



Military Ammunition

Technology and Reliability all over the world



Plant: Montenegro - RS -Brazil



Plant: Ribeirão Pires - SP-Brazil

Fully integrated manufacturing site

Control over all the production steps

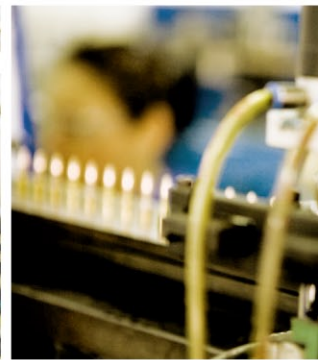
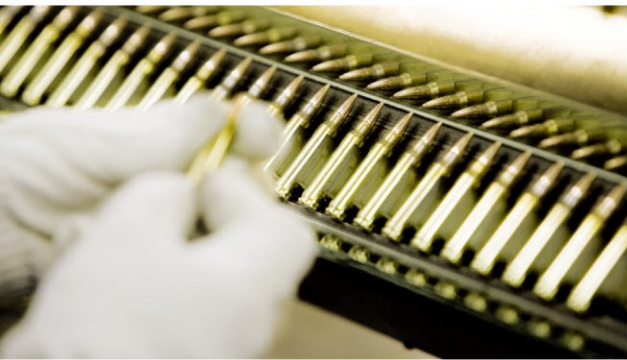
Outstanding manufacturing technology

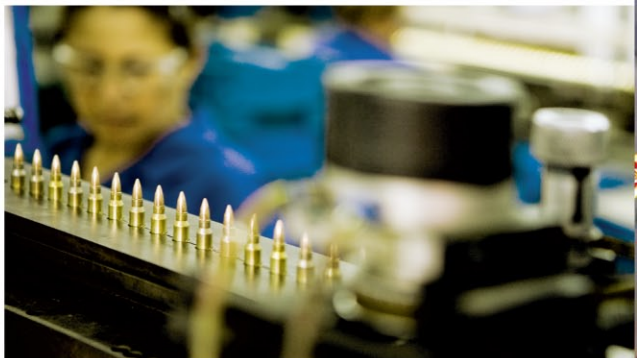
Total Quality Assurance

ISO 9001:2000 certified

Compliant to NATO and USMIL standards

Excellence is our target





Excellence is the base of our management philosophy.

For over 82 years CBC has dedicated its efforts to the manufacturing of small and medium caliber ammunition. Supported by high skilled human resources and through the use of the state of the art equipments and processes, CBC has become an expert in high-quality manufacturing technology.

The company, located in Brazil, is a verticalized enterprise which produces by itself all the components required in the ammunition manufacturing, including projectiles, cases, propellant and primer composition. This fully integrated system combined with outstanding quality assurance procedures and manufacturing technology guarantees the company's competitiveness all over the world. Our products are exported to more than 70 countries.

The acquisition of the German ammunition manufacturer MEN (Metallwerk Elisenhütte GmbH), in 2007, known for having the highest quality and technological standards, has brought additional strength and complemented both companies mutual goal of reaching leadership positions in the world ammunition market.

CBC provides a wide range of products for military, law enforcement and civilian use. In the military field, CBC's products range from the 9 x 19mm Parabellum to the 30 x 113 mm for use in the DEFA Automatic Cannons.

The high quality of CBC's products fulfills the requirements of the most demanding Defense Forces worldwide. In the recent years, CBC has become an important supplier for several NATO countries and has assured its position amongst the foremost manufacturers of military ammunition in the world.

Excellence in Quality. Excellence in Technology. Excellence in People.
This is our way of manufacturing trust.





9x19 mm Parabellum

General Use:

- Against non-armored targets.

Ammunition for use in the following guns:

- Pistols: Beretta, Browning, Colt MK6, FN Model GP, Glock, Sig-Sauer, Steyr, Taurus, Walther, HK-USP, and other similar pistols.
- Sub-Machine-guns: Beretta M12S, Beretta M9-972, HK-MP5, Ingram, Mini-Uzi, Uzi and other similar machine-guns.



General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Percussion primer. Boxer type.
- **Propellant:** Single base or double base.
The priming mixture is non-corrosive.

Specific Use of the Projectiles:

- **Ball (115GR & 124GR):** Used against non-armored targets.



Ball 115GR

Cartridge Length (mm)	29,3
Cartridge Weight (g)	11,6
Projectile Weight (GR)	115
Velocity at 16 m (m/s)-(ft/s) ^{(1) (2)}	385-1263
Action Time (ms) ^{(1) (2)}	≤ 3



Ball 124 GR

Cartridge Length (mm)	29,3
Cartridge Weight (g)	12,2
Projectile Weight (GR)	124
Velocity at 16 m (m/s)-(ft/s) ^{(1) (2)}	370-1214
Action Time (ms) ^{(1) (2)}	≤ 3

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 200mm (7.8")



5.56 x 45 mm

General Use:

- Against non-armored and lightly armored targets.

Ammunition for use in the following guns:

- Rifles: Colt M16, M16A1, HK-M33, Colt AR-15, F2000, FNC, Valmet, Enfield L85A1 (TW-7), Colt M16A2 (TW-7), and M16A3 (TW-7).
- Machine-guns: FN-Minimi, Beretta AR-70, Enfield L86A1 (TW-7) and Negev.

General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Percussion primer. Boxer type.
- **Propellant:** Double base. The priming mixture is non-mercuric and non-corrosive.

Specific Use of the Projectiles:

- **Ball M193:** Used against non-armored targets. For use in 5.56 mm weapon systems with a 1:12 (one evolution in twelve inches) barrel twist (TW12).
- **Tracer M196:** Used for training, as the trajectory of the projectile can be seen by its trace. For use in 5.56 mm weapon systems with a 1:12 (one evolution in twelve inches) barrel twist. The trace has a full luminosity from a distance not greater than 70 m from the gun muzzle up to a distance not less than 450 m from the muzzle of the gun.
- **Ball SS109:** Used against non-armored targets, and lightly armored targets. For use in 5.56 mm weapon systems with a 1:7 (one evolution in seven inches) barrel twist (TW7)
- **Tracer L110:** Used for training, as the trajectory of the projectile can be seen by its trace. For use in a 5.56 mm weapon systems with a 1:7 (one evolution in seven inches) barrel twist (TW7). The trace has a full luminosity from a distance not greater than 140 m from the gun muzzle up to a distance not less than 600 m from the muzzle of the gun.
- **Blank Cartridge:** Used for training and regimental salutes. This cartridge does not have a bullet. The front part of the neck is star-crimped closed.



Ball M193

Cartridge Length (mm)	57
Cartridge Weight (g)	11,5
Projectile Weight (g)	3,56
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	965-3165
Action Time (ms) ^{(1) (2)}	≤ 4



Tracer M196

Cartridge Length (mm)	57
Cartridge Weight (g)	11,35
Projectile Weight (g)	3,35
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	950-3115
Action Time (ms) ^{(1) (2)}	≤ 4



5.56 x 45 mm



Ball SS109

Cartridge Length (mm)	57
Cartridge Weight (g)	12,1
Projectile Weight (g)	4
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	912-2992
Action Time (ms) ^{(1) (2)}	≤ 3



Tracer L110

Cartridge Length (mm)	57
Cartridge Weight (g)	12,4
Projectile Weight (g)	3,97
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 3

* To obtain the conformity between the trajectory of L110 projectiles and the trajectory of ball projectiles SS-109



Blank

Cartridge Length (mm)	55,5
Cartridge Weight (g)	7,7
Projectile Weight (g)	-
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	-
Action Time (ms) ^{(1) (2)}	-

(1) Temperature: 21° C (70° F)
(2) Test Barrel Length: 508mm (20")



7.62 x 51 mm

7.62 x 51 mm

General Use:

- Against non-armored and lightly armored targets.

Ammunition for use in the following guns:

- Rifles: FN-FAL, FN-FALO, SIG, G3, HK, and similar rifles.
- Machine-guns: FN-MAG, M-60, Rheinmetal, 240 and similar machine-guns.

General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Percussion primer. Boxer type.
- **Propellant:** Single base or double base. The priming mixture is non-mercuric and non-corrosive.

Specific Use of the Projectiles:

- **Ball:** Used against non-armored targets.
- **Tracer:** Used for training, as the trajectory of the projectile can be seen by its trace. The trace has a full luminosity at a distance not greater than 140 m from the muzzle of the gun up to a distance not less than 777 m from the muzzle of the gun.
- **Armor-Piercing:** Used against lightly-armored or non-armored targets, and those that are resistant to ball bullets.
- **Incendiary M77:** Used against non-armored or lightly armored targets and that contain flammable liquids.
- **Armor-Piercing Hard Core:** Designed to improve the performance of the Armor-Piercing projectile, it has greater perforating power than the conventional Armor Piercing projectile. The projectile perforates a plate of SAE 1040 or 1045 steel, with a thickness of 12.7 mm, and a Brinell hardness of 400-415, placed at 100 m from the muzzle of the gun, mounted in the angle of impact of 90° to the projectile trajectory, i.e., perpendicular to the projectile trajectory.
- **Match:** Used specially for high accuracy firing and for competition. Cartridge loaded with this type of bullet are manufactured specifically for use in match rifles.
- **Blank Cartridge:** Used for training and regimental salutes. This cartridge does not have a bullet. The front part of the neck is star-crimped closed.



Ball

Cartridge Length (mm)	70,75
Cartridge Weight (g)	24,5
Projectile Weight (g)	9,33
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	833-2732
Action Time (ms) ^{(1) (2)}	≤ 4



Tracer

Cartridge Length (mm)	70,75
Cartridge Weight (g)	24
Projectile Weight (g)	8,75
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Armor Piercing

Cartridge Length (mm)	70,75
Cartridge Weight (g)	24,6
Projectile Weight (g)	9,55
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Incendiary M77

Cartridge Length (mm)	70,75
Cartridge Weight (g)	24
Projectile Weight (g)	9,4
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Armor Piercing Hard Core

Cartridge Length (mm)	70,75
Cartridge Weight (g)	23
Projectile Weight (g)	8,3
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	840-2755
Action Time (ms) ^{(1) (2)}	≤ 4



Match

Cartridge Length (mm)	70,75
Cartridge Weight (g)	25,4
Projectile Weight (g)	10,5
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	750-2460
Action Time (ms) ^{(1) (2)}	≤ 4



Blank

Cartridge Length (mm)	68,5
Cartridge Weight (g)	13,4
Projectile Weight (g)	-
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	-
Action Time (ms) ^{(1) (2)}	-

7.62 x 51 mm

(1) Temperature: 21° C (70° F)
(2) Test Barrel Length: 560mm (22")





12.7 x 99 mm (.50)

General Use:

- Against non-armored or lightly armored targets.

Ammunition for use in the following guns:

- .50 M85, .50 Browning M2HB and M2QCB Machine Gun.



Ball M33

Cartridge Length (mm)	137,8
Cartridge Weight (g)	114,6
Projectile Weight (g)	42,5
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	887-2910
Action Time (ms) ^{(1) (2)}	≤ 4



Tracer M17

Cartridge Length (mm)	137,8
Cartridge Weight (g)	112,7
Projectile Weight (g)	40,9
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Tracer M33

Cartridge Length (mm)	137,8
Cartridge Weight (g)	112
Projectile Weight (g)	37,8
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Incendiary M1

Cartridge Length (mm)	137,8
Cartridge Weight (g)	115,7
Projectile Weight (g)	40,8
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Armor Piercing M2

Cartridge Length (mm)	137,8
Cartridge Weight (g)	117
Projectile Weight (g)	45,1
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	856-2808
Action Time (ms) ^{(1) (2)}	≤ 4



Armor-Piercing Incendiary Tracer M20

Cartridge Length (mm)	137,8
Cartridge Weight (g)	111,4
Projectile Weight (g)	40,4
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Armor-Piercing Incendiary M8

Cartridge Length (mm)	137,8
Cartridge Weight (g)	114,3
Projectile Weight (g)	42,6
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	*
Action Time (ms) ^{(1) (2)}	≤ 4

* To obtain the conformity with the trajectory of the ball projectile



Armor-Piercing Hard Core (API-HC)

Cartridge Length (mm)	137,8
Cartridge Weight (g)	123
Projectile Weight (g)	50
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	830-2720
Action Time (ms) ^{(1) (2)}	≤ 4



Armor Piercing Incendiary Hard Core AP-HC

Cartridge Length (mm)	137,8
Cartridge Weight (g)	123
Projectile Weight (g)	49,2
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	830-2720
Action Time (ms) ^{(1) (2)}	≤ 4

General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Percussion primer. Boxer type.
- **Propellant:** Single base or double base.

Specific Use of the Projectiles:

- **Ball M33:** Used against non-armored targets.
- **Tracer M33:** Used for training with the advantage that the trajectory of the projectile can be seen. The trace has a full luminosity at a distance not greater than 140 m from the gun muzzle up to a distance not less than 1500 m from the gun muzzle. Cartridges loaded with this type of projectile are used for training, and also in links with cartridges that have other types of projectiles, so that the projectile trajectory can be seen.
- **Tracer M17:** Used for training with the advantage that the trajectory of the projectile can be seen. The trace has a full luminosity at a distance not greater than 140 m from the gun muzzle up to a distance of not less than 1500 m from the gun muzzle. Cartridges loaded with this type of projectile have the same ballistic features as those loaded with Ball M33 projectiles, Armor-Piercing Incendiary M8, and Armor-Piercing Incendiary Tracer M20 projectiles. Cartridges loaded with this type of projectile are used for the same purposes as those with Tracer M33 projectiles.
- **Armor-Piercing M2:** Used against lightly armored or non-armored targets, concrete shelters, and targets resistant to Ball bullets.
- **Incendiary M1:** Used against lightly armored targets and those that contain flammable liquids.
- **Armor-Piercing Incendiary M8:** Used against lightly armored targets and that contain flammable liquids, non-armored targets, concrete shelters, and targets resistant to Ball bullets.
- **Armor-Piercing Incendiary Tracer M20:** Cartridges loaded with this type of projectile combine the functions and have the same use as those loaded with Tracer M33 or M17 projectile, or Armor-Piercing Incendiary M8 projectile.
- **Armor-Piercing Hard Core AP-HC:** Cartridges loaded with this type of projectile have the same use as those loaded with Armor-Piercing M2 projectiles, but are more efficient. This projectile perforates a plate made of SAE 1040, 1045, or similar steel, with a thickness of 22 mm and Brinell hardness of 415, placed at 550 m from the muzzle of the gun, mounted in the angle of impact of 90° to the projectile trajectory, i.e., perpendicular to the projectile trajectory.
- **Armor-Piercing Incendiary Hard Core API-HC:** This projectile has the same function as of the Armor-Piercing Hard Core AP-HC with the advantage that it also has an incendiary effect.
- **Blank Cartridge:** Used for training and regimental salutes. This cartridge does not have a bullet. The front part of the neck is star-crimped closed.
- **Spotter Tracer M48A1:** When the cartridge is fired, the projectile shows a trace of full luminosity at a distance from the muzzle of the gun not greater than 90 m, up to a distance of not less than 1350 m from the muzzle of the gun. On impact against a target (consisting of a steel plate placed at 160 m from the gun muzzle, and inclined at the angle of 11° in relation to the trajectory of the projectile), the projectile detonates, producing a flash and puff of smoke allowing the point of impact to be seen.



Blank

Cartridge Length (mm)	98,7
Cartridge Weight (g)	59,8
Projectile Weight (g)	-
Velocity at 24 m (m/s)-(ft/s) ^{(1) (2)}	-
Action Time (ms) ^{(1) (2)}	-



Spotter Tracer M48A1 - (12.7x76mm)

Cartridge Length (mm)	114,4
Cartridge Weight (g)	111,5
Projectile Weight (g)	53,7
Velocity at 24 m (m/s)-(ft/s) ^{(1) (3)}	532-1745
Action Time (ms) ^{(1) (3)}	≤ 4

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 914 mm (36") (3) Test Barrel Length: 813mm (32")

12.7 x 99 mm



20x102mm

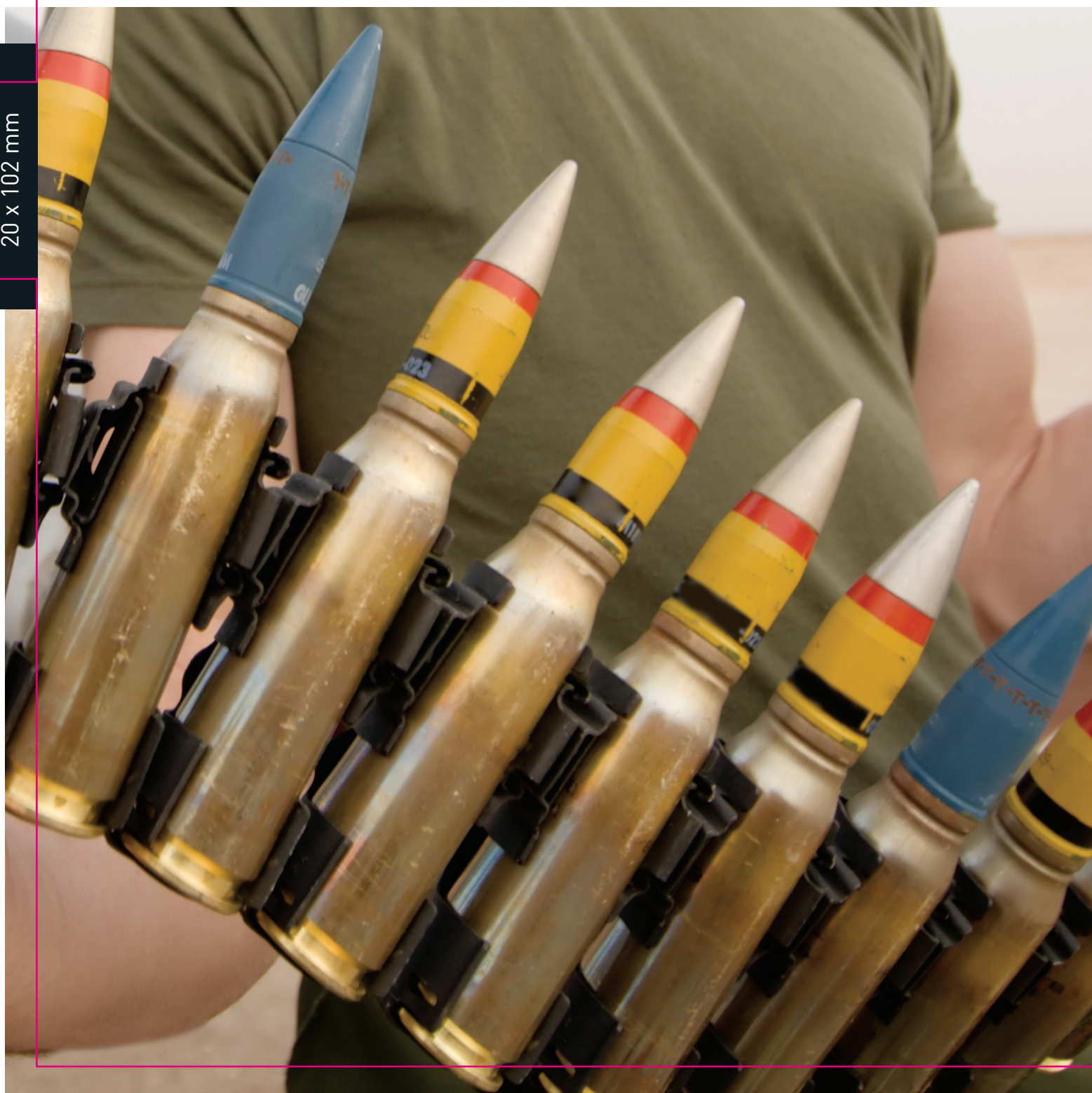
General Use:

- Air-ground combat against troops and lightly armored vehicles.
- Short-range anti-aircraft defense.
- Short-range air combat.

Ammunition for use in the following guns:

- Monotube M39 guns, and in 6-Tube M61 guns (Vulcan)

20 x 102 mm



General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Type M52A3B1. Electric initiation.
- **Propellant:** Single base or double base.

Specific Use of the Projectiles:

- Target Practice M55A2 (TP): Used for training.
- Target Practice Tracer M220 (TP-T): Used for training with the advantage that the trajectory of the projectile can be seen. Burning time of the tracing composition: 2 s (seconds)
- Armor-Piercing Incendiary M53 (API): Used for air-ground combat against: lightly armored ground targets type “Half-Track”, recognition vehicles, store-houses, railways, roads, and sea transports.
- High Explosive Incendiary M56A3 (HEI): Used for air-ground combat, air combat, and anti-aircraft defense. The fuse used in this projectile has instantaneous functioning on impact against the target . The safety distance from the impact is 2 m.



TP - Target Practice

Cartridge Length (mm)	168 Max
Cartridge Weight (g)	259
Projectile Weight (g)	98,5
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1000-3280
Action Time (ms) ^{(1) (2)}	≤ 4



Target Practice Tracer M220 (TP-T)

Cartridge Length (mm)	168 Max
Cartridge Weight (g)	259
Projectile Weight (g)	98,5
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1000-3280
Action Time (ms) ^{(1) (2)}	≤ 4



Armor Piercing Incendiary M53 (API)

Cartridge Length (mm)	168 Max
Cartridge Weight (g)	262
Projectile Weight (GR)	100
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1000-3280
Action Time (ms) ^{(1) (2)}	≤ 4



High Explosive Incendiary M56A3 (HEI)

Cartridge Length (mm)	168 Max
Cartridge Weight (g)	262
Projectile Weight (g)	100
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1000-3280
Action Time (ms) ^{(1) (2)}	≤ 4

20 x 102 mm

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 1361mm (53")



20 x 110 mm

General Use:

- Short-range naval combats.
- Short-range anti-aircraft defense.

Ammunition for use in the following guns:

- MK2, MK3, MK4, ISS and IISS Oerlikon guns.

General Technical Features of the Cartridges:

- **Cartridge Case:** Brass 70/30.
- **Primer:** Percussion primer. Boxer type.
- **Propellant:** Single base or double base.

Specific Use of the Projectiles:

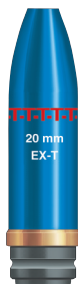
- **Target Practice (TP):** Used for training.
- **Target Practice Tracer (TP-T):** Used for training with the advantage that the trajectory of the projectile can be seen. Burning time of the tracing composition: 3 s (seconds).
- **High Explosive Incendiary M74E1 (HEI):** Used for naval combat, and anti-aircraft defense. The fuse used in this projectile has instantaneous functioning on impact against the target . The safety distance from the impact is 10 m.
- **High Explosive Incendiary Tracer, Self Destructive M72E1 (HEIT-SD):** Used for anti-aircraft defense. The fuse used in this projectile has instantaneous functioning on impact against the target . The safety distance from the impact is 10 m. A connecting charge, placed between the tracing composition and the explosive incendiary charge, ensures the auto-destruction, which occurs between 3 to 7 seconds of uninterrupted flight of the projectile.

20 x 110 mm



Target Practice (TP)

Cartridge Length (mm)	180 Max
Cartridge Weight (g)	251
Projectile Weight (g)	123
Velocity at 25 m (m/s)-(ft/s) ^{(1) (2)}	810-2660
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	-



Target Practice Tracer (TP-T)

Cartridge Length (mm)	180 Max
Cartridge Weight (g)	255
Projectile Weight (g)	126
Velocity at 25 m (m/s)-(ft/s) ^{(1) (2)}	810-2660
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	-



20 x 110 mm



High Explosive Incendiary M74E1 (HEI)

Cartridge Length (mm)	176 Max
Cartridge Weight (g)	229
Projectile Weight (g)	100
Velocity at 25 m (m/s)-(ft/s) ^{(1) (2)}	-
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	875-2870



High Explosive Incendiary Tracer, Self Destructive M72E1 (HEIT-SD)

Cartridge Length (mm)	176 Max
Cartridge Weight (g)	229
Projectile Weight (g)	100
Velocity at 25 m (m/s)-(ft/s) ^{(1) (2)}	-
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	875-2870

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 1448mm (57")



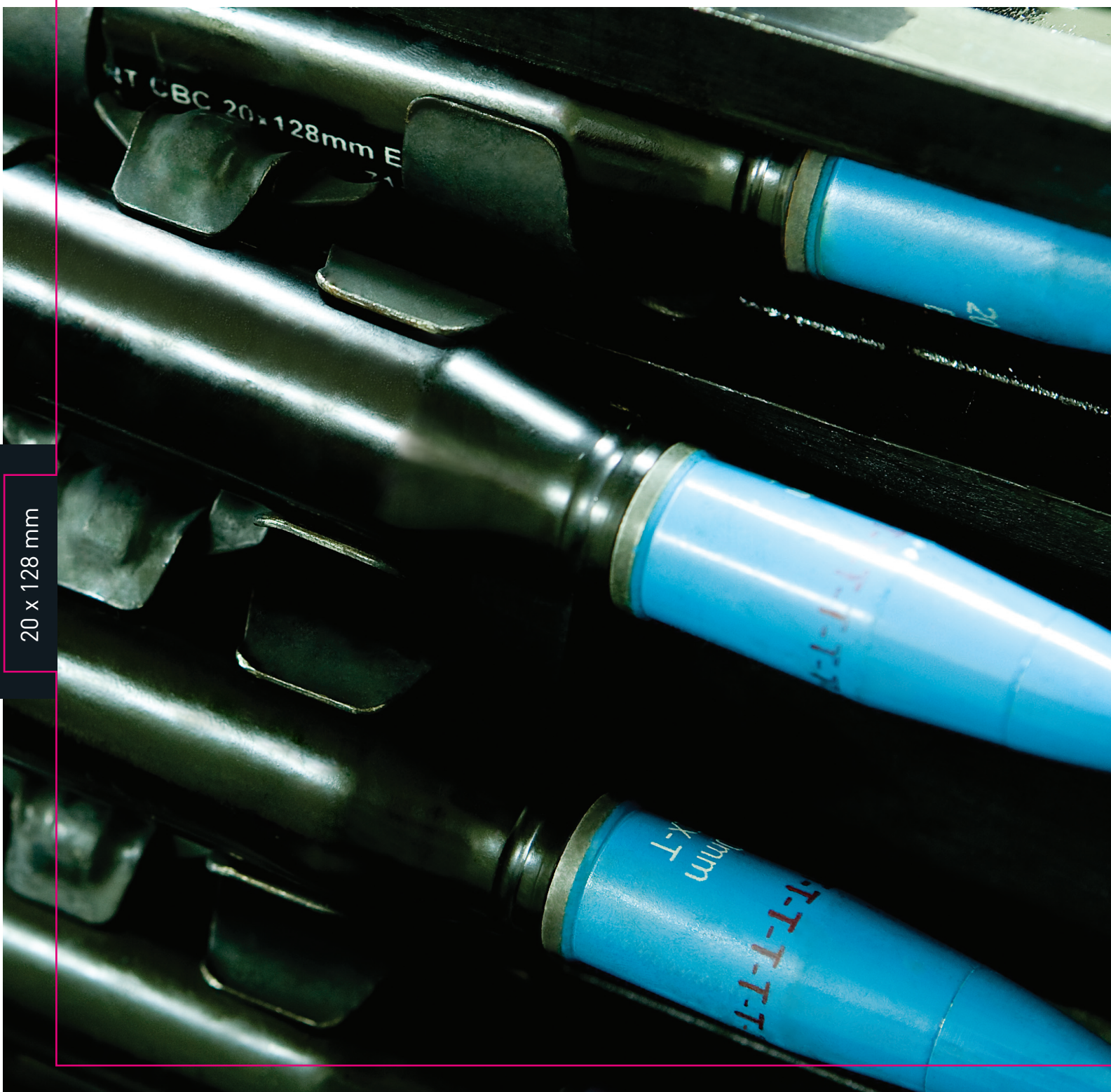
20x128mm

General Use:

- Short-range naval combats.
- Short-range anti-aircraft defense.

Ammunition for use in the following guns:

- KAA-KAB Guns



General Technical Features of the Cartridges:

- Cartridge Case:** Special Steel.
Primer: Percussion primer. Boxer Type.
Propellant: Single base or double base.

Specific Use of the Projectiles:

- **Target Practice (TP):** Used for training.
- **Target Practice Tracer (TP-T):** Used for training with the advantage that the trajectory of the projectile can be seen.
- **Burning time of the tracing composition:** 3 s (seconds).
- **High Explosive Incendiary Tracer, Self Destructive (HEIT-SD):** Used for anti-aircraft defense. The fuse used in this projectile has instantaneous functioning on impact against the target. The safety distance from the impact is 5 m. A connecting charge, placed between the tracing composition and the explosive incendiary charge, ensures the auto-destruction, which occurs between 3 to 7 seconds of uninterrupted flight of the projectile.



Target Practice (TP)

Cartridge Length (mm)	203,8 Max
Cartridge Weight (g)	359
Projectile Weight (g)	125
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1035-3395



Target Practice Tracer (TP-T)

Cartridge Length (mm)	203,8 Max
Cartridge Weight (g)	359
Projectile Weight (g)	125
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1035-3395



High Explosive Incendiary Tracer, Self Destructive (HEIT-SD)

Cartridge Length (mm)	199,5 Max
Cartridge Weight (g)	359
Projectile Weight (g)	125
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	1035-3395

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 1700mm (67")



30 x 113 mm

General Use:

- Training pilots in air-ground and air-air firings at targets specially prepared for that training.
- Air-ground combats against troops, lightly armored vehicles, etc.
- Short-range air combat.

Ammunition for use in the following guns:

- Types 550, 551, 552, 553 and 554 DEFA Automatic Guns

General Technical Features of the Cartridges:

- **Cartridge Case:** Special Steel
- **Primer:** Electric initiation.
- **Propellant:** Single base or double base

Specific Use of the Projectiles:

- **Target Practice (TP):** Equivalent to the type OXL 2570: Used for training pilots in air-ground and air-air firings at targets specially prepared for that training.
- **Target Practice Tracer (TP-T):** Used for the same purpose as the Target Practice (TP) with the advantage that the pilot can see the trajectory of the projectile. The trace has a full luminosity starting at 100m from the muzzle of the gun.
- **Armor-Piercing Incendiary (API):** Used for air-ground combats against: light-armored ground targets type "Half-Track", recognition vehicles, store-houses, railways, roads, and sea transports.
- **High Explosive Incendiary (HEI):** Equivalent to the type HEI 5432: Used for air-ground combats, against troops and targets such as: aircraft, vehicles, and store-houses. It can also be used for air-air combats. The fuse used in this projectile has instantaneous functioning on impact against the target . The safety distance from the impact is 2 m.
- **High Explosive Incendiary, Self Destructive (HEI-SD):** Used for air-air combats. The fuse used in this projectile has instantaneous functioning on impact against the target. The safety distance from the impact is 5 m. The auto-destruction occurs between 5 to 15 seconds of uninterrupted flight of the projectile.

30 x 113 mm





Target Practice (TP)

Cartridge Length (mm)	199,7 Max
Cartridge Weight (g)	433,5
Projectile Weight (g)	240
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	810-2656
Action Time (ms) ^{(1) (2)}	≤ 4



Target Practice Tracer (TP-T)

Cartridge Length (mm)	199,7 Max
Cartridge Weight (g)	446
Projectile Weight (GR)	253
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	810-2656
Action Time (ms) ^{(1) (2)}	≤ 4



Armor-Piercing Incendiary (API)

Cartridge Length (mm)	199,7 Max
Cartridge Weight (g)	480
Projectile Weight (GR)	275
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	780-2558
Action Time (ms) ^{(1) (2)}	≤ 4



High Explosive Incendiary (HEI)

Cartridge Length (mm)	199,7 Max
Cartridge Weight (g)	453
Projectile Weight (g)	240
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	810-2656
Action Time (ms) ^{(1) (2)}	≤ 4



High Explosive Incendiary Self Destructive (HEI-SD)

Cartridge Length (mm)	199,7 Max
Cartridge Weight (g)	435
Projectile Weight (g)	238
Velocity at 7,5 m (m/s)-(ft/s) ^{(1) (2)}	810-2656
Action Time (ms) ^{(1) (2)}	≤ 4

(1) Temperature: 21° C (70° F) (2) Test Barrel Length: 1400mm (55")



Magtech Ammunition Company Inc.

248 Apollo Drive, Suite 180 - Lino Lakes, Minnesota 55014, USA
Phone: +1 763 235 4000 / Fax: +1 763 235 4004
www.magtechammunition.com / info@magtechammunition.com

Sellier Bellot J.S.C.



Lidická 667 - 258 13 Vlašim, Czech Republic
Phone: +420 317 892 492 · Fax: +420 317 892 489
www.sellier-bellot.cz / info@sellier-bellot.cz



Metallwerk Elisenhütte GmbH

Elisenhütte 10 - 56377 Nassau / Lahn, Germany
Telefon: +49 (0) 26 04 78-0 - Telefax: +49 (0) 26 04 78-115
www.elisenhuette.de / men-info@elisenhuette.de



Companhia Brasileira de Cartuchos

Av. Humberto de Campos, 3.220 - 09426-900 - Ribeirão Pires - SP - Brazil
Tel: (55) 11 2139-8378 / Fax: (55) 11 2139-8323
www.cbc.com.br / export@cbc.com.br
