

Ammunition for Defence & Law Enforcement

RWS GmbH – Ignition Technology since 1886



RWS

Defence & Law Enforcement

www.rws-technology.com

RWS – Tradition & Innovation. Made in Germany.



Ammunition for armed forces and law enforcement

RWS GmbH is the reliable partner for law enforcement and military customers in all areas of small calibre ammunition. Since 1886, we have been synonymous with innovation and quality for infantry and law enforcement ammunition as one of the preeminent national and international manufacturers in this segment.

All over the world, armed forces and law enforcement agencies with highly diverse requirements appreciate our premium products. In addition to standard ammunition, which fully meets NATO requirements, we are also Europe's leading manufacturer of low-pollutant ammunition for mission, training and simulation scenarios. Special products for very particular, customised use cases round off our portfolio.

Research, development, innovation

As a passionate driver of innovation, we aim at assisting our customers in the creation of tailored products, to ensuring greater security in our world. In doing so, we can draw on long-standing experience in the area of research and development. Products such as the 4.6x30 or the first heavy metal-free primer kits speak for themselves when it comes to rigorous quality in development matters. As a reliable partner known for igniting ideas, we would gladly assist you in the creation of special products or system solutions for firearms and ammunition.



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9x19 ACTION 4 SXF
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9x19 ACTION 5 SXF
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9x19 ACTION 6 SXF
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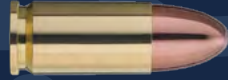


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GEN II SXF
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NEW

9x19 ACTION PI SXF
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9x19 GREEN RANGE SXF
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The world's most successful handgun calibre 9 x 19

For more than 100 years, our 9x19 calibre duty and training ammunition has proven its value to a large number of law enforcement agencies and military forces around the world.

Today, the portfolio includes a wide range of modern 9x19 loads for pistols and sub-machine guns. RWS GmbH is a leader in the sector of emission-reduced duty and training ammunition for law enforcement and military use.

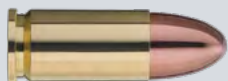
ACTION Line - one solution for all missions

Conventional full metal jacket bullets no longer optimally fulfil the requirements of modern duty ammunition for authorities. Low energy release in the target medium can easily lead to over-penetration of soft targets and thus endanger nearby bystanders.

Due to the increased risk of terrorism and willingness to use violence, product offers now require solutions that reliably contain and prevent such situations, whilst simultaneously and significantly reducing the risk of background threats to uninvolved third parties.

The products in our ACTION Line offer these solutions - in combination with our patented SIN-TOX Forensic ignition kit with an absolute minimum of pollutant emissions for the shooter and the possibility of forensic analysis.

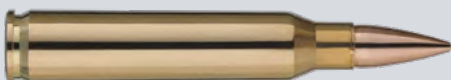
9x19 NATO BALL
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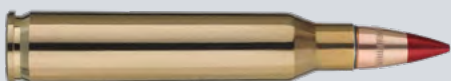
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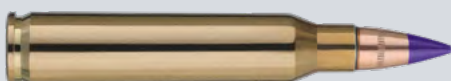
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5.56x45 NATO TRACER
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5.56x45 NATO IR-TRACER
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5.56x45 FMJ (M193)
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5.56x45 BLANK
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7.62x51 UDD URBAN
DRONE DEFENCE LIGHT
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7.62x51 UDD URBAN
DRONE DEFENCE HEAVY
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7.62x51 NATO BALL (M80)
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7.62x51 NATO TRACER (M62)
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7.62x51 NATO IR-TRACER
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7.62x51 BLANK
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12.7x99 LF BALL SX
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12.7x99 LF TRACER SX
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12.7x99 LF IR-TRACER SX
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12.7x99 HC SX
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12.7x99 SOLID SX
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12.7x99 SOLID TRACER SX
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12.7x99 SR SOLID IR-TRACER SX
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A photograph of two soldiers in a trench in a forest. The soldier on the left is looking through binoculars, and the soldier on the right is holding a rifle. The scene is dimly lit, suggesting a night or low-light environment. A large, semi-transparent white triangle is overlaid on the right side of the image.

NT Line always reliable - everywhere

We are proud to present our product range fully meeting NATO requirements and covering the calibres 9x19, 5.56x45, 7.62x51 and 12.7x99. A range that offers a wealth of deployment, simulation and training options with a wide variety of weapon systems.

9mmx19 DM41
SOFT CORE
page 26



9mmx19 DM51A1
SOFT CORE
page 26



4.6mmx30 DM21
SOFT CORE
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4.6mmx30 DM31
HARD CORE
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4.6mmx30 DM41, DEA
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4.6mmx30 DM18
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5.56mmx45 DM11A1
DOUBLE CORE
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5.56mmx45 DM21A1
SOFT CORE TRACER
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5.56mmx45 DM41A1
SOFT CORE
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5.56mmx45 DM18A1
BLANK
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7.62mmx51 DM111A2
SOFT CORE
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7.62mmx51 DM21A3
SOFT CORE TRACER
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7.62mmx51 DM68A1
BLANK
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12.7mmx99 DM91A1
SOFT CORE
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12.7mmx99 DM101A1
SOFT CORE TRACER
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12.7mmx99 DM31A1
HARD CORE
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18.2mmx70 DM209
ZINC PELLET ENTRY I
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18.2mmx70 DM219
ZINC PELLET ENTRY II
page 85



DM Line –

A reliable partner of the German Armed Forces since 1959.

The history of our DM Line in simulation, mission and German Armed Forces training goes back a long way. The basic requirements: maximum reliability even under the most diverse climatic conditions and consistent reduction of pollutants (SINTOX® ignition technology, REACH-compliant propellant powder). Only products that achieve the highest manufacturing standards make it through our partner's demanding qualification process and are introduced as a „German model“ for widespread use in the troops – which includes snipers, bodyguards and other special forces.

9x19 LF FMJ SX
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9x19 LF FMJ SXF
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4.6x30 SUBSONIC SX
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4.6x30 ACTION SX
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4.6x30 FMJ SX
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4.6x30 AP SX
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4.6x30 TRAINING SX
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4.6x30 BLANK SX
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4.6x30
SEMI FRANGIBLE SX
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5.45x39 STEEL CORE
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5.56x45
LF STYX ACTION SX
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5.56x45 LF TRAINING SX
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12/70
ROTTWEIL MAGNUM ENTRY I
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12/70
ROTTWEIL MAGNUM ENTRY II
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NEW

NEW

DAG Line – our line of tradition

The DAG Line, which bears the original company name of Dynamite Nobel AG, is recognised worldwide as an extremely reliable ammunition series of the highest quality. The cartridges are used daily for training and/or operations by law enforcement agencies as well as special forces and cover five calibres with a wide variety of bullets and loads: 9x19, 4.6x30, 5.56x45, 5.45x39 and 12/70. All pistol and centrefire rounds are equipped with the heavy-metal-free and low-pollutant SINTOX® primer, while shotgun ammunition products and the 5.45x39 products feature the corrosion-free SINOXID® ignition system.

9x19 ACTION 4 SXF

Bullet	Solid 6.1 g / 94 gr
Bullet material	Brass / Plastic
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 10.1 g
Net. explosive weight	approx. 0.6 g
Term of Reference	TR 2009**
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 2700 bar (21°C)
Velocity v ₃ / Energy	420 m/s (1378 fps) 538J / 100 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 cart. 100 mm barrel
Max. energy transfer*	≤60 J/cm / 100 mm barrel
Penetration at 5 m	min. 4x 1.0 mm
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box/ approx. 11.8 kg

9x19 ACTION 5 SXF

Bullet	Solid 6.1 g / 94 gr
Bullet material	Brass / Plastic
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 10.1 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical terms of delivery
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2700 bar (21°C)
Velocity v ₃ / Energy	420 m/s (1378 fps) 540 J / 100 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 cart. 100 mm barrel
Max. energy transfer *	≤ 75 J/cm / 100 mm barrel
Packaging / Weight	50pcs. Cardboard Box / approx. 0.6 kg 1000pcs. Cardboard Box/ approx. 11.3 kg

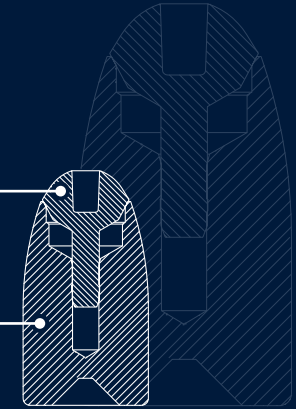
9x19 ACTION 4 SXF

6.1 g / 94 gr



Plastic starter cap
(X-ray detectable)

Monolithic bullet
made of turned brass



The 9x19 ACTION 4 SXF is a cartridge specially designed for police and official use. It was developed and fully certified in accordance with the technical guideline for operational ammunition 2009. It is lead-free and with low-emission. This is ensured by a deformation bullet made of turned brass with a mass of 6.1 g.

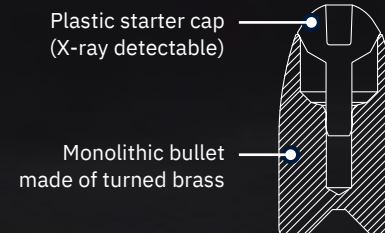
Particular features such as the special bullet geometry and the attached plastic starter cap enable controlled deformation and energy transfer to the target (max. 60 J/cm). Another special feature of the product is the X-ray detectable additive in the plastic cap, which facilitates its location during wound care.



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9x19 ACTION 5 SXF

6.1 g / 94 gr



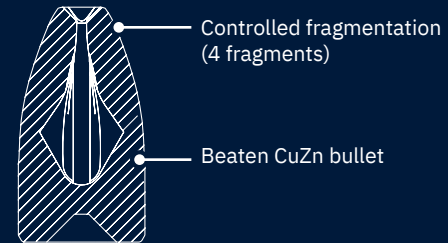
The 9x19 ACTION 5 SXF cartridge is an upgrade of the 9x19 ACTION 4 SXF in regard to energy transfer to the target. It is a tactical cartridge that was developed specifically for handguns used by law enforcement or the police. The special bullet geometry leads to a maximum energy transfer of 75 J/cm, which equates to a 25% increase in energy transfer to the target. The lead-free deformation bullet is equipped with an attached plastic starter cap that ensures consistent deformation response even on covered soft targets.



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9x19 ACTION SE GEN. II SXF

6.9 g / 106 gr



The new 9x19 ACTION SE Gen. II SXF is the next evolutionary step of the ACTION SE SXF for optimum performance from modern sub-machine guns in order to meet the high demands placed on a powerful medium-range weapon.

A special bullet geometry makes allows overcoming modern protective body armour class SK-1 (V-PAM-3) at distances of up to 75m effectively. Furthermore, a mass-stable design with its four pre-fragmented vanes guarantees a safe and effective effect against covered and uncovered soft targets.

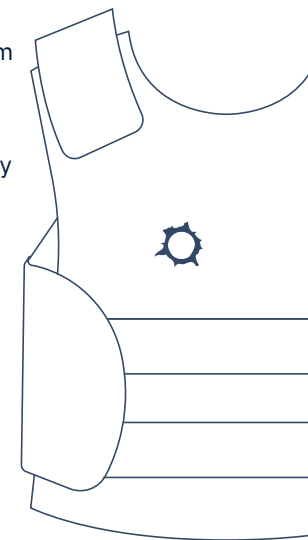
Thanks to its special tuning paired with its performance parameters, the ACTION SE Gen. II SXF is suitable for use from both short and long guns in a wide variety of scenarios and thus offers flexible application options.



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- High penetration performance against SK-1 V-PAM-3 protective waistcoats at up to 75m
- Developed for the latest generation of sub-machine guns (300mm barrel length)
- Increased operational range of up to 100m
- Effective against soft and hard targets
- Minimal pollutant emissions thanks to lead-free and SINTOX® priming technology



NEW: 9x19 ACTION SE GEN II SXF

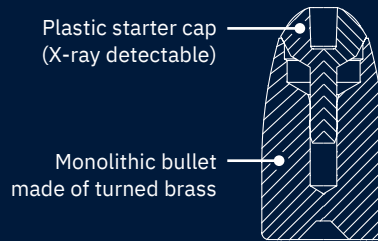
Bullet	Solid 6.9 g / 106 gr
Bullet material	Brass
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.0 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical terms of delivery
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 2700 bar (21°C)
Velocity v ₁₀ / Energy	460 m/s (1509 fps) 730 J / 300 mm barrel
Accuracy at 50 m	s _a ≤ 70 mm, 3x10 cartridges 300 mm barrel
Max. energy transfer*	≥ 60 J/cm / 100 mm barrel
Penetration at 75 m	SK-1 V-PAM-3
Packaging / Weight	50pcs. Cardboard Box / approx. 0.63 kg 1000pcs. Cardboard Box/approx.12.6 kg

* in 20% Gelatine



9x19 ACTION 6 SXF

6.1 g / 94 gr



The ACTION 6 SXF is a tactical cartridge for law enforcement that was adapted and tested according to the C.I.P. requirements. It can be used as a tactical or training cartridge and is optimised for use in full-size duty pistols. It also offers significantly reduced collateral risk during mission scenarios.

The bullet geometry was optimised in line with the technical requirements of the C.I.P. This means that reliable deformation is guaranteed due to the lower gas pressure compared to TR 2009, even for covered targets. It also passes all the requirements of the FBI test for handgun ammunition (10% gelatine).

9x19 ACTION 6 SXF

Bullet	Solid 6.1 g / 94 gr
Bullet material	Brass / Plastic
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 10.1 g
Net. explosive weight	approx. 0.5 g
Term of Reference	C.I.P.
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2350 bar (21°C)
Velocity v ₃ / Energy	420 m/s (1378 fps) 538 J / 150 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm. 30 cart. 150 mm barrel
Max. energy transfer *	≤50 J/cm / 150 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box/ approx. 11.8 kg

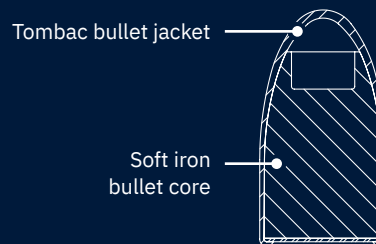


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* in 20% gelatine

9x19 ACTION PI SXF

6.0 g / 93 gr



NEW

The ACTION PI SXF was specially developed and optimised for use in indoor shooting ranges. Due to a soft iron core in combination with the classic full metal jacket design, both - costs as well as pollutant emissions - are reduced.

The cartridge is completely free of heavy metals, which minimises emissions to a minimum. Additionally, the optimised bullet design protects bullet traps, projection mats and comparable bullet trap materials, which are specially adapted to the use of full metal jacket bullets. The ACTION PI is equally suitable for short and long guns.



NEW: 9x19 ACTION PI SXF

Bullet	Full Metal Jacket 6.0 g / 93 gr
Bullet material	Tombac / Soft iron
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 11.0 g
Net. explosive weight	approx. 0.5 g

Term of Reference	TR 2009
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2,700 bar (21°C)
Velocity V_3 / Energy	415 m/s (1427 fps) 525J / 100 mm barrel
Accuracy at 25 m	$s_a \leq 25$ mm, 30 cartridges 100 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box/ approx. 11.7kg

Item No. 243 38 53





9x19 GREEN RANGE SXF

Bullet	Solid 6.1 g / 94 gr
Bullet material	Brass
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 10.1 g
Net. explosive weight	approx. 0.5 g
Term of Reference	TR 2009*
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2700 bar (21°C)
Velocity v ₃ / Energy	415 m/s (1362 fps) 525 J / 100 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 cart. 100 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box / approx. 11.8 kg

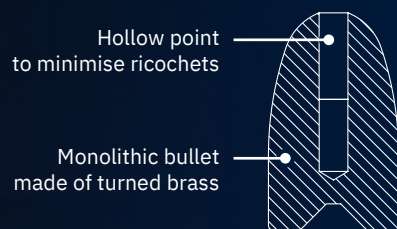
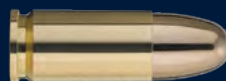
9x19 GREEN RANGE S SXF

Bullet	Solid 6.1 g / 94 gr
Bullet material	Brass
Primer / Propellant powder	SINTOX Forensis® Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 10.1 g
Net. explosive weight	approx. 0.4 g
Term of Reference	TR 2009*
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2700 bar (21°C)
Velocity v ₃ / Energy	415 m/s (1362 fps) 525 J / 100 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 cart. 100 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box / approx. 11.8 kg

9x19 GREEN RANGE SXF



6.1 g / 94 gr



The 9x19 GREEN RANGE SXF is a training cartridge for use by law enforcement. The lead-free and low-emission training cartridge largely fulfils the requirements of TR 2009.

The deformation bullet is turned from solid brass and has a weight of 6.1 g. It also describes the same trajectory as the ACTION 4 SXF and ACTION 5 SXF tactical cartridges. The special bullet geometry significantly reduces the risk of ricochets. In addition, the cartridge's excellent reliability makes it suitable for use with fully automatic sub-machine guns.

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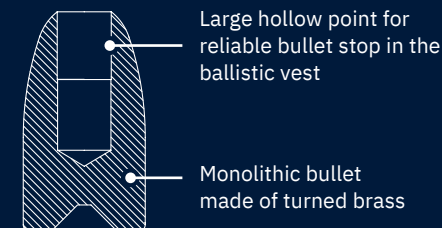
9x19 GREEN RANGE S SXF



6.1 g / 94 gr



The GREEN RANGE S SXF is a fully TR2009-certified training cartridge for use by law enforcement, which was specially engineered for police training requirements. The deformation bullet is turned from solid brass and has a weight of 6.1 g. It also describes the same trajectory as the ACTION 4 SXF and ACTION 5 SXF tactical cartridges. The special bullet geometry significantly reduces the risk of ricochets. The 9x19 GREEN RANGE S is lead free and has minimised emissions, which makes it the ideal product for use in indoor shooting ranges. In addition, the cartridge's excellent reliability makes it suitable for use with fully automatic sub-machine guns.

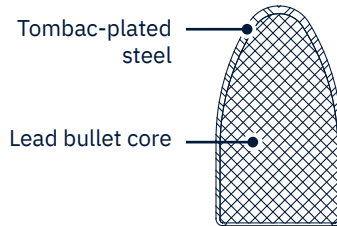


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* Only intended for weapons that were tested according to TR 2009.

9x19 NATO BALL

8.0 g / 124 gr



The 9x19 NATO Ball is a tactical and training cartridge for military use. The cartridge is fully compatible with both pistols and sub-machine guns. It uses a heavy full metal jacket bullet with a lead core and weighs 8.0 g. This bullet design fully complies with the requirements of the Hague Convention respecting the Laws and Customs of War on Land (Annex E, Article 23). A SINOXID® primer is used in the load, which guarantees reliable ignition even under the most adverse conditions. The cartridge meets the NATO standards according to the requirements of AEP-97.

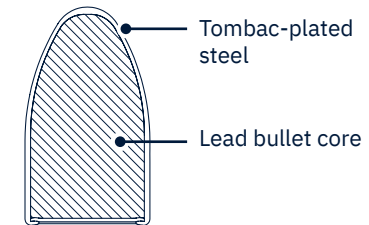
Item No. 242 50 05

9x19 NATO BALL SX

8.0 g / 124 gr



The 9x19 NATO Ball SX is an operational and training cartridge for military users. It is equally suitable for use in pistols and sub-machine guns without restriction. The fully encapsulated bullet used is an 8.0 g full metal jacket bullet with a lead core. The use of the fully encapsulated bullet and the heavy metal-free SINTOX® primer reduces the shooter's exposure to harmful substances to an absolute minimum. It can therefore be used in indoor shooting ranges without any restrictions.



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9x19 NATO BALL

Bullet	Full metal jacket 8.0 g / 124 gr
Bullet material	Lead / Tombac-plated steel
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 13 g
Net. explosive weight	approx. 0.4 g
Term of Reference	MC-MOPI (AOP-4090)
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 2850 bar (21°C)
Velocity v ₁₀ / Energy	385 m/s (1263 fps) 593 J / 200 mm barrel
Accuracy at 50 m	s _H ; s _V ≤ 200 mm, 30 cart. 200 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.65 kg 1500pcs. M2A1Metal box/ approx. 22.5 kg

9x19 NATO BALL SX

Bullet	Full metal jacket Soft core 8.0 g / 124 gr
Bullet material	Lead / Tombac / Steel (coated)
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.3 g
Net. explosive weight	approx. 0.6 g
Term of Reference	MC-MOPI (AOP-4090)
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 2800 bar (21°C)
Velocity v ₁₀ / Energy	385 m/s (1263 fps) 593 J / 200 mm barrel
Accuracy at 50 m	s _H , s _V ≤ 200 mm, 30 cart. 200 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.65 kg 1500pcs. M2A1Metal box/ approx. 22.5 kg

* in 20% Gelatine



9x19 LF FMJ SXF

6.0 g / 93 gr



The 9x19 LF FMJ SXF is a lead-free tactical and training cartridge for law enforcement and military users. The cartridge is fully compatible with pistols and sub-machine guns that have been tested with the increased gas pressure specified in the technical guideline for 9 mm tactical ammunition. It has a classic full metal jacket bullet with a zinc core.

The combination of lead-free bullet, REACH-compliant propellant powder and spiked heavy metal-free primer reduces the shooter's exposure to potentially harmful emissions to an absolute minimum. The SINTOX® Forensis primer also enables forensic analyses.

Item No. 242 98 70

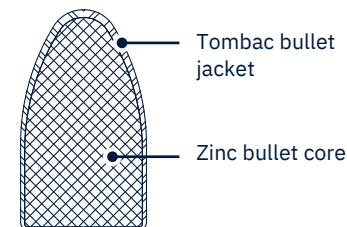
Bullet cross section see also 9x19 LF FMJ SX

9x19 LF FMJ SX

6.0 g / 93 gr



The 9x19 LF FMJ SX is a lead-free tactical and training cartridge for law enforcement and military users. The cartridge is fully compatible with pistols and sub-machine guns proofed according to C.I.P. It has a classic full metal jacket bullet with a zinc core. The combination of lead-free bullet, REACH-compliant propellant powder and heavy metal-free primer reduces the shooter's exposure to potentially harmful emissions to an absolute minimum.



Item No. 242 29 75



9x19 LF FMJ SXF

Bullet	Full metal jacket 6.0 g / 93 gr
Bullet material	Zinc / Tombak
Primer / Propellant powder	SINTOX Forensis® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12 g
Net. explosive weight	approx. 0.5 g
Term of Reference	Technical terms of delivery
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2350 bar (21°C)
Velocity v ₃ / Energy	435 m/s (1427 fps) 568J / 150 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 Cart. / 150 mm barrel
Max. energy transfer *	≤50 J/cm / 100 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box / approx. 11.5 kg

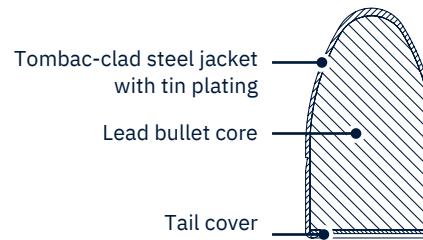
9x19 lf FMJ SX

Bullet	Full metal jacket 6.0 g / 93 gr
Bullet material	Zinc / Tombac
Primer / Propellant powder	SINTOX Forensis® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12 g
Net. explosive weight	approx. 0.5 g
Term of Reference	C.I.P.
Temperature Range	-20°C to +52°C
Mean chamber pressure	max. 2350 bar (21°C)
Velocity v ₃ / Energy	435 m/s (1427 fps) 568 J / 150 mm barrel
Accuracy at 25 m	s _a ≤ 25 mm, 30 cart. / 150 mm barrel
Max. energy transfer *	≤50 J/cm / 150 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.6 kg 1000pcs. Cardboard Box / approx. 11.5 kg

* in 20% Gelatine

9mmx19 DM41

8.0 g / 124 gr



The 9x19 DM41 is a tactical and training cartridge for law enforcement users. It was engineered and tested specifically for the Federal Ministry of the Interior and is fully compatible with both pistols and sub-machine guns. It uses a completely encapsulated full metal jacket bullet with a lead core and weighs 8.0 g. Emissions are reduced to a minimum in conjunction with the SINTOX® primer, which makes the cartridge suitable for use in enclosed spaces.



Item No. 212 58 97

9x19 DM41

Bullet	Encapsulated Full metal jacket Soft core 8.0 g / 124 gr
Bullet material	Lead / Steel (tombac-and tin-plated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.2 g
Net. explosive weight	approx. 0.5 g
Term of Reference	Technical terms of delivery
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 2800 bar (21°C)
Velocity v_{10} / Energy	min. 355 m/s (1164 fps) 504 J / 200 mm barrel
Accuracy at 50 m	$s_a \leq 25$ mm, 30 cart. 200 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.65 kg 1000pcs. Cardboard box /approx. 13.6 kg

9x19 DM51A1

Bullet	Full metal jacket Soft core 8.0 g / 124 gr
Bullet material	Lead / Steel (tombac-and tin-plated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.2 g
Net. explosive weight	approx. 0.5 g
Term of Reference	Technical terms of delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 2850 bar (21°C)
Velocity v_{10} / Energy	370 m/s (1214 fps) 548 J / 200 mm barrel
Accuracy at 50 m	$s_a \leq 25$ mm, 30 cart. 200 mm barrel
Packaging / Weight	50pcs. Folding Box / approx. 0.65 kg 2500pcs. Wooden crate/approx. 37.5kg

9mmx19 DM51A1

8.0 g / 124 gr



The DM51A1 is the current tactical and training cartridge used by the German Armed Forces in 9x19 calibre. It was engineered and qualified to meet the high technical requirements of the Bundeswehr.

The cartridge is now widely used by the German Armed Forces and is appreciated for its excellent reliability and quality. A fully encapsulated full metal jacket bullet is used for the load. The shooter's exposure to harmful substances is reduced to a minimum in combination with the patented heavy metal-free SINTOX® primer, which makes the cartridge completely suitable for use in indoor shooting ranges. The DM51A1 cartridge is NATO-qualified according to the requirements of AEP-97.

Item No. 231 89 85



4.6x30 – small, precise, powerful.

The 4.6x30 cartridge was developed by the company more than 20 years ago in close collaboration with the German weapons manufacturer Heckler & Koch. As a result, RWS has a well-established expertise, which is reflected in all our high-quality products of this calibre. Today, the portfolio comprises products in the calibre 4.6x30 for use in special police units such as personal protection, as well as loads for infantry use in combat support troops or special units.

The system is light and compact enough to be worn permanently on the body, as well as accurate and powerful enough to be effective against unprotected and protected targets at slightly longer ranges.

4.6
30

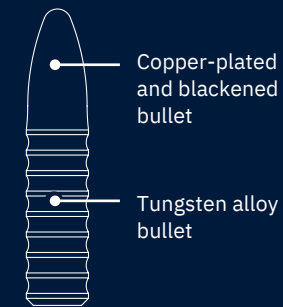
4.6x30 SUBSONIC SX

5.0 g / 77 gr



The 4.6x30 SUBSONIC SX is designed for special units in the law enforcement and military sectors. It carries a 5.0 g lead-free monolithic bullet with a load that enables safe operation in the subsonic range. The double-base nitrocellulose powder is specially adapted to the requirements of a subsonic cartridge. Noise reduction is maximised in combination with the suppressed Heckler & Koch MP7 sub-machine gun.

Despite its subsonic velocity, the cartridge is highly effective against soft targets and soft targets with body armour: NATO CRISAT targets are reliably pierced at a range of up to 50 m.



4.6x30 SUBSONIC SX

Bullet	Solid 5.0 g / 77 gr	Term of Reference	Technical Terms of Delivery
Bullet material	Tungsten alloy (coated)	Temperature Range	-20°C to +52°C
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Mean chamber pressure	max. 4000 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	290 m/s (951 fps) / 210 J / MP7 (with silencer)
Cartridge weight	approx. 10.1 g	Accuracy at 50 m	$s_d \leq 35$ mm, 30 cart. 180 mm barrel
Net. explosive weight	approx. 0.6 g	Penetration at 50 m	NATO CRISAT
		Packaging / Weight	40pcs. Folding Box / approx. 0.4 kg 1760pcs. M2A1 Metal Box / approx. 20 kg

Item No. 231 89 29

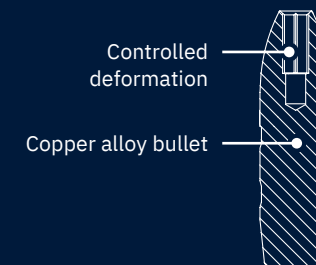
4.6x30 ACTION SX	4,6x30
Bullet	Solid 2.0 g / 31 gr
Bullet material	Tombac
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	678 m/s (2224 fps) / 460 J / 180 mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180 mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs. M2A1 Metal Box/ approx. 16.5 kg

4.6x30 FMJ SX

Bullet	Full Metal Jacket 2.6 g / 40 gr
Bullet material	Lead / Steel (tombac-plated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.9 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	612 m/s (2008 fps) / 487 J / 180 mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180 mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs M2A1 Metal Box/ approx. 17.6kg

4.6x30 ACTION SX

2.0 g / 31 gr



The 4.6x30 is a cartridge that is characterised by its high effectiveness against covered and uncovered soft targets due to a lead-free copper alloy. The lead-free tombac bullet's controlled deformation enables high energy transfer to the target and hence minimises the risk of collateral damage. The cartridge is therefore ideally suited for use by the police and other law enforcement agencies.

It is also suitable for use in training in enclosed spaces or indoor shooting ranges, as the load is lead-free and with low-emission. The cartridge is specially adapted to the requirements of the Heckler & Koch MP7 sub-machine gun.



Item No. 231 67 31



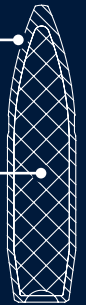
4.6x30 FMJ SX

2.6 g / 40 gr



Bullet jacket
made of tombac-
plated steel

Lead bullet core



The full metal jacket soft core cartridge is the world's first load in 4.6x30 calibre, developed in close cooperation with the German firearms manufacturer Heckler & Koch. It is perfectly engineered for the polygon barrel used in the MP7 A2 personal defence weapon, which ensures flawless functionality, even with fully automatic fire. The cartridge is equally suited to tactical use and training and has a lead core that is encased in a tombac-plated steel jacket. The full metal jacket soft core bullet weighing 2.6 g protects the bullet traps and makes the cartridge highly suitable for use in shooting ranges.



Item No. 231 67 32

4.6x30 AP SX

2.0 g / 31 gr



Hardened steel core,
copper-coated, blackened

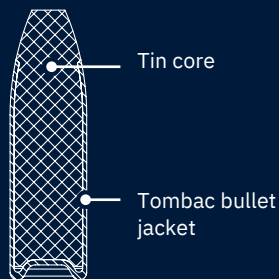
The 4.6x30 AP SX, an operational cartridge for law enforcement and military users, is specifically optimised to penetrate body armour. The lead-free monolithic bullet weighing 2.0 g is highly effective against soft targets and body armour. This enables even the penetration of a NATO CRISAT target, consisting of 20 layers of kevlar and a 1.6 mm thick titanium plate, at a range of 200 m.



Item No. 231 67 33

4.6x30 TRAINING SX

1.7 g / 26 gr



The 4.6x30 TRAINING SX is a lead free training cartridge for law enforcement and military users. The semi-jacketed bullet weighing 1.7g has a tin core encased in a tombac jacket. The exposed projectile core and optimised projectile geometry minimise the risk of ricochets. The cartridge is also ideal for enclosed shooting and training facilities thanks to the combination of SINTOX® primer and REACH-compliant propellant powder.



Item No. 231 76 02

4.6x30 AP SX

Bullet	Solid 2.0 g / 31 gr
Bullet material	Steel (coated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	670 m/s (2198 fps) / 449 J / 180 mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180 mm barrel
Penetration at 200 m	NATO-CRISAT
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs. M2A1 Metal Box/ approx. 16.5 kg

4.6x30 TRAINING SX

Bullet	Jacket soft core 1.7 g / 26 gr
Bullet material	Tin / Tombac
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0,6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	≤ 4000 bar (21°C)
Velocity v_{10} / Energy	630 m/s (2066 fps) / 460 J / 180 mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180 mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs. M2A1 Metal Box/ approx. 15.6kg

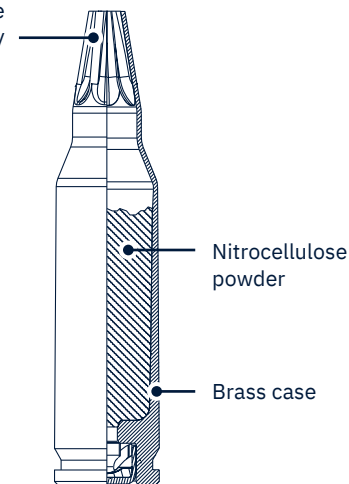
4.6x30 BLANK SX



Bullet simulation for safe firearm functionality

4.6x30 BLANK SX

Primer / Propellant powder	SINTOX® / Single based Nitrcelluose powder
Case material	Brass
Cartridge weight	approx. 4.5 g
Net. explosive weight	approx. 0.3 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 4000 bar (21°C)
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs. M2A1 Metal Box/ approx. 12.7kg



The 4.6x30 BLANK SX manoeuvre cartridge is designed for training and simulation scenarios in law enforcement and for military users.

It was specially engineered for the Heckler & Koch MP7 personal defence weapon to enable flawless functionality. A suitable manoeuvre cartridge device is required to ensure that the firearm functions properly. The manoeuvre cartridge is also completely suitable for indoor shooting ranges or training facilities.



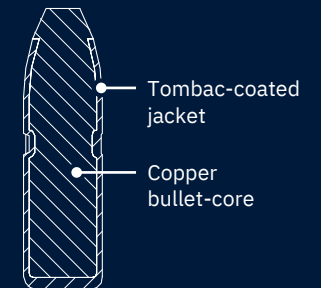
Item No. 231 75 52

4.6x30 SEMI FRANGIBLE SX

1.7 g / 26 gr



The 4.6x30 Semi Frangible SX is a lead-free training ammunition for law enforcement and military users. The semi-frangible bullet with 1.7 g bullet mass consists of a sintered bullet core (copper), which is covered by a tombac jacket, similar to a semi-jacketed bullet. The exposed bullet core and the optimized bullet geometry reduce the risk of ricochets to a minimum, as the bullet disintegrates almost completely on impact with hard targets. Due to the combination with the SINTOX® primer, the cartridge is also ideal for use in indoor shooting and training ranges.



4.6x30 SEMI FRANGIBLE SX

Bullet	Soft core 1.7 g / 26 gr
Bullet material	Pressed copper bullet-core (sintered) / Tombac (coated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0.6 g

Item No. 231 81 86

Term of Reference	Technical Terms of Delivery
Temperature Range	-40°C to +40°C
Mean chamber pressure	≤ 4000 bar (21°C)
Velocity v_{10} / Energy	630 m/s (2066 fps) / 460 J / 180 mm barrel
Accuracy at 50 m	$s_a \leq 40$ mm, 30 cart. 180 mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 1920pcs. M2A1 Metal Box/ approx. 15.6kg

4.6mmx30 DM21 SOFT CORE

Bullet	Full metal jacket 2.6 g / 40 gr
Bullet material	Lead, Steel (tombac-plated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.9 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	612 m/s (2008 fps) / 487 J / 180 mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. 180 mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 3200pcs. Wooden crate / approx. 30 kg

4.6mmx30 DM31 HARD CORE

Bullet	Solid 2.0 g / 31 gr
Bullet material	Steel (hardened, coated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	658 m/s (2195 fps) 462 J / 180mm barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180mm barrel
Penetration at 200 m	NATO CRISAT
Packaging / Weight	40pcs. Folding Box / approx. 0,3 kg 1800pcs. M2A1 Metal Box/approx. 15,7kg

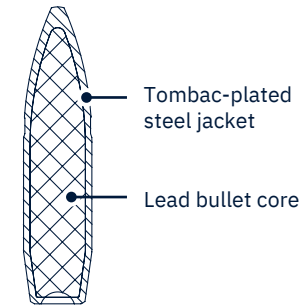


4.6mmx30 DM21 SOFT CORE

2.6 g / 40 gr



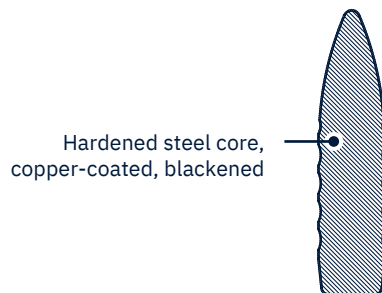
The full metal jacket soft core cartridge is the world's first load in 4.6x30 calibre. It was developed by RWS GmbH in close cooperation with the German firearms manufacturer Heckler & Koch. It is perfectly engineered for the polygon barrel used in the manufacturer's MP7 A2 personal defence weapon to ensure flawless functionality, even with fully automatic fire. The cartridge is equally suited to tactical use and training. Its bullet has a lead core that is encased in a tombac-plated steel jacket.



Item No. 231 58 32

4.6mmx30 DM31 HARD CORE

2.0 g / 31 gr



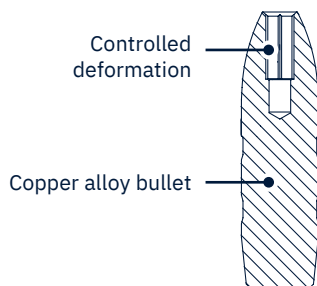
The DM31 hard-core ammunition was specially developed for penetrating modern body armour. It is used multi-functionally by the German armed forces in the MP-7 sub-machine gun. The optimised monolithic projectile made of hardened steel, which weighs 2.0g, is capable of effectively penetrating a NATO CRISAT target at distances of up to 200 metres. This target consists of 20 layers of kevlar combined with a 1.6 mm thick titanium plate.

Item No. 231 67 21



4.6mmx30 DM41 DEA

2.0 g / 31 gr



The low-emission tactical cartridge for special units of the German Armed Forces. The cartridge is specially adapted to the requirements of the Heckler & Koch MP7 A2 sub-machine gun. Its lead-free bullet is highly effective against covered and uncovered soft targets. The bullet's controlled deformation enables high energy transfer to the target and minimises the risk of collateral damage at the same time. The cartridge is therefore ideally suited for tactical scenarios.

Item No. 231 94 50 // Ballistic data page 91

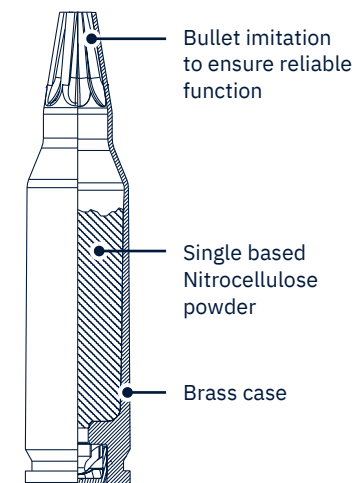


4.6mmx30 DM18 BLANK



The DM18 is currently the blank cartridge used by the German Armed Forces in 4.6x30 calibre. It was engineered and qualified to meet the highly technical requirements of the German Armed Forces. The cartridge is used across the board by all German military police corps and is explicitly designed for the Heckler & Koch MP7 A2 personal defence weapon to guarantee safe firearm functionality.

A suitable blank cartridge device is required to ensure that the MP7 functions properly. The blank cartridge is also completely suitable for indoor shooting ranges or training facilities.



Item No. 231 75 53

4.6mmx30 DM41 DEA

Bullet	Solid 2.0 g / 31 gr
Bullet material	Tombac
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 6.3 g
Net. explosive weight	approx. 0.6 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 4000 bar (21°C)
Velocity v_{10} / Energy	678 m/s (2224 fps) 460 J / 180mm Barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 cart. / 180mm barrel
Packaging / Weight	40pcs. Folding Box / approx. 0,3 kg 1800pcs. M2A1 Metal Box/ approx. 15,7kg

4.6mmx30 DM18 BLANK

Primer / Propellant powder	SINTOX® / Single based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 4.5g
Net. explosive weight	approx. 0.3 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 4000 bar (21°C)
Packaging / Weight	40pcs. Folding Box / approx. 0.3 kg 3200pcs. Wooden crate / approx. 24 kg

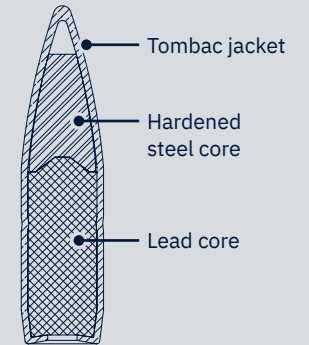


NEW



5.45x39 STEEL CORE

4.0 g / 62 gr



The 5.45x39 mm double-core cartridge is designed for firearms of the AK-74 family. The bullet has a hardened steel core at the front to increase its penetrating power against hard targets and a lead core at the rear for high effectiveness against soft target. The total bullet weight is 4.0 g.

The cartridge is completely protected against environmental influences; in combination with SINOXID® technology, this ensures reliable weapon function even under extreme climatic conditions.



5.45x39 STEEL CORE

Bullet	Full metal jacket 4,0 g / 62 gr
Bullet material	Lead / Tombac-plated steel
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.0 g
Net. explosive weight	approx. 0.4 g

Term of Reference	Technical Terms of Delivery
Temperature Range	-30°C to +52°C
Mean chamber pressure	max. 3350 bar (21°C)
Velocity v_0 / Energy	835 m/s (2740 fps) 1394 J / 410 mm Prüflauf
Accuracy at 100 m	R50 ≤ 30 mm, 30 cart. 420 mm barrel
Penetration at 100 m	8mm
Packaging / Weight	1000pcs. M2A1 Metal Box / approx. 11,2 kg





Proven
worldwide
5.56x45

Used worldwide, appreciated worldwide

The 5.56x45 calibre ammunition is suitable for assault rifles and light machine guns and offers above-average precision and reliability. A large number of different armed forces rely on its performance day in, day out.

RWS GmbH is particularly proud of the variety of solutions in this calibre that we can offer you to fulfil your mission.



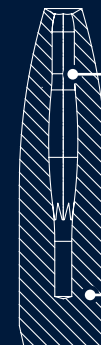
5.56x45 LF STYX ACTION SX

3.7 g / 57 gr



The 5.56x45 LF Styx SX cartridge is designed for special situations. It is characterised by its excellent deformation in a wide velocity range and therefore guarantees high energy transfer in the target as well as a low background risk. The LF STYX SX is also safe and reliable at longer ranges.

The lead-free copper bullet deforms into six flags on impact, which remain fixed to the bullet body and thus facilitate wound treatment. Suitable for semi-automatic and fully automatic weapons and for different barrel lengths without restrictions.



Specially engineered inner geometry for a controlled deformation response

Monolithic copper bullet



5.56x45 LF STYX ACTION

Bullet	Solid 3.7 g / 57 gr
Bullet material	Copper
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.3 g
Net. explosive weight	approx. 1.8 g

Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	920 m/s (3018 fps) / 1566 J / 508 mm barrel
Accuracy at 100 m	$s_a \leq 22$ mm, 30 cart. 480 mm Gun-barrel G36A4
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 900pcs. Cardboard Box / approx. 12 kg

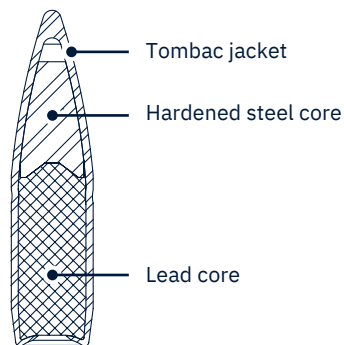
Item No. 242 44 60



Shot at gelatine block 20% behind 6mm laminated glass pane

5.56x45 NATO BALL

4.0 g / 62 gr (SS109)



The 5.56x45 NATO Ball is the standard tactical military cartridge for the NATO alliance and its partners. It is engineered for flawless functionality in all NATO-approved standard firearms.

The bullet design corresponds to the SS109 and M855 bullet types and consists of two bullet cores with a tail cover, with a hardened steel front core and a lead rear core. SINOXID® primer technology is used for the load to guarantee reliable ignition even under the most adverse conditions. A REACH-compliant nitrocellulose powder (two-base) is used as the propellant, which enables effective use of the cartridge in a temperature range from -54°C to +52°C. It is also waterproof and fully compliant with AEP-97 (M-CMOPI).



Item No. 242 24 69

5.56x45 NATO BALL (SS109)

Bullet	Double-core 4.0 g / 62 gr (SS109)
Bullet material	Lead / Steel (hardened) / Tombac
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12 g
Net. explosive weight	approx. 1.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	920 m/s (3018 fps) / 1566 J / 508 mm barrel
Accuracy at 300 m	$s_v s_H \leq 100$ mm, 30 cart. 508 mm barrel
Penetration at 570 m	3.5 mm (S235JR) / +0.5mm Aluminium, 508 mm Barrel
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 870pcs. M2A1 Metal Box/ approx. 13.9 kg

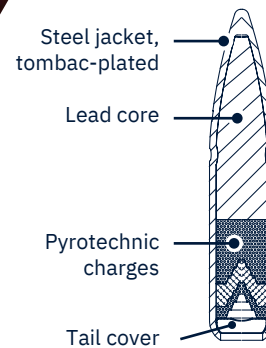
5.56x45 NATO TRACER

Bullet	Tracer 4.1 g / 63 gr
Bullet material	Lead / Steel (tombac-plated) Pyrotechnic charge
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.2 g
Net. explosive weight	approx. 2.1 g
Term of Reference	MCMOPI / AOP 4172
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	885 m/s (2904 fps) 1606 J / 508 mm barrel
Accuracy at 300 m	$s_v s_H \leq 160$ mm, 30 cart. 508 mm barrel
Tracer visibility	13 m to 140 m / Colt M16A2
Minimum tracer distance	≥ 600 m / Colt M16A2
Tracer colour	Red
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 870pcs. M2A1 Metal box / approx. 13.8 kg



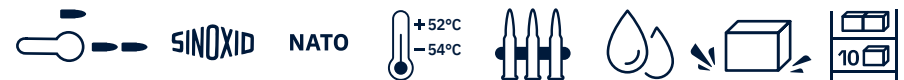
5.56x45 NATO TRACER

4.1 g / 63 gr



The 5.56x45 NATO Tracer is the standard tactical military tracer cartridge for the NATO alliance and its partners. Its compatibility with all NATO firearms is therefore guaranteed. Accordingly, the cartridge can be used for mission scenarios and in training.

The bullet itself consists of several components: jacket, lead core, pyrotechnic charges and a cap. It has a dark tracer that conceals the shooter's position. The visible tracer begins at a range of 13 m to 140 m and illuminates up to a distance of at least 600 m. The cartridge is suitable for use in the most adverse environments and under the harshest climatic conditions in a temperature range from -54°C to +52°C. It is also fully compliant with AEP-97 (M-CMOPI).



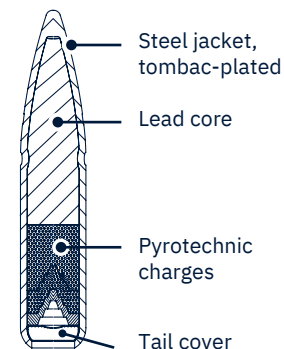
Item No. 242 29 30

5.56x45 NATO IR TRACER

4.0 g / 62 gr



The 5.56x45 NATO IR Tracer has a special tracer that can only be observed with night vision devices. It is tuned so that the shooter can follow the tracer without being dazzled. The shooter keeps the target in view. The NATO IR Tracer is a tactical instrument, especially designed for the use at night. For the shooter, the tracer burns from the muzzle up to a distance of $\geq 600\text{m}$. When observing from the side, there is a distance between the muzzle and the infrared tracer that is not visible. This means that the firing position cannot be localised by lateral observation.



5.56X45 NATO IR TRACER

Bullet	Tracer 4.0 g / 62 gr
Bullet material	Lead / Steel (tombac-plated) Pyrotechnic charge
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.2 g
Net. explosive weight	approx. 2.1 g

Term of Reference	MCMOPI / AOP 4172
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	915 m/s (3002 fps) 1674 J / 508 mm barrel
Accuracy at 300 m	$s_V s_H \leq 160$ mm, 508 mm barrel
Minimum tracer distance	600 m / M16A2
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 900pcs. M2A1 Metal box / approx. 13.8 kg

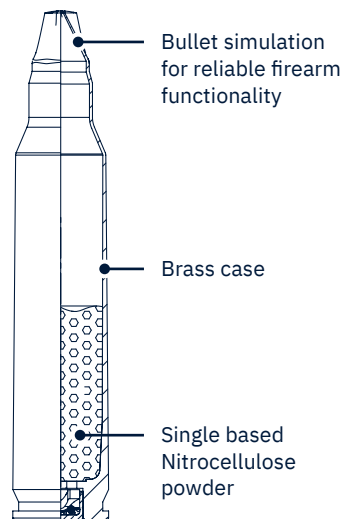


5.56x45 BLANK

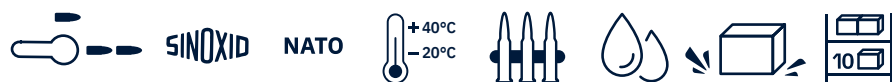


The 5.56x45 Blank is engineered for military training and simulation scenarios. It is intended in particular for use in the area of force-on-force training. It is equally compatible with semi-automatic and fully automatic firearms.

A suitable manoeuvre cartridge device is required to ensure that the firearm functions properly. The heavy metal-free SINTOX® primer and REACH-compliant propellant powder minimise the user's exposure to harmful substances. With the applied sealing in the imitation bullet (lacquer) and the ring joint of the primer cap (ring joint lacquer), it guarantees safe functionality even under the most adverse circumstances such as strong fluctuations in temperature and weather conditions.



Item No. 243 12 21



5.65x45 BLANK

Primer / Propellant powder	SINOXID® / Single-base Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 8.0 g
Net. explosive weight	approx. 1.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 4050 bar (21°C)
Packaging / Weight	30pcs. Folding Box / approx. 0.25 kg 900pcs. M2A1 Metal box/ approx. 10kg)



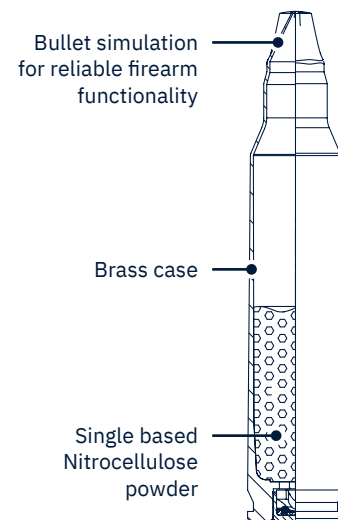
5.56mmx45 DM18A1 BLANK



The 5.56x45 DM18A1 blank cartridge is engineered for training and simulation scenarios in the German Armed Forces. It was specially developed for the G36 assault rifles, but is also compatible with all introduced semi-automatic and fully automatic weapons in 5.56x45 calibre. A suitable blank cartridge device is required to ensure that the firearm functions properly.

The heavy metal-free SINTOX® primer and REACH-compliant propellant powder minimise the user's exposure to harmful substances. With the applied sealing in the imitation bullet (lacquer) and the ring joint of the primer cap (ring joint lacquer), it guarantees safe functionality even under the most adverse circumstances such as strong fluctuations in temperature and weather conditions.

Item No. 242 89 17



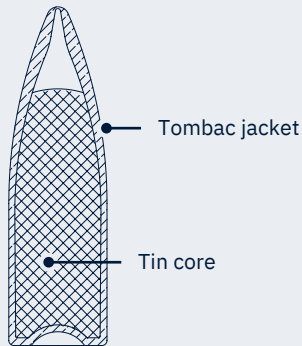
5.56mmx45 DM18 BLANK

Primer / Propellant powder	SINTOX® / Single-base Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 8.0 g
Net. explosive weight	approx. 0.5 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 4050 bar (21°C)
Packaging / Weight	30pcs. Folding Box / approx. 0.25 kg 1800pcs. Wooden crate/approx. 19 kg

NEW

5.56x45 LF TRAINING SX

2.8 g / 43 gr



The 5.56x45 LF TRAINING SX is a lead-free training cartridge specially developed for use by law enforcement agencies and the military. The 2.80 g semi-jacketed bullet has a tin core surrounded by a tombac jacket.

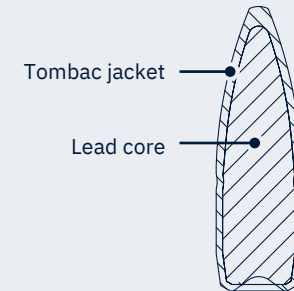
Thanks to the closed jacket at the tip and the optimised bullet shape, the risk of ricochets is significantly minimised. In combination with the environmentally friendly SINTOX primer and a REACH-compliant propellant powder, this ammunition is ideal for use in enclosed shooting ranges and training facilities.



Item No. 243 46 78

5.56x45 FMJ

3.56 g / 55 gr (M193)



The 5.56x45 FMJ M193 is probably the oldest and most widely used load in the 5.56x45 calibre. The cartridge is equally suited to tactical use and training. The 3.56 g full metal jacket soft core bullet significantly reduces wear on shooting ranges and bullet traps in a direct comparison with the SS109 or double core. Its bullet consists of a tombac jacket encasing a lead core.



Item No. 242 59 31

5,56x45 LF TRAINING SX

Bullet	Jacket soft core 2.8 g / 43 gr
Bullet material	Tin / Tombac
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 11.8g
Net. explosive weight	approx. 1.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	940 m/s (3084 fps) 1238 J / 508 mm Barrel
Accuracy at 100 m	$s_a \leq 30$ mm, 30 Cart. 508 mm Barrel
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 900pcs. Cardboard Box / approx. 11.2 kg

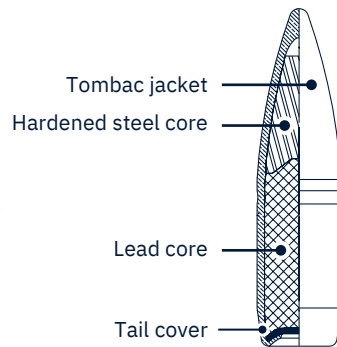
5.56x45 FMJ (M193)

Bullet	Full Metal Jacket 3.56 g / 55 gr
Bullet material	Lead / Tombac
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12 g
Net. explosive weight	approx. 1.8 g
Term of Reference	MCMOPI / AOP 4172
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4050 bar (21°C)
Velocity v_{10} / Energy	990 m/s (3248 fps) 1765 J / 508 mm Barrel (12" twist)
Accuracy at 300m	$s_v s_H \leq 85$ mm, 30 Cart. 508 mm Barrel
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 900pcs. M2A1 Metal box/ approx. 13,8 kg



5.56mmx45 DM11A1 DOUBLE CORE

4.0 g / 62 gr



The DM11A1 cartridge is a low-emission tactical cartridge in 5.56x45 calibre, which is specially engineered for the requirements of the German Armed Forces. The cartridge was engineered according to their technical requirements and is therefore intended for firearms used by the German Armed Forces in this calibre. It is equally compatible with semi-automatic and fully automatic firearms. The bullet design corresponds to the SS109 and M855 bullet types and consists of two bullet cores with a tail cover, with a hardened steel front core and a lead rear core. To reduce emissions, the bullet is fully encapsulated and the cartridge is equipped with a SINTOX® primer.



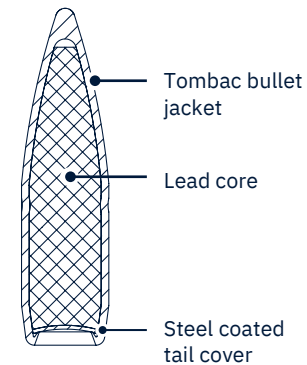
5.56mmx45 DM41A1 SOFT CORE

4.0 g / 62 gr



The 5.56x45 DM41A1 is a cartridge exclusively used by the German Armed Forces. It was engineered for both tactical use and training according to the technical requirements of BAANBw (Federal Office of Bundeswehr, Equipment, Informational Technology and In-Service Support).

The cartridge consists of a fully encapsulated full metal jacket soft core with a bullet weight of 4.0 g. It reduces pollutant emissions to an absolute minimum in combination with the patented heavy metal-free SINTOX® primer.



Item No.231 91 55

Item No.231 91 24

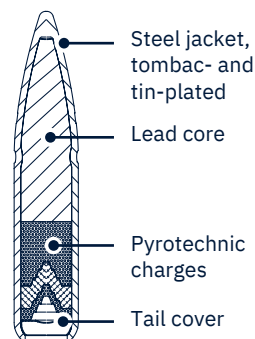
5.56mmx45 DM21A1 SOFT CORE TRACER

4.1 g / 63 gr



The 5.56x45 DM21A1 is the standard tactical cartridge used by the German Armed Forces. Its compatibility with all NATO firearms is guaranteed. The cartridge can be used for mission scenarios and in training.

The bullet itself consists of several components: jacket, lead core, pyrotechnic charges and a cap. It has a dark tracer that conceals the shooter's position. The visible tracer begins at a range of 13 m to 140 m and illuminates up to a distance of at least 600 m. The cartridge is suitable for use in the most adverse environments and under the harshest climatic conditions in a temperature range from -54°C to +63°C. It is also fully compliant with AEP-97 (M-CMOPI).



5.56mmx45 DM21A1

Bullet	Tracer 4.1 g / 63 gr
Bullet material	Lead / Steel (tombac- and tin-plated), Pyrotechnic charge
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.2 g
Net. explosive weight	approx. 2.1 g

Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	> 880 m/s (2887 fps) 1588 J / 508 mm Barrel
Accuracy at 100 m	$s_a \leq 35$ mm, 30 Cart. 508 mm Barrel
Tracer visibility	13 m to 140 m / Heckler & Koch G36
Minimum tracer distance	600 m / Heckler & Koch G36 A4
Tracer colour	Red
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 180pcs. Wooden crate / approx. 29 kg

Item No. 231 89 82

5.56mmx45 DM11A1

Bullet	Double core 4.0 g / 62 gr
Bullet material	Lead/ Steel (hardened) / Tombac
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 11.9 g
Net. explosive weight	approx. 1.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 4050 bar (21°C)
Velocity v_{10} / Energy	>880 m/s (2887 fps) / 1549 J / 508 mm Barrel
Accuracy at 100 m	$s_a \leq 22$ mm, 30 Cart. 508 mm Barrel
Penetration at 570 m	3,5 mm (S235JR) +0.5mm Aluminium, 508 mm Barrel
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 1800pcs. Wooden crate / approx. 29 kg

5.56mmx45 DM41A1

Bullet	Full metal jacket 4.0 g / 62 gr
Bullet material	Lead / Tombac / Steel (coated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 12.3 g
Net. explosive weight	approx. 1.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	>900 m/s (2952 fps) 1620 J / 508 mm Barrel
Accuracy at 100 m	$s_a \leq 22$ mm, 30 Cart. 508 mm Barrel
Packaging / Weight	30pcs. Folding Box / approx. 0.4 kg 1800pcs. Wooden crate / approx. 29 kg



Strong
precise
proven



Versatility in use

The 7.62x51 calibre is the NATO's oldest long rifle calibre. Since the end of the 1950s, armies worldwide have relied on this all-round calibre. This calibre covers almost all infantry applications - from use in machine guns to precision rifles.

The calibre has been developed over the decades in application. Today, in addition to standard ammunition types specifically developed products for training, deployment and special use are available. From the armour-piercing precision bullet to the reduced-pollutant manoeuvre cartridge, everything is available in calibre 7.62x51.



7.62x51 URBAN DRONE DEFENCE (UDD) LIGHT & HEAVY

Small-calibre drone defence ammunition optimised for urban and suburban areas



UDD provides fast and cost-efficient defence to protect infrastructure, military installations or public safety. With its lightweight but robust design, this advanced ammunition has been conceived for optimum performance in a wide range of drone defence applications. Thanks to the targeted use of low-emission components, such as the patented SINTOX® primer, it also offers the user a reduction in pollution to an absolute minimum.

- Effective and cost-efficient solution against UxS (small commercial drones)
- Lightweight polymer projectile, optimised for operations in cities, urban areas and public areas with a high risk of collateral damage
- Reduced background risk: reduction of the danger zone by approx. 80% compared to conventional 7.62x51 calibre ammunition (UDD Light)
- Reliable function in externally powered machine guns with high cadence *
- Minimal exposure to harmful substances for users: reduced pollutants and REaCh-compliant
- X-ray detectable projectile

NEW: 7,62x51 UDD LIGHT

Bullet	Solid 1.0 g / 15 gr	Term of Reference	Technical Terms of Delivery
Bullet material	Polymer	Temperature Range	-30°C to +40°C
Primer / Propellant powder	SINTOX® / Single based Nitrocellulose powder	Mean chamber pressure	max. 4150 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	> 1050 m/s (3543 fps) / 613 J / 562 mm barrel
Cartridge weight	approx. 13.9 g	Accuracy at 50 m	$s_a \leq 20$ mm, 30 cart. 562 mm barrel
Net. explosive weight	approx. 0.9 g	Packaging / Weight	20pcs. Folding Box / approx. 0.3 kg* 500pcs. Metal box M2A1 / approx. 10 kg*

URBAN DRONE DEFENCE LIGHT

Drone defence at short distances up to 100m for inner-city areas
7.62x51 1.0g / 15gr

URBAN DRONE DEFENCE HEAVY

Drone defence at medium distances up to 300m for suburban areas
7.62x51 \leq 3.0g / 46gr



* is also possible from standard machine guns, in combination with an adapted locking system



UDD

URBAN
DRONE
DEFENCE





7.62x51 NATO BALL

9.45 g / 146 gr (M80)



The NATO Ball is the standard 7.62x51 calibre tactical cartridge for many military users. It is engineered for flawless functionality in all NATO-approved standard firearms and can be used just as effectively for mission and training purposes.

The projectile design is equivalent to the M80 bullet type with a weight of 9.45 g. It consists of a lead core, encased in a steel jacket. It functions flawlessly in a temperature range from -54°C to +52°C. The cartridge is sealed to prevent the ingress of water or moisture and is fully compliant with the requirements of AEP-97 (M-CMOPI).



Item No.242 68 29

7.62x51 NATO BALL

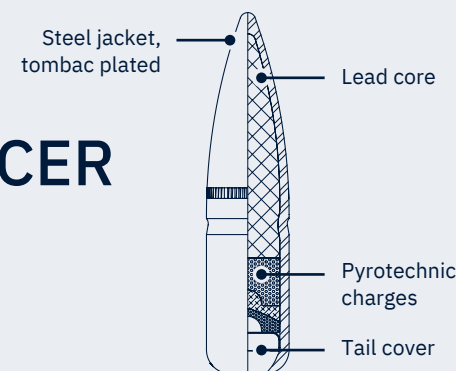
Bullet	Full Metal Jacket 9.45 g / 146 gr
Bullet material	Lead / Steel (tombac-plated)
Primer / Propellant powder	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 24 g
Net. explosive weight	approx. 2.9 g
Term of Reference	MCMOPI / AOP-2310
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	> 820 m/s (2690 fps) / 3177 J / 562 mm Barrel
Accuracy at 485 m	$s_v s_H \leq 176$ mm, 30 Cart. 562 mm Barrel
Penetration at 550 m	3,5mm SR235JR
Packaging / Weight	20pcs. Folding Box / approx. 0.5 kg 500pcs. M2A1 Metal box / approx. 17 kg

7.62x51 NATO TRACER (M62)

Bullet	Tracer 9.1 g / 140 gr
Bullet material	Lead / Steel (tombac-plated), Pyrotechnic charges
Primer / Propellant	SINOXID® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 24.0 g
Net. explosive weight	approx. 3.4 g
Term of Reference	MCMOPI / AOP-2310
Temperature Range	-54°C to +52°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v_{10} / Energy	>839 m/s (2690 fps) / 3059 J / 562 mm Barrel
Accuracy at 485 m	$s_v s_H \leq 265$ mm, 30 Cart. 562 mm Barrel
Tracer visibility	13 m to 140 m
Minimum tracer distance	≥ 775 m
Tracer colour	Red
Packaging / Weight	20pcs. Folding Box / approx. 0.5 kg 500pcs. M2A1 Metal box/ approx. 15.2 kg

7.62x51 NATO TRACER

9.1 g / 140 gr (M62)



The 7.62x51 NATO Tracer cartridge is engineered for military use. Its compatibility with all NATO firearms is guaranteed. The cartridge can therefore be used for mission scenarios and in training. The bullet consists of a lead core, bullet jacket and the pyrotechnic charge inserted in the tail.

It has a dark tracer that conceals the shooter's position. The visible tracer begins at a range of 13 m to 140 m and illuminates up to a distance of at least 775 m. The visible pyrotechnic charge glows red. The cartridge is also fully compliant with AEP-97 (M-CMOPI).



Item No.242 70 87

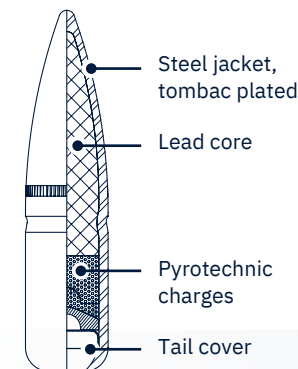


7.62x51 NATO IR TRACER

9.1 g / 140 gr



The 7.62x51 NATO IR Tracer has a special tracer, which can only be observed with night vision devices. It is tuned such that the shooter can follow the tracer without being dazzled. Thanks to the possibility of undisturbed target observation with night vision technology, the NATO IR Tracer can be used as an effective tactical combat enhancement in night-time operations. For the shooter, the tracer burns from the muzzle, up to a distance of ≥ 775 m. For side observation a distance is created between the muzzle and the infrared tracer that is not visible. This means that the firing position cannot be localized by lateral observation.



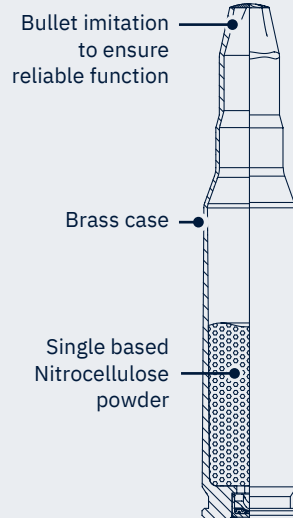
7.62x51 NATO IR TRACER

Bullet	Tracer 9.1 g / 140 gr	Term of Reference	MCMOPI / AOP-2310
Bullet material	Lead / Steel (tombac-plated), Pyrotechnic charges	Temperature Range	-54°C to +52°C
Primer / Propellant	SINOXID® / Double based Nitrocellulose powder	Mean chamber pressure	max. 4450 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	≥ 820 m/s (2690 fps) / 3059 J / 562 mm Barrel
Cartridge weight	approx. 24.0 g	Accuracy at 485 m	sv, sh ≤ 265 mm, 30 Cart. 562 mm Barrel
Net. explosive weight	approx. 3.4 g	Minimum tracer distance	775 m (Heckler & Koch G27 A1)
		Packaging / Weight	20pcs. Folding Box / approx. 0.5 kg 500pcs. M2A1 Metal box/approx. 15.2kg

Item No. 243 46 65



7.62x51 BLANK



The 7.62x51 Blank manoeuvre cartridge is engineered for military training and simulation scenarios. It is equally compatible with semi- and fully automatic firearms. A suitable manoeuvre cartridge device is required to ensure that the firearm functions properly.

With the applied sealing in the imitation bullet (lacquer) and the ring joint of the primer cap (ring joint lacquer), it guarantees safe functionality even under the most adverse circumstances such as strong fluctuations in temperature and weather conditions from -20°C to +40°C.



Item No. 242 94 05

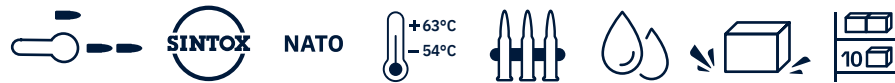
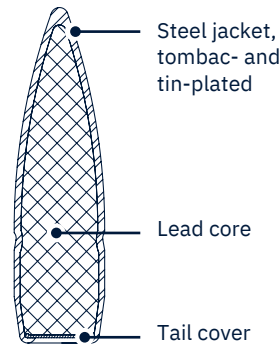
7.62mmx51 DM111A2 SOFT CORE

9.55 g / 147 gr



The DM111A2 is the standard cartridge for tactical use and training within the German Armed Forces. It was engineered and qualified to meet their high technical requirements. The product is also fully compliant with the requirements of AEP-97 (M-CMOPI). It is fully compatible with all semi-automatic and fully automatic weapons in this calibre introduced by the German Armed Forces.

It uses a completely encapsulated full metal jacket bullet with a lead core. The bullet jacket is made of tin-plated, tumbac-plated steel. SINTOX® primer technology and a fully encapsulated bullet minimise the user's exposure to harmful emissions. The cartridge is therefore also suitable for use in indoor facilities.



Item No. 212 42 03

7.62x51 BLANK

Primer / Propellant powder	SINOXID® / Single based Nitrcellulose powder
Case material	Brass
Cartridge weight	approx.13.2 g
Net. explosive weight	approx. 0.9 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 1090 bar (21°C)
Packaging / Weight	20pcs. Folding Box / approx. 0.3 kg 500pcs. M2A1 Metal box / approx. 9.7 kg

7.62mmx51 DM111A2

Bullet	Full Metal Jacket 9.55 g / 147 gr
Bullet material	Lead / Steel (tombac- and tin-plated)
Primer / Propellant	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 24.5 g
Net. explosive weight	approx. 2.8 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v ₁₀ / Energy	>802 ms (2631 fps) / 2926 J / 562 mm Barrel
Accuracy at 100 m	s _a ≤ 16 mm, 30 Cart. 562 mm Barrel
Penetration at 550 m	3,5mm SR235JR
Packaging / Weight	20pcs. Folding Box / approx. 0,5 kg 1000pcs. Wooden crate / approx. 31 kg

7.62mmx51 DM21A3

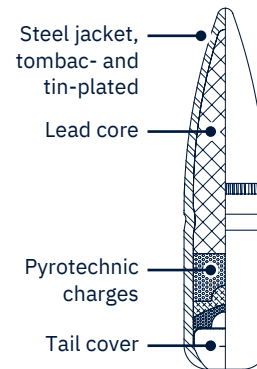
Bullet	Tracer 9.1 g / 140 gr
Bullet material	Lead / Steel (tombac- and tin-plated) Pyrotechnic charges
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 24.0 g
Net. explosive weight	approx. 3.3 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	max. 4450 bar (21°C)
Velocity v ₁₀ / Energy	> 802 m/s (2631 fps) / 2926 J / 562 mm Barrel
Accuracy at 100m	s _a ≤ 35 mm, 562 mm Barrel
Tracer visibility	13 m – 140 m
Minimum tracer distance	775 m
Trace burning time min.	1.6 s
Tracer colour	Red
Packaging / Weight	20pcs. Folding Box / approx. 0.5 kg 1000pcs. Wooden crate / approx. 30,8 kg

7.62mmx51 DM68A1

Primer / Propellant powder	SINTOX® / Single based Nitrcellulose powder
Case material	Brass
Cartridge weight	approx.13.2 g
Net. explosive weight	approx. 0.9 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-20°C to +40°C
Mean chamber pressure	max. 1090 bar (21°C)
Packaging / Weight	20pcs. Folding Box / approx. 0.3 kg 1000pcs. Wooden crate / approx. 15 kg

7.62mmx51 DM21A3 SOFT CORE TRACER

9.1 g / 140 gr



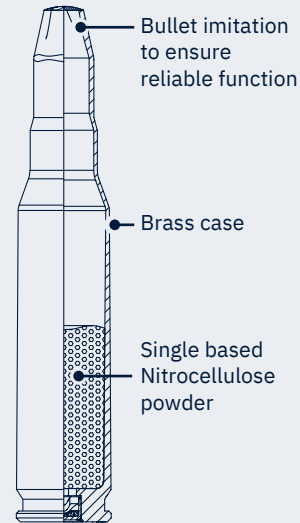
The 7.62x51 DM21A3 is the standard tracer round for tactical use and training within the German Armed Forces. It was engineered and qualified to meet their high technical requirements.

It is fully compatible with all semi-automatic and fully automatic weapons in this calibre introduced by the German Armed Forces. It has a dark tracer that conceals the shooter's position. The visible tracer begins at a range of 13 m to 140 m and illuminates up to a distance of at least 775 m. The visible pyrotechnic charge glows red.



Item No. 212 43 35

7.62mmx51 DM68A1




The DM68 is the standard manoeuvre cartridge for training and simulation scenarios within the Bundeswehr. It was engineered and qualified to meet their high technical requirements of the German Armed Forces. It is equally compatible with semi-automatic and automatic firearms. A suitable manoeuvre cartridge device is required to ensure that the firearm functions properly.



Item No. 242 73 82





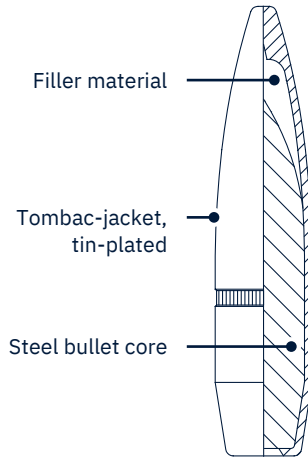
Powerful 12.7x99

Since its invention, the 12.7x99 calibre has impressed military users with its ability to penetrate hard targets and its long operational range. No other calibre in the world is as associated with a machine gun as the 12.7x99 alias .50 BMG. Whereby the BMG stands for Browning (inventor) Machine Gun.

Our ammunition in this calibre is characterised by outstanding precision and exceptional reliability even under the most adverse conditions. In addition, all our solutions are equipped with our patented, low-emission and heavy-metal-free SINTOX® primer.

12.7x99 LF BALL SX

42.5 g / 656 gr



The 12.7x99 LF Ball SX is a lead-free and low-emission load that is engineered for military users. The bullet is based on a steel core, which is completely encased in a tombac jacket. The sheath itself is also tin-plated. The cartridge is intended for use in heavy machine guns such as the Browning M2. It describes the same trajectory as the 12.7x99 LF Tracer SX, which is also available.



Ballistic data page 97

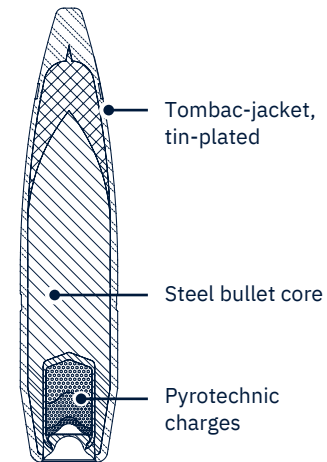
12.7x99 LF TRACER SX

40.5 g / 625 gr



The 12.7x99 LF Tracer SX was designed and developed for military users. It is fully compatible with heavy machine guns. The cartridge can therefore be used for operational scenarios and in training.

A bullet jacket with a soft iron core and a pyrotechnic charge is inserted into it. It has a dark tracer that conceals the shooter's position. The visible tracer starts at a range of 0 m to 200 m and illuminates up to a distance of at least 1,500 m.



* Image 75% of original size

12.7x99 LF BALL SX

Bullet	Full Metal Jacket 42.5 g / 656 gr
Bullet material	Steel / Tombac (coated) / Filler material
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 116.0 g
Net. explosive weight	approx. 17g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	≤ 4500 bar (21°C)
Velocity v ₁₀ / Energy	890 m/s (2920 fps) / 16832 J / 1143 mm Barrel
Accuracy at 485 m	s _V = 265 mm / s _H ≤ 265 mm / 1143 mm Barrel
Packaging / Weight	M2A1 Metal Box

12,7x99 LF TRACER SX

Bullet	Tracer 40.5 g / 625 gr
Bullet material	Steel (coated) / Tombac (tin-plated) / Filler material / Pyrotechnic charge
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 113.0 g
Net. explosive weight	approx. 16.5 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	≤ 4500 bar (21°C)
Velocity v ₁₀ / Energy	890 m/s (2920 fps) / 16040 J / 1143 mm Barrel
Accuracy at 485 m	s _V = 353 mm / s _H ≤ 353 mm / 1143 mm Barrel
Minimum tracer distance	1500 m
Tracer colour	Red
Packaging / Weight	10pcs. Folding Box/ approx. 1.2 kg 100pcs. M2A1 Metal box / approx. 15.2kg

12.7x99 LF IR TRACER SX

40.5 g / 625 gr



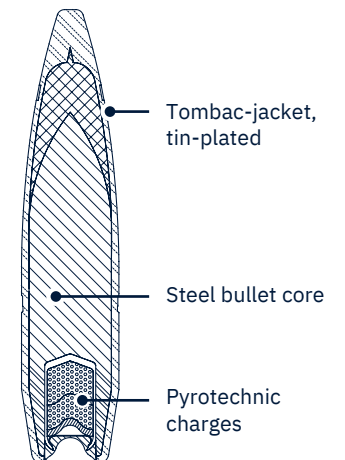
The 12.7x99 LF IR Tracer SX is the next generation of lead-free tracer ammunition, specially developed for use in difficult lighting conditions. Our IR Tracer is only visible with night vision devices and offers decisive advantages in the dark.

For the shooter, the tracer burns from the muzzle. When observing from the side, there is a distance between the muzzle and the infrared tracer that is not visible. This means that the firing position cannot be localised by lateral observation. Due to the possibility of undisturbed target observation with night vision technology, the LF IR TRACER SX can be used as an effective combat enhancement in night operations. The projectile consists of 3 essential components: A projectile jacket with a soft iron core and a pyrotechnic charge is inserted into it.



12,7x99 LF IR TRACER SX

Bullet	Tracer 40.5 g / 625 gr
Bullet material	Steel (coated) / Tombac (tin-plated) / Filler material / Pyrotechnic charge
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 113.0 g
Net. explosive weight	approx. 16.5 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +52°C
Mean chamber pressure	≤ 4500 bar (21°C)
Velocity v ₁₀ / Energy	890 m/s (2920 fps) / 16040 J / 1143 mm Barrel
Accuracy at 485 m	s _V = 353 mm / s _H ≤ 353 mm / 1143 mm Barrel
Minimum tracer distance	1500 m
Packaging / Weight	M2A1 Metal box



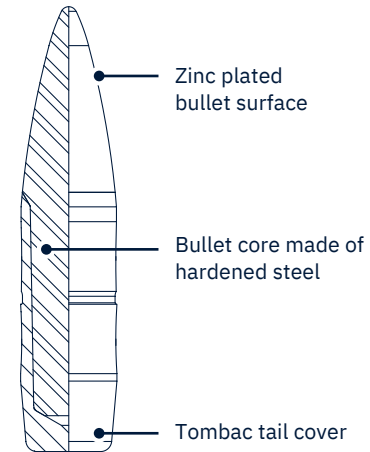
12.7x99 HC SX

47.5 g / 733 g



The 12.7x99 HC SX tactical cartridge is designed for military use. It is designed for use with repeater rifles and semi-automatic firearms for precision shooters and snipers. It has a hard core bullet consisting of a hardened steel core with a jacket. This guarantees utterly reliable effectiveness against hard targets.

The cartridge can be used without restriction in a temperature range from -54°C to +52°C. It is also sealed against the ingress of water and moisture. The use of components without lead or heavy metals minimises exposure.



12.7x99 HC SX

Bullet	Full Metal Jacket 47.5 g / 733 gr	Term of Reference	Technical Terms of Delivery
Bullet material	Steel (zinc-plated) / Tombac (zinc-plated)	Temperature Range	-54°C to +52°C
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Mean chamber pressure	≤ 4500 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	895 m/s (2936 fps) / 19024 J / 1143 mm Barrel
Cartridge weight	approx. 122 g	Accuracy at 300 m	$s_v s_H \leq 75$ mm, 3x10 Cart. 1143 mm Barrel
Net. explosive weight	approx. 17 g	Penetration at 100 m	18 mm Armour steel RHA 1143 mm Barrel
		Packaging / Weight	10pcs. Folding Box / approx. 1.2 kg 100pcs. M2A1 Metal Box/approx. 15.7 kg

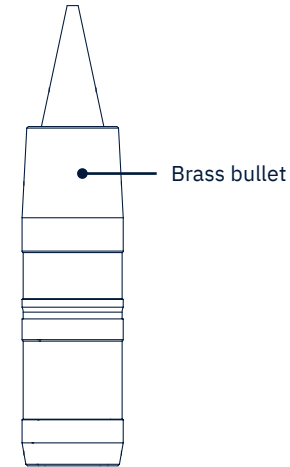
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12.7x99 SR SOLID SX

45.2 g / 698 gr



The 12.7x99 SR Solid SX is a lead-free training and duty cartridge for law enforcement and military users. The twisted lead-free brass bullet has a special bullet geometry that greatly increases the air resistance of the bullet in flight. As a result, the danger zone and the maximum flight range can be reduced to 3.8 km. A corresponding weapon function from heavy machine guns of the FN Browning M2 type is guaranteed.



12.7x99 SR SOLID SX

Bullet	Solid, 45,2 g / 698 gr	Term of Reference	Technical Terms of Delivery
Bullet material	Brass	Temperature Range	-54°C to +52°C
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Mean chamber pressure	≤ 4500 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	872 m/s (2661 fps) / 17185 J / 1143 mm Barrel
Cartridge weight	approx. 124.4 g	Max. range	≤ 3800m
Net. explosive weight	approx. 16 g	Accuracy at 300 m	Sx; Sy ≤ 90 mm / 1143mm Barrel
		Packaging / Weight	120pcs. M2A1 Metal Box/approx.16,8 kg

Item No. 242 43 30

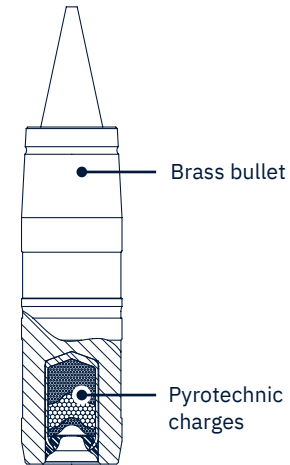
12.7x99 SR SOLID TRACER SX

45.8 g / 707 gr



The 12.7 SR Solid Tracer SX is a lead-free training and tactical cartridge for military users. The lead-free bullet made of turned brass has a special bullet geometry that greatly increases the air resistance in flight.

The pyrotechnic charge has a dark ignition tracer that conceals the shooter's position. The visible tracer begins at a range of 0 m to 200 m and illuminates up to a distance of at least 1,000 m, reducing the danger zone and the maximum flight range to 4.0 km. It is fully compatible with heavy machine guns of the FN Bowning M2 type.



12.7x99 SR SOLID TRACER SX

Bullet	Solid with Tracer, 45.8 g / 707 gr	Term of Reference	Technical Terms of Delivery
Bullet material	Brass /Steel (coated)/ Pyrotechnic charge	Temperature Range	-54°C to +52°C
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Mean chamber pressure	≤ 4500 bar (21°C)
Case material	Brass	Velocity v_{10} / Energy	862 m/s (2828 fps) 17016 J / 1143 mm Barrel
Cartridge weight	approx. 125 g	Max. range	≤ 4000 m
Net. explosive weight	approx. 16.4 g	Accuracy at 300 m	$s_x s_y \leq 110$ mm / 1143 mm Barrel
		Minimum tracer distance	1000 m
		Tracer colour	Red
		Packaging / Weight	120pcs. M2A1 Metal box /approx. 16.8 kg

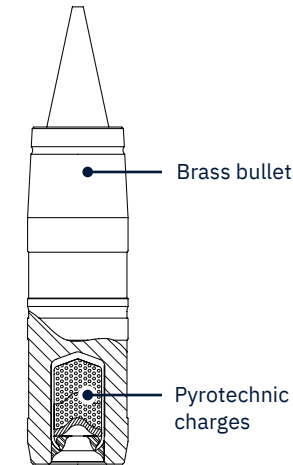
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12.7x99 SR SOLID IR TRACER SX

45.8 g / 707 gr



Our 12.7x99 SR Solid IR Tracer SX is a specially developed lead-free tracer ammunition to improve night-time shooting training. It combines the improved visual perception of IR tracer technology ammunition with the reduced trajectory range of practice ammunition. The danger zone is limited to 3.8 km. The trajectory of the projectile can only be observed with night vision devices. Training with this ammunition and NVD (Night Vision Device) is easier and offers an effective way to improve your shooting skills. The cartridge enables precise training under realistic conditions, as it is designed for use with heavy machine guns such as the FN Browning M2 or M3.



12.7x99 SR SOLID IR TRACER SX

Bullet		Term of Reference	Technical Terms of Delivery
Bullet	Solid with Tracer, 45.8 g / 707 gr	Temperature Range	-54°C to +52°C
Bullet material	Brass /Steel (coated)/ Pyrotechnic charge	Mean chamber pressure	≤ 4500 bar (21°C)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Velocity v_{10} / Energy	862 m/s (2828 fps) / 17016 J / 1143 mm Barrel
Case material	Brass	Max. range	≤ 4000 m
Cartridge weight	approx. 125 g	Accuracy at 300 m	$s_V s_H$ ≤ 200 mm / 1143 mm Barrel
Net. explosive weight	approx. 16.5 g	Minimum tracer distance	1000 m
		Packaging / Weight	120pcs. M2A1 Metal box /approx. 16.8 kg

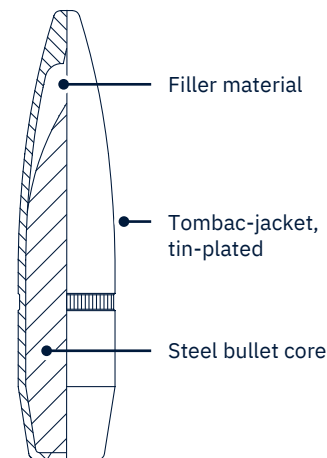
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12.7mmx99 DM91A1 SOFT CORE

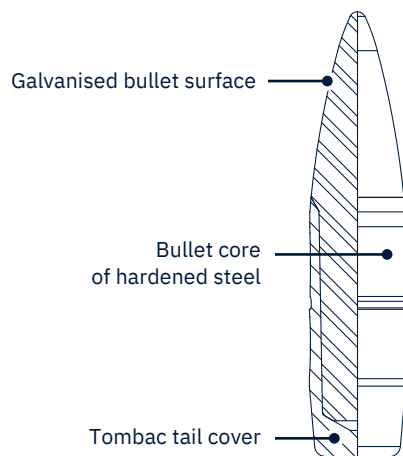
42.5 g / 656 gr



The DM91A1 is a lead-free and low-emission load that is engineered for military users. The bullet is based on a steel core, which is encased in a tombac jacket. The sheath itself is also tin-plated. The cartridge is intended for use in heavy machine guns such as the Browning M2 and M3. It describes the same trajectory as the 12.7x99 LF Tracer SX, which is also available.



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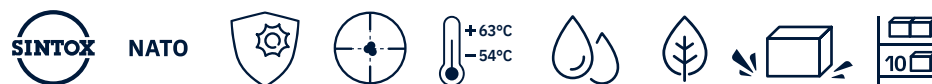


12.7mmx99 DM31A1 HARD CORE

47.5 g / 733 gr



The DM31A1 is a lead-free cartridge for the German Armed Forces with enhanced penetration capabilities. It is designed for use with repeater rifles and semi-automatic firearms for precision shooters and snipers. It has a hard core bullet consisting of a hardened steel core with a gas check. This guarantees high effectiveness against hard targets. The use of components without lead or heavy metals minimises exposure.



* Image 75% of original size

Item No.241 31 47

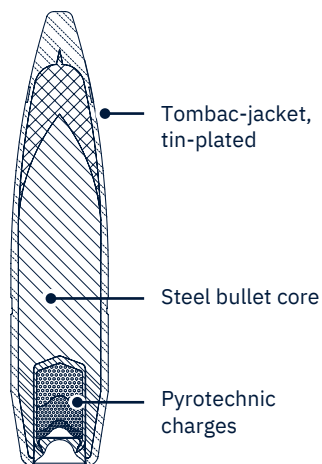
12.7mmx99 DM101A1 SOFT CORE TRACER

40.5 g / 625 gr



The 12.7x99 DM101A1 was designed and engineered for military users in the Bundeswehr. It is fully compatible with heavy machine guns. The cartridge is used for mission scenarios and in training.

The bullet itself consists of several components: Steel core, jacket, filler material, pyrotechnic charge carrier with cover cap and pyrotechnic charges. It has a dark tracer that conceals the shooter's position. The visible tracer begins at a range of 0 m to 200 m and illuminates up to a distance of at least 1,500 m.



12.7mmx99 DM101A1

Bullet	Tracer 40.5 g / 625 gr	Temperature Range	-54°C to +63°C
Bullet material	Steel /Tombac (tin-plated) / Filler material / Pyrotechnic charge	Mean chamber pressure	max. 4500 bar (21°C)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder	Velocity v_{10} / Energy	890 m/s (2920 fps) / 16040 J / 1143 mm Barrel
Case material	Brass	Accuracy at 485 m	$s_v = 353$ mm / $s_H \leq 353$ mm / 1143 mm Barrel
Cartridge weight	approx. 113.0 g	Tracer visibility	≤ 200 m
Net. explosive weight	approx. 16.5 g	Minimum tracer distance	1500 m
Term of Reference	Technical Terms of Delivery	Tracer colour	Red
		Packaging / Weight	10pcs. Folding Box / approx. 1.2 kg 100pcs. M2A1 Metal Box /approx. 15.2 kg

Item No.243 01 31

12.7mmx99 DM91A1

Bullet	Full Metal Jacket 42.5 g / 656 gr
Bullet material	Steel /Tombac (tin-plated) / Filler material
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 116.0 g
Net. explosive weight	approx. 17 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	≤ 4500 bar (21°C)
Velocity v_{10} / Energy	890 m/s (2920 fps) / 16832 J / 1143 mm Barrel
Accuracy at 485 m	$s_v = 160$ mm / $s_H \leq 265$ mm / 1143 mm Barrel
Packaging / Weight	10pcs. Folding Box / approx. 1.2 kg 100pcs. M2A1 Metal Box /approx. 15.2 kg

12.7mmx99 DM31A1

Bullet	Full Metal Jacket Hard core 47.5 g / 733 gr
Bullet material	Steel (zinc-plated) / Tombac (zinc-plated)
Primer / Propellant powder	SINTOX® / Double based Nitrocellulose powder
Case material	Brass
Cartridge weight	approx. 122 g
Net. explosive weight	approx. 17 g
Term of Reference	Technical Terms of Delivery
Temperature Range	-54°C to +63°C
Mean chamber pressure	≤ 4500 bar (21°C)
Velocity v_{10} / Energy	895 m/s (2936 fps) / 19024 J / 1143 mm Barrel
Accuracy at 300 m	$s_v s_H \leq 75$ mm, 3x10 Cart. / 1143 mm Barrel
Penetration at 100 m	18 mm Armour steel RHA / 1143 mm Barrel
Packaging / Weight	10pcs. Folding Box / approx. 1.2 kg 100pcs. M2A1 Metal Box /approx. 15.7 kg



Quality made in Switzerland - The professional SWISS P Line convinces by its technological perfection down to the smallest detail. For best accuracy in training and mission highest quality standards in materials and manufacturing processes are required. 160 years of experience, extensive know-how, expertise and modern production facilities allow us to consistently produce rounds of constant, outstanding quality. These products are used by most of the world's tier and SF and police groups. Quality without compromise is what SWISS P believe in.

SWISS P

.223 Rem. SWISS P Target

Bullet type, weight	HPBT 4,5 g / 69 gr
BC G1	0,379
Muzzle velocity	855 m/s*
Term of Reference	C.I.P.

Round for very best accuracy in training and competition



.223 Rem. SWISS P AP

Bullet type, weight	AP 4,1 g / 63 gr
BC G1	0,363
Muzzle velocity	875 m/s***
Term of Reference	Swiss Army

High-performance round for maximum penetration power on hard targets



.223 Rem. SWISS P Styx Action

Bullet type, weight	JHP 4,5 g / 69 gr
BC G1	0,313
Muzzle velocity	855 m/s*
Term of Reference	C.I.P.

High performance round for excellent stopping power due to instantaneous energy deposition on soft targets



.223 Rem. SWISS P Final SR

Bullet type, weight	JHP 3,4 g / 52 gr
BC G1	0,182
Muzzle velocity	1040 m/s*
Term of Reference	C.I.P.

Highly accurate fragmentation bullet for a minimized risk of over-penetration and enhanced safety for bystanders due to total bullet disintegration



.300 BLK SWISS P HV Ball SX

Geschoss	TFMJ 9,5 g / 146 gr
BC G1	0,421
Geschwindigkeit	580 m/s**
Referenz	C.I.P.

Highly accurate full metal jacket round for military training and duty



.300 BLK SWISS P HV LF Styx SX

Geschoss	SHP 7,0 g / 108 gr
BC G1	0,247
Geschwindigkeit	745m/s**
Referenz	C.I.P.

Lead free round for excellent stopping power due to instantaneous energy deposition on soft targets



.308 Win. SWISS P Tactical

Bullet type, weight	SFNBT 10,6 g / 163 gr
BC G1	0,303
Muzzle velocity	820 m/s*
Term of Reference	C.I.P.

High performance round for excellent first-hit probability and terminal effect behind angled glass



SINOXID

.308 Win. SWISS P Target

Bullet type, weight	JHP 10,9 g / 168 gr
BC G1	0,489
Muzzle velocity	805 m/s*
Term of Reference	C.I.P.

Round for very best accuracy in training and competition



.308 Win. SWISS P Target

Bullet type, weight	JHP 11,3 g / 175 gr
BC G1	0,547
Muzzle velocity	790 m/s*
Term of Reference	C.I.P.

Target round for an enhanced operation distance



.308 Win. SWISS P Styx Action

Bullet type, weight	HPBT 10,8 g / 167 gr
BC G1	0,363
Muzzle velocity	810 m/s*
Term of Reference	C.I.P.

High performance round for excellent stopping power due to instantaneous energy deposition on soft targets



SINOXID

.308 Lapua Mag. SWISS P AP

Bullet type, weight	AP 12,7 g / 196 gr
BC G1	0,652
Muzzle velocity	790m/s*
Term of Reference	C.I.P.

High-performance round for maximum penetration power on hard targets



SINOXID

.338 Lapua Mag. SWISS P Ball

Bullet type, weight	FMJ 16,3 g / 251 gr
BC G1	0,657
Muzzle velocity	855 m/s*
Term of Reference	C.I.P.

Highly accurate full metal jacket round for military training and duty



SINOXID

.338 Lap. Mag. SWISS P Tactical

Bullet type, weight	SFNBT 16,2 g / 250 gr
BC G1	0,375
Muzzle velocity	860 m/s*
Term of Reference	C.I.P.

High performance round for excellent first-hit probability and terminal effect behind angled glass



SINOXID

.338 Lapua Mag. SWISS P Target

Bullet type, weight	HPBT 16,2 g / 250gr
BC G1	0,684
Muzzle velocity	865 m/s*
Term of Reference	C.I.P.

Round for very best accuracy in training and competition



SINOXID

.338 Lapua Mag. Swiss P Target

Bullet type, weight	HPBT 19,4 g / 300gr
BC G1	0,831
Muzzle velocity	835 m/s*
Term of Reference	C.I.P.

Round for very best accuracy in training and competition



SINOXID

.338 Lap. Mag. Styx Action

Bullet type, weight	JHP 16 g / 247 gr
BC G1	0,433
Muzzle velocity	875 m/s*
Term of Reference	C.I.P.

High performance round for excellent stopping power due to instantaneous energy deposition on soft targets



SINOXID

.338 Lapua Mag. Swiss P AP

Bullet type, weight	AP 16,8 g / 260 gr
BC G1	0,677
Muzzle velocity	805 m/s*
Term of Reference	C.I.P.

High-performance round for maximum penetration power on hard targets



SINOXID



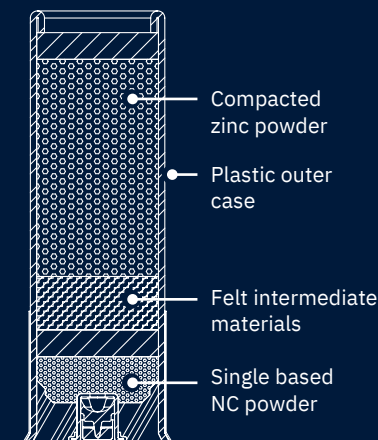
12/70 ROTTWEIL MAGNUM ENTRY I

32.5 g / 502 gr



The 12/70 Magnum ENTRY I is a special shell for special police units and military users. It is designed for the forcible opening of doors by means of a shot placed next to the strike plate and/or the hinges. The shell is fully compatible with pump-action and semi-automatic shotguns. It is designed for shotguns with Magnum proofing according to C.I.P.

Compacted zinc powder with a mass of 32.5 g is used as the active ingredient. This safely penetrates a St-37 type plate with a material thickness of 3mm when fired at a distance of approx. 2.5 cm from the target. The powder compact disintegrates completely upon impact with the sheet metal, which minimises collateral risk and the user's exposure to ricochets.



SINOXID

C.I.P.



12/70 ENTRY I

Bullet	Compacted zinc powder 32.5 g / 502 gr
Bullet material	Zinc
Primer / Propellant powder	SINOXID® / Single based Nitrocellulose powder
Case material	Plastic / Culot Brass
Cartridge weight	approx. 45.0 g
Net. explosive weight	approx. 1.8 g

Item No.231 37 24

Term of Reference	C.I.P
Temperature Range	-10°C to +52°C
Mean chamber pressure	max. 1050 bar (21°C)
Velocity $v_{2.5}$ / Energy	320 m/s (1050 fps) / 1665 J / 700mm barrel
Penetration at 2.5 cm	3mm DC01
Packaging / Weight	25pcs. Folding Box / approx. 0.95 kg / 300pcs. Wooden crate / approx. 19.5 kg



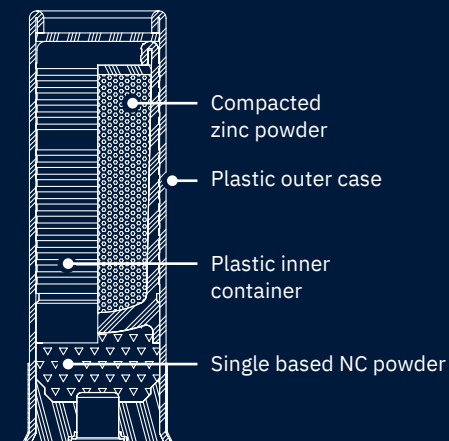
12/70 ROTTWEIL MAGNUM ENTRY II

28 g / 432 gr



The 12/70 Magnum ENTRY II is a particular shell used by special police units and military users to forcibly open doors. The shell is fully compatible with pump-action and semi-automatic shotguns.

It was developed in close collaboration with various special police units. They repeatedly expressed the requirement that doors should be opened reliably and precisely, even when firing from a distance of 10 m. The shell is therefore capable of safely penetrating a St37 sheet with a material thickness of 1.5 mm at a distance of 10 metres. This is achieved using a special 'plastic tube' containing 27 g of the zinc powder.



SINOXID

C.I.P.



12/70 ENTRY II

Bullet	Compacted zinc powder in the inner container 28 g / 432 gr
Bullet material	Zinc / Plastic
Primer / Propellant powder	SINOXID® / Single based Nitrocellulose powder
Case material	Plastic / Culot Brass
Cartridge weight	approx. 45.0 g
Net. explosive weight	approx. 1.8 g

Item No.231 74 00

Term of Reference	C.I.P
Temperature Range	-10°C to +52°C
Mean chamber pressure	max. 1050 bar (21°C)
Velocity $v_{2,5}$ / Energy	380 m/s (1247 fps) 1949 J / 700mm barrel
Accuracy at 10 m	H+B < 50 cm / Benelli M3
Penetration at 10 m	1,5 mm St37, 5 cart. / Benelli M3
Packaging / Weight	25pcs. Folding Box / approx. 0.95 kg 200pcs. Cardboard box / approx. 8 kg

18.2mmx70 DM209 ZINC PELLETT

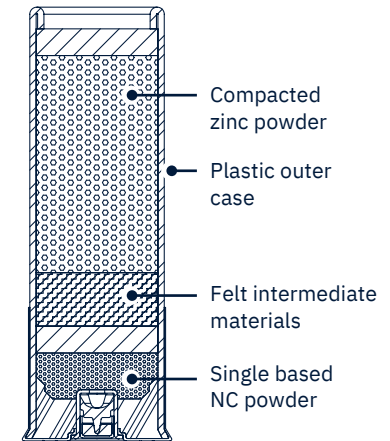
Bullet	Compacted zinc powder 32.5 g / 502 gr
Bullet material	Zinc
Primer / Propellant powder	SINOXID® / Single based Nitrocellulose powder
Case material	Plastic / Culot Brass
Cartridge weight	approx. 45.0 g
Net. explosive weight	approx. 1.8 g
Term of Reference	C.I.P
Temperature Range	-10°C to +52°C
Mean chamber pressure	max. 1050 bar (21°C)
Velocity v _{2.5} / Energy	320 m/s (1050 fps) / 1665 J / 710 mm barrel
Penetration at 2.5 cm	3mm DC01
Packaging / Weight	25pcs. Folding Box / approx. 0.95 kg 300pcs. Wooden crate / approx. 19.5 kg

18.2mmx70 DM219 ZINC PELLETT 12/70

Bullet	Compacted zinc powder in the inner container 28 g / 432 gr
Bullet material	Zinc / Plastic
Primer / Propellant powder	SINOXID® / Single based Nitrocellulose powder
Case material	Plastic / Culot Brass
Cartridge weight	approx. 45.0 g
Net. explosive weight	approx. 1.8 g
Term of Reference	C.I.P
Temperature Range	-10°C to +52°C
Mean chamber pressure	max. 1247 bar (21°C)
Velocity v _{2.5} / Energy	380 m/s (1247 fps) / 1949 J / 700mm barrel
Accuracy at 10 m	H+B < 50 cm / Benelli M3
Penetration at 10 m	1.5 mm St37, 5 Cart. / Benelli M3
Packaging / Weight	25pcs. Folding Box / approx. 0.95 kg 300pcs. Cardboard box / approx. 19 kg

18.2mmx70 DM209 ZINC PELLETT

32.5 g / 502 gr



The 18.2mmx70 DM209 Zinc Pellet ENTRY I is a special shell for the German Armed Forces. It is fully qualified and is now widely used by the troops. It is designed for the forcible opening of doors by means of a shot placed next to the strike plate and/or the hinges. The shell is fully compatible with pump-action and semi-automatic shotguns. It is designed for shotguns with Magnum proofing according to C.I.P.

Compacted zinc powder with a mass of 32.5 g is used as the active ingredient. This safely penetrates a St-37 type plate with a material thickness of 3mm when fired at a distance of approx. 2.5 cm from the target. The powder compact disintegrates completely upon impact with the sheet metal, which minimises collateral risk and the user's exposure to ricochets.

SINOXID

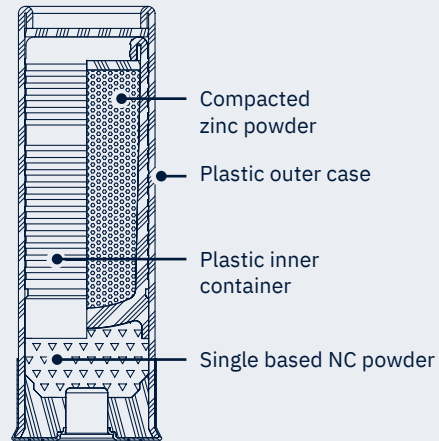
C.I.P.



Item No. 231 51 84

18.2mmx70 DM219 ZINC PELLET

28 g / 432 gr



DM219 is the designated ENTRY II shotgun shell for the German Armed Forces. It is fully qualified and has now been in use for years. In addition to the DM209, the 12/70 Magnum DM219 is a special shell used forcibly open doors. The shell is fully compatible with pump-action and semi-automatic shotguns.

The German Armed Forces repeatedly expressed the requirement that doors should be opened reliably and precisely, even when firing from a distance of 10 m. The shell is therefore capable of safely penetrating a St37 sheet with a material thickness of 1.5 mm at a distance of 10 metres. This is achieved using a special 'plastic tube' containing 27 g of the zinc powder. The inner container disintegrates into its constituent parts, which significantly reduces the risk of collateral damage. The zinc powder atomises on impact with the hard target.

SINOXID

C.I.P.



Item No. 231 64 38



Our product feature icons



SINTOX® NON-TOXIC PRIMER

Low-pollutant and heavy metal-free



SINTOX® NON-TOXIC PRIMER

Low-pollutant and heavy metal-free.
X-ray detectable



SINOXID PRIMER

Corrosion-free



LEADFREE *

100% free of heavy metals

C.I.P.

CONFORMITY ACCORDING TO C.I.P.

TR
2009

CERTIFICATION ACCORDING TO TECHNICAL TERMS OF DELIVERY



HIGH PRECISION



SUITABLE FOR FULL AUTOMATIC



ARMOUR PIERCING



NIGHT VISION

Visible with Infrared night vision devices

NATO

EXTERNAL DIMENSIONS:

Ammunition is manufactured to a design, which meets a NATO Standardisation Agreement.



WATERPROOF



TEMPERATURE RANGE

Functionality and usability of the cartridge at tested surrounding temperatures



SHOCKPROOF



MAXIMUM SHELF LIVE

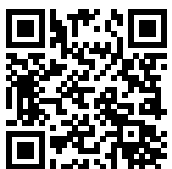


LINKED AVAILABLE



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RWS

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