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Rheinmetall: One of the world's leading suppliers of advanced 40mm technology

Despite all the talk of automation and unmanned systems, it is clear that “boots on the ground”, i.e. infantrymen, are as important as ever and will continue to play a decisive role in future military scenarios. Particularly in modern asymmetric conflicts, ground troops have to be able to respond in a scalable manner to multiple threats worldwide.

Rheinmetall's array of 40mm ammunition serves as a veritable combat multiplier for the infantry and other dismounted troops. It bridges the gap between hand grenades and mortars. Widely used today, the Group's 40mm x 46 low-velocity ammunition 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.

Rheinmetall's 40mm x 53 high-velocity (HV) ammunition with electronic self destruct fuze 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. All HV Warshot Ammo can be used for indirect fire with 40mm AGL. This System is in service with the Canadian Army.

The Düsseldorf-based Group also offers the Vingmate fire control unit as an ideal way of maximizing the effectiveness of HV ammunition. For instance, Rheinmetall has supplied the Canadian armed forces with the “Close Area Suppression Weapon System (CASW) C16”, consisting of a Heckler & Koch grenade machine gun (GMG) with an integrated Vingmate and Rheinmetall's 40mm HV Training and Warshot Ammo.

At CANSEC 2012, the CASW is on view at the Rheinmetall stand together with the VingSim training system.

The US armed forces likewise trust in Rheinmetall's 40mm expertise. The Army, Air Force and Marines and the security forces of the Department of Energy have already been using the company's 40mm day/night LV and HV practice ammunition for years. Produced in the United States by American Rheinmetall in Camden, Arkansas, these cartridges never result in unexploded ordnance or cause bush fires on firing ranges. Moreover, they contain no toxic components.

The 40mm MK 313 Low Velocity – High Explosive Dual Purpose (LV-HEDP) has seen the start of USMC qualification in 2011.

At present, Rheinmetall is the leading maker of new 40mm x 46 medium-velocity ammunition. It can be fired by individual infantrymen equipped with handheld or platform-mounted grenade launchers, attaining an enhanced range of up to 700 metres, and enabling rounds with a higher payload, greater lethality, a first shot kill probability and modified fuse technology to be fired. Rheinmetall's programmable airburst ammunition constitutes another important new capability, allowing troops to engage targets taking cover in trenches, behind stone walls, etc. The company's MV ammunition will be available in service and practice versions. It is currently undergoing NATO qualification.

Rheinmetall's 40mm-LV Ammunition can be fired from all standard stand-alone and underslung grenade launchers such as the M79 "Blooper", the XM320, AG 36, Milkor and Ripfel Launchers, the M203 or 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 the XM25 weapon system.

Both grenade launchers feature a built-in self-regulating hydraulic shock absorber, ensuring that they can fire medium-velocity 40mm x 46 in particular without subjecting the weapon or its user to greater stress than LV ammunition.

The MultiRay fire control unit

Rheinmetall's MultiRay fire control unit is suitable for 40mm low- and medium-velocity grenade launchers, panzerfaust weapons and heavy machine guns. This advanced FCU has an infrared laser beam that can program airburst rounds as they leave the barrel. In addition, it is significantly more compact and almost 500 grams lighter than its predecessor, the FeLVis. A small motor continues to move a comparatively small component containing the optical and optronic components. The housing with the remaining components is fixed to the weapon. The MultiRay features a laser rangefinder and also calculates the lateral tilt of the weapon, specifying the point of aim of correction. Furthermore, it is equipped with an IR laser pointer that is invisible to the human eye, an electronically focusable IR illuminator and Rheinmetall friend-foe identification technology. This means that the new fire control unit has nearly all the capabilities of the VarioRay laser light module. Another new feature: energy for the MultiRay can be supplied by power rails, that is to say, MIL-STD 1913 Picatinny rails with an integrated power source.

Rheinmetall – Partner to the Infantry

As one of the world's leading suppliers of defence technology systems, Rheinmetall is an increasingly important partner to the infantry. The Group's array of infantry-oriented products extends far beyond the equipment outlined here, ranging from pyrotechnics and explosive charges to mortar systems, and from add-on devices for small arms such as laser light modules to other electro-optical equipment for crew-served weapons. Rheinmetall also makes the cutting edge German Future Soldier System IdZ-2 (now called "Gladius"), which is destined to bring war-fighters on the ground directly into the network-enabled operations loop. Rheinmetall and its

industrial partner SAAB have just submitted a proposal for the Integrated Soldier System Project (ISSP), the Canadian future soldier program.

Highly characteristic of the Rheinmetall approach is the company's continuous dialogue with users. The Rheinmetall Infantry Symposium, for example, is now a fixture in the ground forces community calendar.

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