelling charge	M200A3	M200A3	GTB350	GTB360
Charge increment	1	1 & 2	1-6	super
Projectile's type	BT/BB	BT/BB	BT/BB	BT/BB
Range (km)	12.5/13.8	15.5/17.7	15.2/16.9	17.3/20.1



# THE SOLUTION FOR 155 MM ER COMPLETE ROUNDS

## MISSION

Compliant with JBMOU & NATO standards, the 155 ER02A1 ammunition provides lethal and nonlethal effects at long range for combat and training, being compatible with the modern 155/39 and 155/52 howitzers in service.

Projectiles supplied with an interchangeable boat-tail or base bleed unit, contain high performances payloads such as conventional explosives, multispectral smoke canisters and illuminating visual or infrared flare.

With EC102 & EC103 electronic fuzes the projectiles enhance safety distance and functioning precision.

Projectiles are compatible with both bag and modular propelling charges.



## TECHNICAL DATA

Projectile length (Wo/f)	807 mm
Projectile weight (Wo/f)	42.7 Kg
High explosive	10.3 kg Comp B or TNT
Operating temperature	-46°C to +63°C
Smoke	Multispectral canisters
Illuminating	VIS or IR flare

## BALLISTIC DATA

Barrel Length (cal.)	155/39	155/52		
Projectile's type	BT	BB	BT	BB
Muzzle velocity	824 m/s	830 m/s	938 m/s	945 m/s
Range	24 km	30 km	29 km	39 km



**REM'S FIELD ARTILLERY ROUNDS**

Family 105 mm	Projectile type	Propelling charge	Max. range approx.
<b>Standard</b>	HE M1	M67	11,500m (L119 howitzer)
	Illuminating M314A3		
	Smoke HC M84		
	Inert/Practice		
<b>REM Extended Range</b>	HE ER50	M200A3	15,500m & 17,700m BT/BB (L119)
	HE BB ER50	GTB350	15,200m & 16,900m BT/BB (L118)
	Illuminating ER50	GTB360	17,300m & 20,100m BT/BB (L118)
	Smoke RP ER50		
<b>Family 155 mm</b>			(M109 howitzer, M185 cannon)
<b>Standard</b>	HE M107	M3A1	9,800m
	Illuminating M485A2	M4A2	14,800m
	Smoke HC M116A1	M119A2	18,100m
	Inert/Practice		
<b>REM Extended Range</b>			(155/52 howitzer)
	HE ER02A1	M203/(6 modules)	24,000m & 29,000m w/BT
	HE BB ER02A1	M203/(6 modules)	30,000m & >39,000m w/BB
	Illuminating ER02A1		
	Smoke RP ER02A1		



Artillery ammunition 105 ER



Artillery ammunition 155 ER



Artillery ammunition 105 conventional



Artillery ammunition 155 conventional

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