

RShG-1

Russia's Latest Thermobaric Grenade

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The latest Russian thermobaric grenade—brought out on 23 July 2001 by the Bazalt Research and Production Center—is an improved variant of the

RShG-1. Described as a “Multi-Purpose Rocket Propelled Grenade,” the weapon has been listed as having an effective range of 500 meters and a

maximum range of 800–1,000 meters. With this revelation, Bazalt may be trying to wring RPG-29 performance levels out of the original RShG-1.

The RShG-1 is based on the RPG-27 LAW (a more powerful evolution of the RPG-26), which fires a 105mm rocket based on the PG-7VR tandem warhead grenade (used in the RPG-7). The PG-7VR warhead, which has a punch equivalent to that of a 120mm high-explosive (HE) mortar or artillery shell, was actually developed in 1988. The Russians now believe it will be a useful antitank weapon out to 2005. (See also “The RPG-7 on the Battlefields of Today and Tomorrow,” by Lester W. Grau, *Infantry*, May-August 1998.)

The PG-7VR is also used in the

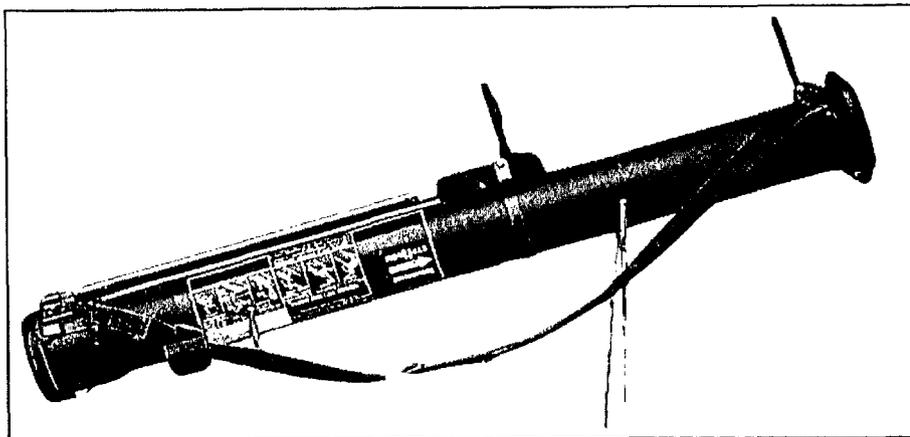


Figure 1. RPG-27

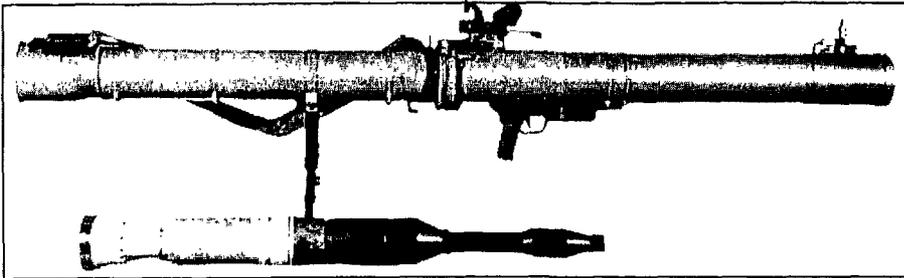


Figure 2. RPG-29

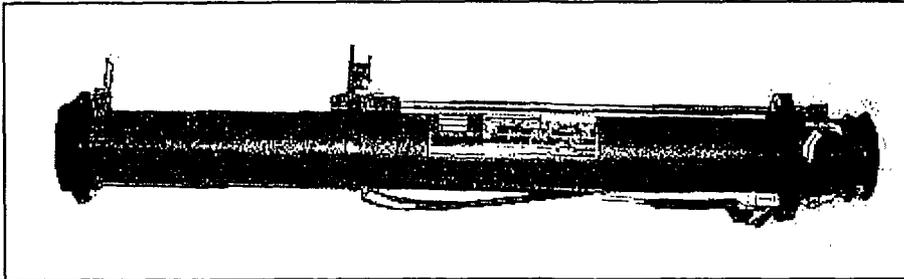


Figure 3. RPG-29

	RPG-27	RPG-29	RShG-1	RShG-1 IMPROVED
Caliber (mm)	105	105	105	105
Wt. total (kg)	7.6/8	11.5	8/8.3	8.5
Wt. (grenade)	--	6.7	--	--
Range (m)	200	500	200	400
Maximum armor penetration (m)				
HRA after ERA penetration (normal)	.750	.750	Unknown	Unknown
Reinforced concrete	1.500	1.500	Unknown	Unknown
Brick	2.000	2.000	Unknown	Unknown
Log and earth	3.700	3.700	Unknown	Unknown
Operating temp (C)	+/- 50	+/- 50	+/- 50	Unknown
Length (??)	1.155	?	1.155	?

RPG-29, which looks more like a conventional "bazooka" or recoilless rifle than the LAW-series RPGs. The RPG-29 can be broken down into two sub-assemblies carried by the gunner in a special bag. The assistant gunner carries additional grenades and protects the gunner. While fitted with iron sights, the launcher also has both optical day and night sights.

In late 1998, the Russians sold the Syrians a shipment of RPG-29 grenade launchers with night sights (as part of a larger arms package).

On 20 October 1999 the Russians conducted extensive survivability trials on T-80U and T-90 main battle tanks (MBTs). These tests involved firing large amounts of ordnance (including several versions of RPG ATGL, light

and heavy ATGMs, and APFSDS rounds) at the frontal arc of T-80Us and T-90s, with and without Kontakt-V reactive armor (ERA). Three of each type tank were used (one with Kontakt-V ERA, one without the explosive packages, and one reserve vehicle). For the ERA part of the trials, knocked-out ERA packages were replaced after each shot. Each weapon was fired five times at each target, for a total of 20 shots per weapon.

The RPG-29 scored a total of three penetrations, while none of the other RPG rounds could penetrate even the stripped target. The RPG-29 also penetrated the T-80U three times with the ERA and all five times without. Of all other grenades, only one PG-7VR penetrated the stripped T-80U target.

The RPG-7 using the advanced 4.5kg, 105mm PG-7VR grenade had a penetration of 650mm of rolled homogenous armor (RHA), the RPG-26 disposable LAW had more than 500mm, while the RPG-29 105mm launcher was able to punch through 750mm.

The Russians concluded that the RPG-29 was by far the most potent weapon among those tested. It was as powerful as the heavy "Kornet" ATGM and, considering the proliferation of this fairly light infantry weapon, they figured that it had become the most dangerous adversary of modern Russian main battle tanks and a very disturbing development.

The RShG-1 has a small HEAT (high-explosive antitank) precursor to penetrate targets before the 2.3kg thermobaric main charge warhead explodes, making it more useful than the RPO-A against lightly armored vehicles and field fortifications. With tandem warheads, the first charge blows a hole in the target's outer skin (or ERA blocks) for a thermobaric primary warhead to pass through. This provides an armor/concrete penetration capability, allowing the thermobaric charge to be detonated inside the target.

Thermobaric weapons contain slow-burning explosive slurries that keep their explosive impulses on a target longer. Their burning plasma clouds can penetrate even the smallest cracks, and when the slurry is completely consumed, the resulting vacuum causes a massive backblast that crushes everything in the area. These weapons can be extremely dangerous to armored vehicles, as they penetrate engine compartments or vents.

Bazalt believes that the RShG-1 has no competitors on the global arms market and, with its excellent sales prospects, may be a weapon U.S. forces must face in the future.

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