

## 27-Jan-17 A Comparison: Russian Soldiers Have the Best Personal Protection Gear

### Description

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Originally posted at Algora Blog.



The motto of the US Special Forces is “De Oppresso Liber” (to liberate the oppressed), which is defined as the spear tip for the imposition of democracy by invasion — or by training secret paramilitary groups with the aim of overthrowing governments that are hostile to the US.

To handle complex operations on the ground or on the water, in recent decades the elite forces of the main NATO armies have been equipped with modern, high-performance protective gear. The personal protection kit has several important features.

- The soldiers are better protected with the use of equipment that is bullet resistant but at the same time allows more mobility.
- Every soldier is provided with night-vision equipment, with detection sensors and optical rangefinders. These give the advantage of seeing first and shooting first. This enables the soldier to fight in the dark just as well as in daylight.
- Instead of every man having a portable radio, they now have multifunctional data devices, which display in real time digital maps of the tactical situation, known enemy positions, etc.
- Fire power is increased by the use of modern automatic weapons and grenade launchers that can be attached to the automatic rifles.

## FELIN Personal Protection Systems

*Fantassins à Equipements Liaisons Intégrés* is the French version of “future soldier infantry equipment,” the most advanced in the world. Félin equipment weighs 24 kg and is designed in four variants: group commander, gunner, rifleman, and sniper.

Félin equipment consists of a bulletproof vest, ballistic protection for the feet and knees, a ballistic helmet (weighing 1.36 kg), with a protective visor and goggles with an anti-laser filter. The electronics equipment consists of portable computer with a color multifunction display. It has a voice communication system and a data link. The computer is also serves as an interface to integrate the soldier with a military transport vehicle — IFV (infantry fighting vehicle) or APC (armored personnel carrier). Félin also has night-vision device (which detects a person from a distance of 1,650 m) and an infrared scope with laser rangefinder designed specifically for assault weapons. To know the position of every soldier in the group, the Félin system has a radio transmitter in the RIF-NG (*Réseau d'Information du Fantassin de Nouvelle Génération*, or Infantry Information Network) interconnected data network, along with a GPS.

The group commander has a battle management system integrated into a laptop. The laptop provides digital maps and gathers data from each soldier equipped with Félin gear. With this management system the group commander can coordinate his soldiers' actions.

Félin was tested in Operation Serval, 2013, in Mali, and is being used by the 200 French Special Forces fighting to liberate the Iraqi city of Mosul from the Islamic State.

## RATNIK Personal Protective Equipment

NATO has expanded up to Russia's borders and deployed American, British and German armored units near the borders of Russia. In case a conflict with NATO, Russia has equipped its front-line soldiers with individual equipment that is just as good as its NATO counterparts. On October 23, 2014, the Russian armed forces adopted the “Ratnik” standard equipment produced by the Russian defense industry. Apparently Sagem, NEXTER, and Thales have been contributing to the designing of the Ratnik equipment — the same firms that are manufacturing the Félin infantry equipment.

Ratnik protects nearly 90% of the body. In tests, ten 7.62mm-caliber bullets were fired at Ratnik equipment without it being penetrated. By comparison, by the tenth shot, the Germany or US equipment already had at least two bullet holes. Ratnik has the 6B45 bulletproof vest, 6B46 bulletproof shields for the thighs, legs and shoulders, and special 6B47 ballistic helmet. These all provide the sixth level of protection. The 6B47 helmet weighs 1 kg and is fitted with a 1PN139 thermal visor; a 1-P88-2 variable-range sight; and night vision. The sights and night vision systems are synchronized with 5.45mm-caliber AK-12 assault rifles, and the 6VM7 and 6VM7-1 (12.7mm-cal.) sniper rifles and the PKP Pecheneg machine gun.

In addition, Ratnik has the “Strelets” computerized system (“Musketeer” in English) for intelligence, control and communication. Strelets handles voice and video transmission and also has a satellite navigation mode using GLONASS. With the help of the Strelets system, the group commander continuously has the location of each of his subordinates on the monitor. This reduces the risk of friendly fire. Strelets also gives commanders who are on reconnaissance missions a way to send videos and photos of enemy targets to participating soldiers. Each soldier has his own Strelets tactical computer device, smaller than the commanding officer's, the size of a phone.

The Ratnik uniform material is reinforced with a resin that contains carbon nanotubes (CNT). This resin is used in manufacturing wind turbine blades, hockey sticks and surfboards. The material is three times stronger than the usual stuff, and under infrared light it is only visible from two times closer than ordinary cloth. When used with night vision equipment, the camouflage uniforms printed on Ratnik makes it possible to distinguish between a soldier using Ratnik and those with a different type of equipment.

Ratnik comes with sensors that automatically transmit information about the medical condition of each soldier. When a soldier is injured, medical groups receiving the information can locate him by GPS, give first aid and take him to a hospital.

To obtain battlefield information, groups of Russian soldiers have a silent, mini UAV, powered by an electric motor. The Ratnik personal protection kit includes a gas mask, food and water supplies, water decontamination filters, a medical kit and a sleeping bag; it weighs 20 kg. Currently about 150,000 Russian soldiers are equipped with Ratnik.

## **CORSAIR- MP Floating Body Armor**

The Russian Naval Marines and the US Marines used to be quite different from each other due to the different missions set by the Russian and US governments for these elite units. However, both are recognized for being highly effective, for high professionalism, and for having the latest technology. Russian marines have started to receive as standard equipment the latest floating body armor, "Corsair MP." In recent years the Corsair MP floating body armor was tested, and training on how to use it was carried out, by Marine units at the Chukotka base in the Arctic, on the Bering Sea.

Corsair MP personal armor gives protection from projectiles, as it is derived from Ratnik. But Corsair MP also functions as a life jacket. Corsair MP keeps a fully-armed marine at the surface for several hours. The equipment has sealed pockets for ammunition (cartridge chargers, launchers, hand grenades), food and communications systems. Corsair MP also beats out all existing floating armor in the world; it allows Marines to shoot with precision in the water as their movements are not restricted. The equipment is a network-enabled 'Air/Land & Sea Operational Bubble' combat system.



Russia now has five infantry brigades and other “Spetsnaz” groups of marine special forces for actions at the shore with 13,000 active soldiers. Russian marines and Spetsnaz special forces under the Black Sea and the Baltic Fleets have already received the first Corsair MP equipment, preparing in advance for possible challenges in these two theaters of military action.