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Anthony G Williams

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44 Small arms > Pistols, SMGs and PDWs

Hornady XTP: expanding bullet; 10.0 g; MV 350 m/s. 11.7 g; MV 320 m/s (127 mm barrel).

Contractor

Wolf Performance Ammunition.

Gold: JHP; 11.7 g; MV 285 m/s.

Polyformance: FMJ; 11.7 g; MV 302 m/s.

.40 Super

Synonyms

10 × 25 Super

Development

By the US company Triton Cartridge in the mid-1990s, as a development of their .45 Super. The company no longer exists, but ammunition has been loaded by Double Tap and is currently available from Load-X and Underwood Ammo.

Description

The .40 Super uses a rimless, bottlenecked brass case. The case diameter is the same as the .45 Auto, but the case construction is far stronger to take much higher pressures. This is in contrast with the .400 manufactured by Cor-Bon, which is designed to use standard .45 Auto cases loaded to standard pressures.

A wide range of different loadings has been offered in the past, with bullet weights from 8.4 to 13.0 g. The current loadings from Load-X are listed below, with two different total metal jacket (TMJ) and jacketed hollow point (JHP) with the latter being loaded to significantly higher velocities.

Armament

Modified versions of suitably strong guns originally in .45 Auto calibre

Specifications

Round length:	33 mm	33 mm	33 mm
Case length:	25 mm	25 mm	25 mm
Round weight:	c. 19 g	c. 19 g	c. 19 g
Rim diameter:	12.0 mm	12.0 mm	12.0 mm
Bullet diameter:	10.2 mm	10.2 mm	10.2 mm
Bullet weight:	10.0 g	11.7 g	13.0 g
Muzzle Velocity (MV):			
TMJ bullet:	381 m/s	335 m/s	305 m/s
JHP bullet:	442 m/s	396 m/s	366 m/s
Muzzle energy:			
TMJ bullet:	726 J	657 J	604 J
JHP bullet:	977 J	917 J	871 J

Contractor

Load-X Ammunition Company.

Equivalent rounds

United States

Contractor

Underwood Ammo.

135 grain JHP: Nosler bullet; 8.75 g; MV 541 m/s.

165 grain JHP: Speer Bonded bullet; 10.7 g; MV 488 m/s.

200 grain JHP: XTP bullet; 13.0 g; MV 427 m/s.

220 grain HCFN: hard cast flat nose; 14.25 g; MV 411 m/s.



.40 Super (bottom) compared with 10 mm Auto (Anthony G Williams) 1395524

.400 Cor-Bon cartridge

Synonym

10 × 23.

Development

The .400 Cor-Bon was designed by Peter Pi of Cor-Bon. The intention was to provide a cartridge with better terminal ballistics than either the .45 ACP (Automatic Colt Pistol) or the .40 S&W (Smith & Wesson), thereby enhancing the performance of existing pistols using modern ammunition technology. To increase flexibility and marketing appeal, the low-pressure (180 MPa) high-velocity cartridge can be used in any .45 ACP pistol simply by changing the barrel. All other pistol components may be retained, including springs and magazines. The cartridge was introduced into the US self-defence and law-enforcement market in 1997.

It is comparable with the 10 mm Centaur and the .40 Super (see separate entry for the latter).

Description

The .400 Cor-Bon is essentially a .45 ACP case necked down to accept .40 calibre/10 mm bullets. It is a rimless bottlenecked case loaded with bullets of various types and weights, as listed below.

Performance Match: FMJ; 10.7 g; MV 335 m/s.

JHP: 8.7 g; MV 442 m/s. 9.7 g; MV 411 m/s. 10.7 g; MV 396 m/s.

Bonded Core: SP; 11.0 g; MV 405 m/s.

Deep Penetrating Barnes X: all-copper HP; 10.0 g; MV 366 m/s.

Pow'RBall: HP with plastic ball in cavity; 8.7g; MV 419 m/s.

Glaser Safety Slug: Lead shot filling, breaks up on penetration; 7.4 g; MV 503 m/s.

Armament

Suitably chambered semi-automatic pistols.



10 mm Centaur; .400 Cor-Bon; .40 Super (Anthony G Williams)

1395643



.400 Cor-Bon cartridge, top, compared with the .45 ACP, bottom (Anthony G Williams)

1122021

KM8/KM18 smoke hand grenades

Development

The KM8/KM18 smoke hand grenades are manufactured by the Hanwha Corporation of South Korea. The KM8 is reportedly based on a US design.

The original KM8 design of a smooth cylindrical sheet metal body with yellow colouring overall and black stencilling. This style of grenade body fabrication appears to have been changed to that of the later KM18 type, which can be distinguished by their green body colouring.

Description

The KM8 is a screening-smoke grenade with the sheet metal body filled with a hexachloroethane (HC) mixture and fitted with a Bouchon igniter set with a delay of 0.7 to two seconds. An aluminium cup under the KM201A1 fuze contains a starter composition, and four holes in the top of the grenade, normally tape-sealed, allow the white smoke to escape. The grenade will emit smoke for from 105 to 150 seconds.

The KM18 grenades are coloured smoke grenades intended primarily for signalling purposes. These grenades have a sheet metal body with a heavy rib at top and bottom. They are painted an overall light green colour, with black stencilling identifying the grenade type and colour of smoke emitted. In addition the top of each grenade is colour-coded to show smoke content. The Hazard Division for both types of filling is given as 1.4.

Specifications

Designation:	KM8	KM18
Height:	118 mm	118 mm
Diameter:	63 mm	63 mm
Weight:	710 g	520 g
Smoke colour:	white	violet, red, yellow, green
Fuze:	KM201A1	KM201A1
Fuze delay:	0.7-2 s	0.7-2 s
Emission time:	105-150 s	50-90 s

Status

In production and available for export sale. In service with the Republic of Korea Army.

Contractor

Hanwha Corporation.



Current production standard Hanwha KM18 coloured smoke grenades (Hanwha)

1463817

LU 213 HE-APERS-FRAG hand grenade

Development

It has been reported that Titanite's manufacture of this grenade ceased in 2006, with production transferring to an unnamed subsidiary. This grenade was used by French forces when they were deployed in Afghanistan, although it is uncertain if residual stocks are being used, or if production has been resumed by the unnamed subsidiary.

Description

The LU 213, or DF Modèle F1, is a controlled High-Explosive Anti-Personnel Fragmentation (HE-APERS-FRAG) hand grenade, in which particular attention has been paid to the fragmentation process. Homogeneous fragment distribution is obtained by a coiled sleeve fragment generator and the use of 230 small steel ball pads on the upper and lower parts of the grenade. The manufacturer also claims that these features should give a near-perfect reliability.

At the time of the grenade's detonation, whatever its position in flight, the steel balls and approximately 1,100 fragments of the prenotched sleeve are projected at very high speed, providing a dense and uniform pattern all around the point of detonation. The safety radius has been studied so as to allow the thrower to stand unprotected within a radius of 22 m without being endangered. The igniter can only be actuated when the safety lever has been completely ejected.

An inert ballasted hand grenade is available for demonstration and drill purposes. The exterior shape is identical to the LU 213 anti-personnel grenade, but the inert body is coloured orange and is equipped with an inert fuze assembly. A safety device is placed at the base of the priming system so as to prevent fitting a live fuze into the inert grenade body.



LU 213 HE-APERS-FRAG hand grenade

0101033

Specifications

Length, with fuze:	94 mm
Diameter:	52 mm
Weight:	
with fuze:	280 g
fuze weight:	55 g
pre-fragmented sleeve:	100 g
explosive filling:	90 g (Comp B or equivalent)
Delay time:	4-5 s
Number of fragments:	approx 1,100, plus 230 steel balls
Average fragment weight:	90 mg
Lethal radius:	9 m
Safety radius:	22 m
Operational temperature range:	-40 to +70°C

Status

Production status is currently uncertain. In service with the French Armed Forces and Sweden as the Språnghandgranat 2000.

Contractor

Formerly Titanite SA.

LU 216 HE blast-effect hand grenade

Development

It has been reported that Titanite's manufacture of this grenade ceased in 2006, with production transferring to an unnamed subsidiary. It is also reported that this grenade (as the LU 216 F1) remains in use with the French armed forces in Afghanistan (confirmed in 2010), although it is not known if residual stocks of this grenade are being used, or if new production has commenced.

Description

The LU 216 grenade is designed to produce the maximum blast effect. Ovoid form in shape, the LU 216 High-Explosive (HE) differs from the LU 213 by the absence of the fragmentation feature and its 80 g TNT filling (or an equivalent explosive), rather than the 90 g of Comp B found in the LU 213. It is fitted with the same fuze as that of the LU 213 hand grenade. The igniter can be actuated only when the safety lever has been completely ejected.

The cartridges are intended for direct firing at relatively close ranges, they have an optimum range of between 6 and 15 m and a maximum effective range of about 22 m, where they have a striking energy of 116 J.

Armament

Suitably chambered 12-gauge shotguns.

Specifications

Calibre:	12 gauge
Round length:	59 mm
Rim diameter:	22 mm
Projectile weight:	40 g
Muzzle velocity:	85 m/s
Muzzle energy:	145 J
Max range:	46 m
Max effective range:	22 m

Status

In production and in service both US and international police and prison services.

Contractor

Defense Technology, a brand of BAE Systems Products Group.

Defense Technology Ferret® 12-gauge irritant chemical rounds

Development

Defense Technology developed this range of rounds in order to deliver chemical agents in barricade situations.

Defense Technology is a part of Safariland™, which was acquired by Armor Holdings and is now part of the BAE Systems Products Group.

Description

The Defense Technology Ferret®-12 is a fin-stabilised frangible projectile filled with chemical agent. Its primary purpose is to dislodge barricade subjects from very small confined areas. It affords stand-off distance for safety, is non-burning and is suitable for indoor use. It is designed to penetrate barriers such as windows and hollow-core doors. Upon impacting the barrier, the nosecone ruptures and instantly delivers a small chemical payload inside the vehicle or structure.

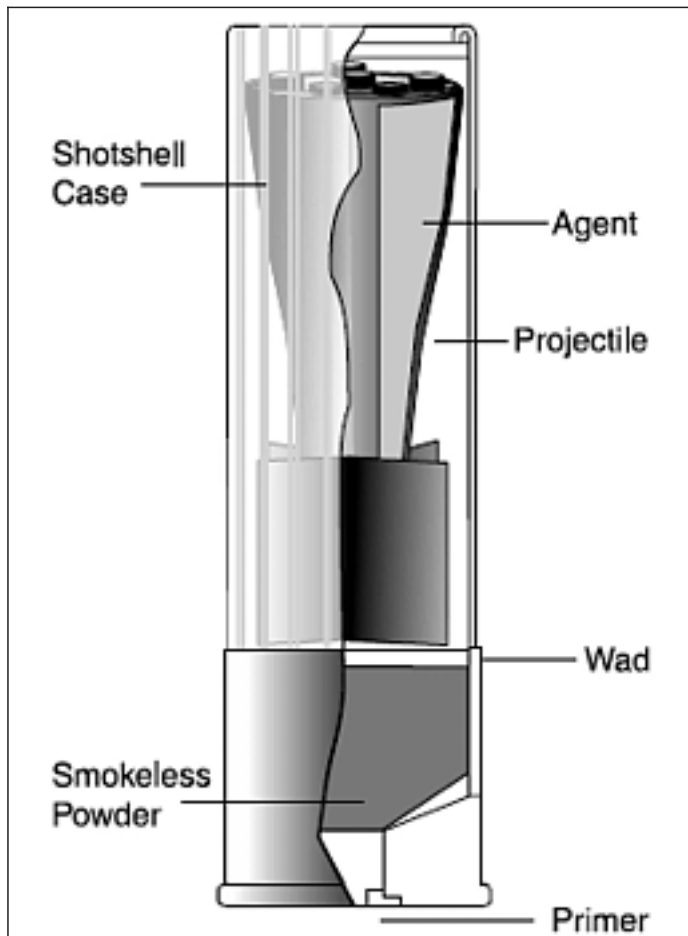
The Ferret®-12 is available with liquid or powder carriers for the agent, in either CS, CN or OC forms. Liquid carriers, which contain red dye to aid in shot placement, are heavier, improving their barricade penetration. Powder carriers tend to keep the agent airborne for longer and may therefore be more effective. Practice rounds with inert contents are also available.



12-gauge Ferret®-12 liquid CS round (Defense Technology) 1153624



12-gauge Ferret®-12 powder OC round (Defense Technology) 1153627



12-gauge Ferret®-12 irritant chemical rounds (Defense Technology) 1153623

Armament

Suitably chambered 12-gauge shotguns (cylinder choke recommended).

Specifications

Round length:	63.5 mm
Rim diameter:	22 mm
Muzzle velocity:	305 m/s
Max range:	91 m
Max effective range:	45 m

Contents: Liquid

Type:	Liquid			
ID:	3010	3011	3012	3013
Contents:	OC	CN	CS	Inert
Content weight:	0.43 g	1.42 g	0.71 g	-

Contents: Powder

Type:	Powder			
ID:	3090	3091	3092	3093
Contents:	OC	CN	CS	Inert
Content weight:	0.06 g	0.85 g	0.86 g	-

Status

In production and in service with police services.

Contractor

Defense Technology, a brand of BAE Systems Products Group.

Equivalent rounds

Belgium

Contractor

Mecar SA.

Type: 105 mm M1008 illuminating

Description: standard specifications.

105 mm Nexter Munitions OFL 105 G2 APFSDS-T round

Development

The forerunner of the 105 mm OFL 105 G2 Armour-Piercing Fin-Stabilised Discarding-Sabot Tracer (APFSDS-T) round was the OFL F1, first announced in June 1979 and entered production in 1981. Although intended for use in all L7, Rh 105, M68 and CN105F1 guns, the utility of the OFL 105 F1 was confined mainly to French-produced CN105F1 guns fitted to the AMX-30 series of main battle tanks (MBTs). The OFL 105 F1 is no longer in production, other than to special order, having been replaced by the OFL 105 G2. However, stocks of OFL 105 F1 rounds remain available for service.

The 105 mm OFL 105 G2 APFSDS-T uses a heavier penetrator rod than the OFL 105 F1, and although it has only a slightly higher muzzle velocity, it is able to produce a 20% better penetration performance than the OFL 105 F1. The G2 is out of production, most AMX-30 battle tanks having been removed from service, and it is relatively unlikely that the round will be encountered currently.

Nexter Munitions (formerly Giat Industries) also produced a 105 mm OFL 105 F2 APFSDS-T with a depleted-uranium (DU) penetrator rod; see below for details.



Nexter 105 mm OFL G2 APFSDS-T round (T J Gander)

0021511



Nexter 105 mm OFL G2 APFSDS-T round (left), compared to the F2 APFSDS-T round (centre) and the F2 HEAT-TP-T round (right) (T J Gander)

0054531

Description

The 105 mm OFL 105 G2 APFSDS-T is a fixed round, with the projectile assembly crimped to an M148A1B1-pattern cartridge case. The projectile assembly consists of a subprojectile and a sabot. The OFL 105 G2 subprojectile has a monobloc tungsten-alloy core acting as the penetrator rod, the front part of which has an aluminium windshield with a steel tip to prevent aerodynamic heating. The length-to-diameter ratio is about 26:1. A six-finned aluminium fin assembly is fitted to the rear of the penetrator rod and contains a tracer element.

The penetrator rod is held in the three-segment aluminium sabot assembly in a slip band arrangement, interfaced by mating buttresses (also referred to as drive splines). The slip band reduces the amount of spin assimilated by the penetrator rod during its passage down the gun bore after firing. Once the projectile assembly has left the muzzle, the three sabot segments break away, taking the slip band with them.

The cartridge case is 70:30 brass (steel may also be used). An electrical primer is also fitted into the base. Before loading, the primer is normally protected by a metal clip over the base of the cartridge case. The propellant charge is 5.85 kg of an unspecified double-base multiperforated (19-hole) propellant.

The OFL 105 G2 has a muzzle velocity of 1,525 m/s; its residual velocity at 2,000 m is 1,387 m/s. It can penetrate a NATO 'single heavy' tank target at 7,400 m and a NATO 'triple heavy' (total thickness less than the 'single heavy') tank target at 9,000 m. The time of flight to 2,000 m is 1.38 seconds. The maximum effective combat range is stated to be 2,000 m.

The OFL 105 F2 is a variant with a DU penetrator and is in production for in-service CN105F1 guns fitted to French Army AMX-30B2 MBTs. It is understood to penetrate 540 mm of rolled homogeneous armour (RHA) at 2,000 m. The weight of the round is 8 kg, and the weight of the projectile assembly is 6.25 kg. The overall round length is 990 mm, and the muzzle velocity is 1,525 m/s. The round is available with brass or steel cases.

Armament

All 105 mm L7, Rh 105, M68 and CN105F1 series tank guns and South African GT7 tank gun.

Authorised fuzes

None involved.

Specifications

Weights:	
complete round:	18 kg
projectile assembly:	6.25 kg
penetrator:	4 kg
propellant:	5.85 kg
Lengths:	
complete round:	985 mm
cartridge case:	617 mm
Muzzle velocity, nominal:	
CN 105 F1:	1525 m/s
L7/M68:	1495 m/s

Status

The OFL 105 G2 and F2 are no longer in production.

Contractor

Nexter Munitions (formerly Giat Industries).

105 mm Nexter Munitions OFUM PH 105 F1 smoke WP round

Development

The WP OFUM PH 105 F1 smoke white phosphorus (WP) round is for use with NATO-standard 105 mm high-pressure tank guns (L7, M68, or equivalent). It is virtually identical, both visually and ballistically, to the OE 105 F1 high-explosive (HE) round (see separate entry), and it is often employed as a training round in its place. The 105 mm OFUM PH 105 F1 smoke WP round is no longer in production by Nexter, though equivalent rounds are still in production overseas.

Description

The 105 mm OFUM PH 105 F1 smoke WP is a fixed round, with the projectile rigidly secured to the brass or steel cartridge case by a single crimping ring. The ring engages with a pronounced cannellure on the projectile just to the rear of the copper or gilding-metal drive band.

The projectile is steel and is filled with 1.77 kg of WP. An FUI 56 point-detonating (PD) fuze is threaded into the nose fuze cavity, although the M51 PD fuze may also be used. When the fuze functions on impact, it initiates a centrally located burster tube filled with 120 g of Hexolite explosive (50:50 RDX/TNT mix). The resultant detonation fractures the steel body and breaks up the WP, exposing it to oxygen in the atmosphere. The resulting reaction with atmospheric oxygen produces clouds of grey/white smoke for approximately 40 seconds, forming a smoke screen 75 m wide.