press release

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Rheinmetall: Leading system supplier of 40mm weapons, ammunition and fire control 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 – along with quite a few other products made by Germany’s best-known defence contractors – 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 (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. 100 m/s). It can be fired by individual infantrymen equipped with handheld or platform-mounted grenade launchers, attaining an enhanced range of 400 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 stonewalls, etc.

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 three-round bursts. Moreover, the 40mm rounds pack more punch than the US 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 firer to greater stress than LV ammunition.

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.

Her Majesty’s Armed Forces likewise trust in Rheinmetall’s expertise in the 40mm field. Only recently, the British Ministry of Defence ordered nearly 950,000 rounds of MK281 MOD0 40 mm x 53 Target Practice Impact Signature (TPIS) ammunition as

well as over 27,000 rounds of its M8931A1 40 mm x 46 Low Velocity Red Phosphorous Grenade.

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 recently 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.

The FeLVis fire control unit

Rheinmetall developed the FeLVis fire control unit in order to optimize the accuracy of ammunition with a strongly curved trajectory, e.g. 40mm cartridges and panzerfaust rounds. Effective in all light conditions and weighing less than 700 grams, the device is attached to a Picatinny rail mounted on the side of the weapon and can carry a wide variety of optical aiming devices. The gunner aims at the target using either the aiming device or the built-in red light laser marker, measuring the exact distance to the target with the laser. At night, the integrated infrared laser marker is used for aiming, supported by an infrared target illuminator.

Taking into account various parameters – distance, temperature, air pressure and ammunition type – the fire control unit calculates the required launch angle as well as automatically aligning the optics. In addition, it informs the gunner if the weapon is at an incline. The gunner then aims again using the fire control unit, adjusts the weapon to the required angle, and engages the target. Furthermore it is already possible to integrate the FeLVis into new individual modular soldier systems. In the future, moreover, combining the FeLVis with airburst ammunition and friend-foe recognition/dismounted soldier identification devices will offer additional options.

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 “Future Soldier – Expanded System” (IdZ-ES, now IdZ2), which is destined to bring war-fighters on the ground directly into the network-enabled operations loop.

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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