

16 June 2014

Rheinmetall: The leading “one-stop shop” for 40mm systems

Rheinmetall’s array of 40mm ammunition – along with quite a few other products made by Germany’s best-known defence contractor – serves as a veritable combat multiplier for the infantry and other dismounted troops. It bridges the gap between hand grenades and mortars. Besides ammunition and weapon systems the Düsseldorf-based Group also offers the Vingmate family of fire control systems. Visitors to Eurosatory 2014 can learn more about the leading “one-stop shop” for 40mm systems at the Rheinmetall pavillon.

Widely used today, the Group’s 40mm x 46 low-velocity ammunition (LV, velocity: 78 m/s) is available in a wide variety of versions, including HE/fragmentation, shaped charge with fragmentation jacket (HEDP/high explosive dual purpose) as well a number of other service and practice rounds, together with non-lethal payloads such as kinetic impact munitions or irritant.

At present, Rheinmetall is the leading maker of new 40mm x 46 medium-velocity ammunition (MV, velocity: approx. 105 m/s). It can be fired by individual infantrymen equipped with handheld or platform-mounted grenade launchers, attaining an enhanced range of 400 to 800 metres, and enabling rounds with a higher payload, greater lethality, a first shot kill probability and modified fuse technology to be fired. In addition, the Rheinmetall product range includes the 40mm x 46 Long Range (LR; velocity: approx. 100 m/s).

The Group’s new generation of 40mm x 51 MV ammunition has a maximum effective range of 800 metres, doubling the infantryman’s reach and providing a flatter trajectory for those crucial close-in, accurately placed shots. Rheinmetall’s MV ammunition will soon be available in service and practice versions. It is currently undergoing NATO qualification.

Rheinmetall’s programmable airburst ammunition constitutes another important new capability, allowing troops to engage targets taking cover in trenches, behind stone walls, etc.

Its 40mm LV ammunition can be fired from all standard stand-alone and underslung grenade launchers such as the M79 “Blooper”, the M320, AG 36, Milkor and Rippel launchers, the M203 and the SCAR EGLM/ Mk13 Mod 0. Rheinmetall is also developing the GL Cerberus grenade launcher (as an underslung or standalone system) and the magazine-loaded AGL Hydra automatic grenade launcher. The latter in particular gives the grenadier enormous firepower, since it can fire single shots and three-round bursts. Moreover, the 40mm rounds pack more punch than competing weapon systems such as the XM25.

Rheinmetall’s 40mm x 53 high-velocity ammunition reaches a speed of 240 m/s and has a maximum effective range of 2,200 metres. Here, too, the Group supplies a wide assortment of different cartridges, including newly developed HE and HEDP airburst ammunition which is programmed by an infrared programming unit.

The new multipurpose 40mm HV-HEDP IM ESD (High Velocity-High Explosive Dual Purpose, Insensitive Munition, Electronic Self-Destruct) cartridge is ideal for engaging and defeating lightly armoured and soft targets. It has a newly developed shape charge cone capable of penetrating 80 millimetres of rolled homogeneous armour (RHA) grade K. It is the only 40mm ammunition on the market today with this kind of penetration performance. A unique nose fuse incorporating an electronic self-destruct (ESD) mechanism is optimized for high-sensitivity detonation against both hard and area targets. This system results in a dud rate significantly below that of a typical pyrotechnic or spin decay self-destruct mechanism.

The excellent accuracy of the Rheinmetall 40mm HV-HEDP cartridge is a result of its patented, proprietary propulsion unit, in which the cartridge case (including the propelling components) is fastened to the projectile (which contains the copper liner and the explosive charge). At extreme temperatures, e.g. resulting from a fuel fire, the RWM 40mm IM's improved propulsion system prevents separation of the projectile and propulsion unit. The ammunition stays in the box, with no risk of live ammunition being scattered around the area. The 40mmx53 HEDP IM ESD is equipped with qualified IM explosives. The 40mm HV-HEDP IM ESD grenade is suitable for use in all NATO-standard weapon systems, including the HK GMG, as well as the MK19 and the MK47 grenade launchers.

Rheinmetall's Vingmate family provides users with a broad range of enhanced capabilities, increasing the effectiveness of the gunner while maximizing the potential of the host weapon system and munitions being utilized. The Vingmate family consists of three fire control solutions, providing increased accuracy and performance: Vingmate Advanced for high velocity automatic grenade launchers and heavy machine guns, Vingmate MR for low and medium velocity 40mm grenade launchers and Vingmate SL for shoulder launched weapons.

The Vingmate family of fire control systems enhances the effectiveness enormously. The Vingmate Advanced aiming and fire control system features the Saphir 9.6 aiming device and a fire control unit, a combined tripod and gun cradle. It is thus suitable for various 40mm automatic grenade launchers such as the MK19 and HK GMG but also for heavy .50 cal. machine guns like the FN M2, or even 20mm automatic cannon such as the GAM B01. Vingmate Advanced is designed to permit programming of airburst rounds via an infrared laser beam as they leave the barrel. Along with the Vingmate Advanced fire control system, at Eurosatory 2014 Rheinmetall will be displaying the VingSim, its accompanying training device.

Also on show is the Vingmate MR which is substantially more compact and lighter than its FeLVis forerunner, and is suitable for low- and medium-velocity 40mm ammunition including air burst rounds. It features a laser rangefinder, is able to detect if the weapon is at an incline, and also calculates the necessary lead. In addition, it is equipped with a laser pointer, an IR laser pointer invisible to the human eye, and an electronically focusable IR illuminator.

The Rheinmetall products on display at Eurosatory 2014 underscore once again the versatility of a globally leading systems supplier and longstanding partner of the world's armed forces and security services.

**For more information, please contact:
Oliver Hoffmann
Head of Public Relations**

Rheinmetall AG
Tel.: +49-(0)211-473 4748
oliver.hoffmann@rheinmetall.com