

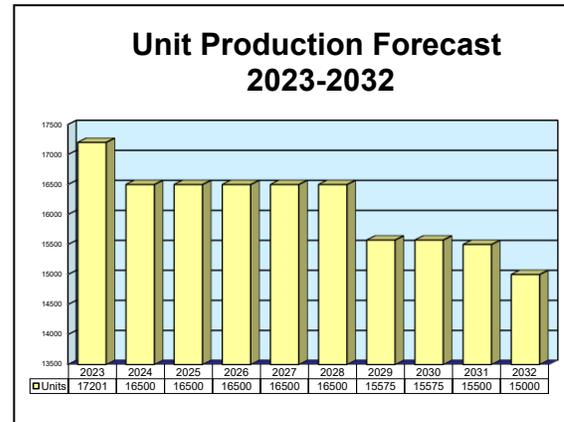
ARCHIVED REPORT

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RPG-29

Outlook

- Serial production ongoing for Russian Army procurement
- January 2010: Hamas (in the Gaza Strip) confirmed having RPG-29s in its inventory
- Production outlook reflects Russian Army procurement as well as Rosoboronexport expectations of at least some export sales



Orientation

Description. A man-portable anti-armor weapon.

Sponsor. The Ministry of Defense of the Russian Federation sponsors the development and Russian Army procurement of this legacy program of the former Soviet Union.

Status. Development through serial production.

Total Produced. Through 2022, we estimate the Russian contractors produced about 494,856 RPG-29 weapons.

Application. A man-portable, reusable, light anti-armor weapon. The Russian Army considers the RPG-29 as the replacement for the RPG-7 and RPG-16.

Price Range. In 2023 U.S. dollars, the RPG-29 launcher (with sight and monopod) maintains a unit price of \$4,086.

The 105mm PG-29V tandem High Explosive Anti-Tank (HEAT) round reportedly costs about \$108.

Contractors

Prime

Federal State Unitary Enterprise, Rosoboronexport, Rosoboronexport State Corp	http://www.roe.ru , 27/3 Stromynka St, Moscow, Russian Federation, Tel: + 7 495 534 6183, Fax: + 7 495 534 6153, Prime
KBP Instrument Design Bureau	http://www.kbptula.ru , 59 Shcheglovskaya Zaseka St, Tula, Russian Federation, Tel: + 7 4872 41 0210, Fax: + 7 4872 42 6139, Email: kbkedr@tula.net, Second Prime
State Research and Production Enterprise "Bazalt"	http://www.bazalt.ru , 32, Velyaminovskaya St, Moscow, Russian Federation, Tel: + 7 095 369 0122, Fax: + 7 095 369 2418, Email: moscow@bazalt.ru, Second Prime

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

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Technical Data

Design Features. The RPG-29 is a simple, reusable rocket launcher of rugged design. The weapon features a sophisticated optical sight system with rangefinding stadia. The 105mm PG-29V munition features an advanced-design tandem High Explosive Anti-Tank (HEAT) warhead, which is effective against heavy armored fighting vehicles mounting explosive reactive armor (ERA).

	<u>SI Units</u>	<u>U.S. Units</u>
Firing length	1.0 m	3.28 ft
Projectile diameter	105.2 mm	4.14 in
Total diameter	10.97 cm	4.32 in
Projectile weight	6.7 (6.2) kg	14.74 (13.64) lb
Firing weight	18.2 (17.7) kg	40.04 (38.94) lb

Performance. The following performance data for the RPG-29 firing the PG-29V tandem HEAT round reflect published material from the Russian design bureau and Rosoboronexport. The armor perforation data reflect performance *after* the warhead has breached

	<u>SI Units</u>	<u>U.S. Units</u>
Speed	300 mps	984.2 fps
Altitude	Line of sight	Line of sight
Range	500 (450) m	546.8 (492.12) yd
Armor perforation	75.0 (65.0) cm	29.53 (25.59) in

Propulsion. The RPG-29 projectile uses an initial boost charge and a solid-fuel rocket motor. Due to the backblast, the RPG-29 is *not* suitable for use in enclosed spaces closer than 2 meters (6.56 ft) to a wall behind the weapon, and closer than 20 centimeters (7.9 in) to the ground.

Control and Guidance. After the PG-29V projectile exits the launch tube, eight spring-loaded fins deploy to provide aerodynamic stabilization in flight. These fins, located at the extreme rear of the projectile, may also impart a slow roll to the projectile to aid in stabilization.

Dimensions. The following data for the RPG-29 with the PG-29V tandem HEAT round reflect published literature from the Russian design bureau and Rosoboronexport. Where we present two sets of data for a given parameter, the first is from the design bureau and the second (in parentheses) is from Rosoboronexport promotional material.

explosive reactive armor. Where we present two sets of data for a given parameter, the first is from the design bureau and the second (in parentheses) is from Rosoboronexport promotional material.

Warhead. The 105mm PG-29V rocket mounts a tandem HEAT warhead, which likely features a piezoelectric nose fuze and base detonator. The round probably self-destructs a few seconds after launch.

The RPG-29 can also fire the 105mm TBG-29V thermobaric round. Optimized for employment against fixed structures, the TBG-29V will reportedly defeat at least 1.5 meters (4.92 ft) of reinforced concrete or 3.7 meters (12.14 ft) of logs and earth.

Variants/Upgrades

Variants. None. However, the contractors have reportedly developed a tripod-type launcher and fire control device for the RPG-29. This equipment includes a laser rangefinder and ballistic computer,

giving the RPG-29 an effective range of 800 meters (874.9 yd).

Modernization and Retrofit Overview. Not generally applicable.

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Program Review

Background. One of the most successful weapons of its type ever manufactured, the RPG-7 has become a ubiquitous weapon in all levels of conflict, from terrorist ambushes to major wars. For a full discussion of this weapon system, see the "RPG-7 and RPG-16" report in this service.

Most of the nations of the former Warsaw Pact eventually manufactured the RPG-7 and its associated munitions under license. At least two, Bulgaria and Romania, still do so. The Soviet Union distributed an even greater number under the auspices of its military aid programs; beneficiaries included many African, Middle Eastern, Latin American, and Asian nations. In particular, Angola, Cuba, Egypt, Syria, and Vietnam received huge quantities of RPG-7 weapons and ammunition.

Some of these nations have also run licensed or unlicensed RPG-7 production programs. Finally, various terrorist organizations worldwide acquire the RPG-7 through a number of channels. At least 107 nations maintain the RPG-7 in their active inventories.

Most Advanced of RPG Line

While the RPG-7 is still in serial production worldwide, the Russians have developed a variety of successors to the weapon. The RPG-29 Vampir represents the most advanced development to date of the original RPG-7 design concept, undoubtedly given impetus by the perceived lack of performance of the earlier weapon against modern armor.

Description. Only a minimal amount of information is available on the RPG-29. Rosoboronexport first revealed the RPG-29 Vampir at the Asian Aerospace Exhibition in February 1994.

Relying on Photographic Evidence

Photographic evidence indicates that the RPG-29 shares the same general configuration as the AT4/AT12T, APILAS, and similar weapons – that of a large reusable launch tube with optical sighting and firing mechanisms attached. However, the launch tube of the RPG-29 is somewhat longer; it folds in half for transport.

Unlike the RPG-7, the RPG-29 features only a single pistol grip; a monopod to the rear of the launch tube provides additional stability for the operator. A tripod-type ground mount with a laser rangefinder and fire control unit is also available. This equipment, which calculates elevation and lead angles and corrects for temperature, enables the operator to engage targets out to 800 meters.

Sequence of Operation

Although we have no authoritative information regarding the RPG-29 sequence of operation, research suggests it is generally similar to that of the RPG-7. After the operator has assembled the rocket munition and loaded it into the launch tube, he employs the optical sight to acquire the target as well as to estimate range and windage corrections. The operator then fires the weapon by depressing the pistol-style trigger on the pistol grip.

A percussion mechanism initiates the initial boost charge, propelling the munition from the launcher. After the munition exits the launch tube, the spring-loaded fins deploy and the warhead arms itself. The sustainer motor then ignites, accelerating the munition to its final velocity of 300 meters per second (984.2 fps). If the munition strikes no object after a short delay, it probably self-destructs.

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105mm RPG-29 with PG-29V Tandem HEAT Warhead

Source: Rosoboronexport

Funding

The Ministry of Defense of the Russian Federation funds the development and Russian Army procurement of the RPG-29.

Worldwide Distribution/Inventories

Export Potential. As the successor to the ubiquitous RPG-7, the RPG-29 should become – in theory at least – a good revenue earner for the Russian Federation. However, while the weapon initially attracted considerable interest on the international market, the RPG-29 has yet to score its first reported export sale. The fact that the RPG-29 costs nearly twice as much as the still-effective RPG-7 makes it a hard sell.

Despite the lack of reported (or at least acknowledged) sales, there are indications that the Russians have transferred the RPG-29 to foreign entities. In January 2010, the terrorist group Hamas (in the Gaza Strip) confirmed the presence of an unspecified number of RPG-29s in its inventory.

Country. Palestine (Gaza Strip); Russian Federation.

Forecast Rationale

As the successor to the ubiquitous RPG-7, the RPG-29 Vampir should be a good revenue earner for the Russian Federation. However, despite considerable initial interest and aggressive marketing by Rosoboronexport, the RPG-29 has yet to score its first reported export sale.

Carrying a unit price nearly twice that of the still-effective RPG-7, the RPG-29 may simply be an expensive answer in search of a question for potential export customers. At the end of the day, the RPG-29

simply may be unable to emerge from the shadow of its enormously popular predecessor.

'Under-the-Table' Exports

Outside normal sales channels, however, there are indications that the RPG-29 has found its way into the hands of terrorist groups and states that provide material support to terrorists. Such players reportedly include Hamas (in the Palestinian territory), Iran, and Syria.

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Focus on Russian Army Procurement

Rosoboronexport maintains expectations of at least some conventional export sales. The Forecast International Weapons Group believes that export sales

will most likely be in the form of limited orders from states of the former Soviet Union, as well as traditional recipients of Soviet materiel largesse. In the meantime, the Russian Army remains the primary customer for the RPG-29.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	Thru 2022	High Confidence				Good Confidence			Speculative			Total
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Federal State Unitary Enterprise, Rosoboronexport												
RPG-29 Launcher												
	494,856	17201	16500	16500	16500	16500	16500	15575	15575	15500	15000	161,351
Total	494,856	17201	16500	16500	16500	16500	16500	15575	15575	15500	15000	161,351