

CENTRE FOR JOINT WARFARE STUDIES



CENJOWS

RS-28 SARMAT INTERCONTINENTAL BALLISTIC MISSILE



RS-28 Sarmat at a Glance

ORIGINATED FROM

Russia

CLASS

Intercontinental Ballistic Missile (ICBM)

BASING

Silo-based

DIAMETER

3.0 m

PAYLOAD

10,000 kg or MIRV or glide vehicles

PROPULSION

Three-stage, liquid-fueled

STATUS

In development

POSSESSED BY

Russia

ALTERNATE NAME

SS-X-30 Satan II

LENGTH

35.3 m

LAUNCH WEIGHT

208,100 kg

WARHEAD

Nuclear, MIRV or glide vehicles

RANGE

10,000-18,000 km

1. The name Sarmat **is based upon the** nomadic Sarmatian tribes **which used to live between 6th and 4th century BC in current territories of Russia, Ukraine and Kazakhstan.**

2. The Russian Ministry of Defence (MoD) announced in a press release on 20 April that at 1512 local time the first test of a super-heavy RS-28 Sarmat intercontinental ballistic missile (ICBM) was conducted at the Plesetsk Cosmodrome in Arkhangelsk Oblast. The MoD declared the test successful and said that the dummy warhead landed at the Kura test range on the Kamchatka Peninsula.

3. Equipped with a multiple independently targetable re-entry vehicle (MIRV), Sarmat is intended as a replacement for the legacy Voyevoda ICBM (R-36M2), which is known under its NATO designation as the SS-18 'Satan' Mod 5, resulting in the RS-28 being colloquially dubbed 'Satan II'. Russia's Strategic Missile Forces (Raketnye Voyska Strategicheskogo Naznacheniya: RVSN) intend to retain the existing Voyevoda ICBMs until the Sarmat is officially accepted into service. The Voyevoda ICBM was designed in 1962 with the capability to carry three warheads and the last Voyevoda ICBM was thought to have been produced in 1992.

4. It is one of the six new weapons of mass destruction announced by Putin four years ago which includes the **Tsirkon, Avangard, Poseidon, Kinzhal** and a nuclear-propelled cruise missile.

Sarmat Development

5. Designed to replace Russia's aging SS-18 Satan ICBM, the RS-28 Sarmat began development sometime in the 2000s. After awarding production contracts to Makeyev Design Bureau and NPOMash in early 2011, Russia concluded research and development of the Sarmat ICBM on July 21, 2011. Russia completed its first prototype of the missile in late 2015. In December 2017, Russia conducted its first silo ejection

test of the Sarmat, which reportedly revealed technical deficiencies with the launch system. Two subsequent silo ejection tests—on March and May 2018—were apparently successful. The RS-28 was initially scheduled to enter service in 2018 with 50 missiles on order. After several technical delays, the Sarmat missile was planned to enter service in 2021. Subsequent to its latest test, the defence ministry announced that the Russian Strategic Missile Forces (SMF) will start replacing Voevoda intercontinental ballistic missiles (ICBMs) currently in service with the new Sarmat missiles in 2022.

Specifications

6. The Sarmat is a three-stage, silo-based, liquid-fueled missile with a range of 18,000 km and a launch weight of 208.1 metric tons. The missile is 35.3 meters long and 3 meters in diameter. Designated a “heavy” ICBM, the Sarmat can carry a 10 ton payload and can load a wide variety of warhead options. According to Russian media, Sarmat can reportedly load up to 10 large warheads, 16 smaller ones, a combination of warheads and countermeasures, or hypersonic Avangard boost-glide vehicles.

7. President Putin said that the Sarmat would also serve as the propulsion vehicle for the Avanguard hypersonic glide missile. Putin said that “the missile system Avangard with a hypersonic glide vehicle will considerably enhance the ICBM potential.”

8. The Sarmat can reportedly deliver multiple targetable re-entry vehicles worldwide. The missile can travel in any territory and can fly from North to the South Pole. Sarmat is designed to elude anti-missile defence systems with a short initial boost phase, giving enemy surveillance systems a tiny window to track.

Comments.

9. According to Hans Kristensen, Director of the Nuclear Information Project at the Federation of American Scientists, it had “similar capabilities to the existing SS-18,” but there were “probably some enhancements”. Kristensen said, “when operational, the Sarmat -- like all silo-based missiles -- is likely to be kept on a higher alert status than ICBMs on mobile launch platforms. This is because silos are stationary and therefore more vulnerable to an enemy strike.

10. But as far as the situation on the ground in Ukraine goes, analysts said, the ICBM test would have no practical effect. It's a strategic weapon, essentially designed to hit the United States as was the SS-18, its Cold War predecessor.

11. Like Russia, the United States has its own ICBMs -- as well as ballistic missile submarines and nuclear-capable strategic bombers. However, in order to avoid inflaming tensions with its own missile programs, earlier this month the US Air Force canceled a scheduled test of its Minuteman III ICBM.

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