

11 June 2012

## **Rheinmetall: A reliable partner of the infantry**

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. Infantry forces are also capable to fight in difficult terrain – be it urban operations, be it mountain warfare.

As one of the world’s leading suppliers of defence technology systems, Rheinmetall will be showing its products and systems for modern infantry forces during the Eurosatory 2012.

### **Soldier Systems**

In the field of soldier systems, Rheinmetall was awarded a contract by the German Army to develop the cutting edge soldier system “Gladius” (formerly known as “German Future Soldier - Expanded System” and Infanterist der Zukunft – 2). Gladius enhances the battle performance, endurance and protection of modern war-fighters on the ground and embeds them directly into the network-centric operations loop. Visitors will see the Gladius during Eurosatory 2012.

### **40 mm ammunition and fire control units**

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 stone walls, 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.

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 won an order to supply 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.

### **Fly-K and 60 mm mortar ammunition**

As indirect fire weapons, mortars play an indispensable role on the modern battlefield, providing light, highly mobile units in particular with organic firepower.

Rheinmetall has developed a quick-mounting digital aiming device for the Fly-K mortar, a system successfully deployed by the French armed forces in Afghanistan. The device measures the incline and elevation angle of the tube, while showing the range of the cartridges on a display. Light, compact, quiet and with a very low operational signature, this indirect fire weapon can of course also be used without an aiming device to engage targets at distances of up to 800 metres. Rheinmetall just has won a contract from the French armed forces to supply further Fly-K-products worth €38 million.

Besides its 120mm and 81mm products, at Eurosatory 2012 Rheinmetall is displaying its new family of 60mm ammunition. The Düsseldorf-based Group's latest generation of enhanced-range, enhanced-performance mortar ordnance is designed to meet all current and foreseeable future mission requirements.

This innovative ammunition family is optimized for insensitivity, fulfilling or surpassing all STANAG 4439 requirements. It encompasses service and practice cartridges, including insensitive high explosive (IHE), high explosive (HE), three different types of smoke/obscurant as well as two illumination variants (visible light and infrared).

The new 60mm ammunition is especially well suited for special forces-type mortars with barrel lengths of 640 and 650 mm. It can also be fired from previously fielded standard weapons with barrel lengths of 895 and 1,000 mm. This is also true of

long-range systems such as the M6 launcher made by Denel Land Systems. Fired from a mortar with an 895mm barrel, the maximum effective range is approximately 4,000 metres. Moreover, Rheinmetall's new 60mm ammunition family is compatible with all standard weapons systems in this calibre.

The propelling charge system is identical in all variants, and – depending on customer specifications – can be made with either EI or ECL powder in a combustible case. The loading system and firing tables can also be adapted to match customer requirements. The obturation characteristics of the rounds have been improved as well, contributing to the longer maximum effective range. Moreover, the entire ammunition family meets the STANAG requirements for safety and environmental protection.

### **Rheinmetall Defence: totally oriented to today's military**

With its Combat Systems, Electronic Solutions, and Wheeled Vehicles divisions, Rheinmetall Defence supplies the world's armed forces with systems and equipment systematically designed to assure successful outcomes in complex modern military operations.

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.

Rheinmetall also maintains an extensive network of international partnerships for serving new markets as well as enabling technology transfer that will substantially benefit both the industry and the military of customer nations. This makes Rheinmetall the ideal industrial partner in the quest to supply today's armed forces with advanced capabilities.

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