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## **Rheinmetall Denel Mmunition: outstanding combat effectiveness, long range and full compatibility with existing systems**

Rheinmetall has for many years been a partner of South Africa's armed forces and defence industry. Founded in 2008, Rheinmetall Denel Mmunition (Pty) Ltd. is a subsidiary of Rheinmetall Waffe Mmunition GmbH (51%) in Germany and the South African company Denel (Pty) Ltd.

A global player, Rheinmetall Denel Mmunition has unique expertise in artillery, mortar, infantry and minefield breaching systems as well as highly specialised capabilities in rocket and missile propulsion and warhead subsystems, safety and arming devices (SAD) and plant design, ranging from development and engineering to production. Its stated goals are to supply the South African National Defence Force, or SANDF, with state-of-the-art solutions; to operate highly efficient, innovative production plants; and to take the lead in setting the technological pace. Besides South Africa, Rheinmetall Denel Mmunition primarily serves customers in Asia, the Middle East and South America. Rheinmetall and its South African subsidiary are thus able to supply their respective core markets with the Group's complete, comprehensive array of products.

At Hall No 5, Rheinmetall Denel Mmunition will be on hand at AAD as a partner at the bigger Denel stand, with an extensive range of hardware, including a broad assortment of ammunition for indirect fire applications such as the extended range of 40 x 51mm grenades, the 76/62mm IM PFF (insensitive munition pre-formed fragmentation), the ballistically matched 155mm Assegai or the 105mm and the latest generation of 60mm patrol mortar bombs. The joint presentation of Rheinmetall Denel Mmunition and Denel underlines that Rheinmetall Denel Mmunition is an integral part of the South African environment and strong member of the family.

### **105 mm**

Rheinmetall's new 105mm M1130 base-bleed (BB) and M1131 boat tail (BT) projectiles are insensitive high explosive pre-formed fragment (IHE PFF) rounds, developed under the aegis of the Advanced Cannon Artillery Ammunition Programme (ACA2P). Their effectiveness against semi-hard targets is roughly equivalent to that of a 155mm high explosive round.

Trials in South Africa have revealed that, in combination with Denel Land Systems' 105mm long-range Light Experimental Ordnance (LEO), the M1130 can attain a range of 33 km when propelled by a five-segment RDM XM24A42 propelling charge. By comparison, when fired from a 105mm M119A2 light gun with a conventional seven-zone M67 propelling charge, the ammunition attained a maximum range of just 13.8 km.

### **New 60mm patrol mortar & 81mm 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.

At AAD 2014 Rheinmetall is displaying its new family of 60mm & 81 mm ammunition. This 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 (WP, RP multispectral and TTC) 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 new generation 81mm ammunition is optimised for the L16 type weapons and is compliant to the latest NATO requirements. The ammunition will be STANAG qualified and will have an identical propulsion system for all variants.

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.

### **155mm Assegai Artillery Ammunition**

Rheinmetall has developed a full suite of 155mm Artillery Ammunition comprising Insensitive Munition (IM) High Explosive (HE), Conventional HE, IHE PFF, screening smoke, Illumination, Infrared Illumination and Extended Range Velocity Enhance IHE PFF projectiles. The ammunition suite is called the Assegai Artillery Ammunition family and is designed according to the Joint Ballistics Memorandum of Understanding (JBMoU) and qualified in accordance with STANAG. The Assegai family has been designed to accept either a boat tail or a base bleed unit. The Assegai family in base bleed configuration has been proven to achieve a range of 40km from a 52 caliber artillery weapon.

### **V-LAP**

The Assegai V-LAP projectile is at the forefront of modern artillery technology and will extend maximum range of existing howitzers by typically 30%. It provides an extended range interdiction capability against soft targets and soft skinned vehicles

beyond close battlefields without exposing own forces to counter battery fire and also without any special operational or logistical requirements. Typical targets include:

- Enemy command and control installations
- Enemy radar emplacements
- Field logistical sites
- Field camps and frontline workshops
- Troop concentrations
- Soft-skinned targets

#### **40mm Grenades**

Rheinmetall Denel Munition (RDM) is a manufacturer and global supplier of a comprehensive range of 40mm grenades, comprising both Low Velocity (40x46mm), Medium Velocity (40x51mm) and High Velocity (40x53mm) lethal, less lethal and pyrotechnic natures. The newly introduced Medium Velocity range offers users improved range (up to 800m), accuracy (flatter trajectory) and terminal effects (25% increase in payload size) from a number of bespoke, shoulder fired multiple grenade launchers. A completely revised range of Low Velocity Less Lethal crowd control products comprising state of the art Impulse, Irritant Chemical and Aerial Sonic natures is set for release shortly, whilst the High Velocity lethal range will be complemented during 2014 with a Self Destruct fuze option.

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