



Titanium.

Source: Quds Online, <http://media.qudsonline.ir/d/2021/03/06/3/1031514.jpg>, Attribution: Quds Online

Over the years, Iranian industrial ambitions increased and Iranian media frequently carry announcements of new capabilities, some real and many aspirational. In an excerpt from the *Islamic Republic News Agency*, the Iranian government's official news outlet, the Atomic Energy Organization of Iran announces new breakthroughs in the production of titanium and titanium alloys.

Titanium has many uses. It is biocompatible and so useful for prostheses, orthopedic implants, and other artificial medical devices meant to be inserted into the human body. Its low weight and high strength also make it useful for automobiles, itself an important industry inside Iran. Its resistance to corrosion also makes titanium useful for industrial applications. While the Iranian government might emphasize these in its dealings with outside powers, the fact that the announcement of Iran's new titanium industry came from within the Atomic Energy Organization raises suspicions that its nuclear ambitions govern its titanium work. Titanium, after all, is an important component to store nuclear waste. Its heat resistance, low weight, and resistance to cracking also make it an important component in missiles and aircraft. At a minimum, the Atomic Energy Organization's role suggests that if titanium stocks are limited, then it will probably be allocated for nuclear or perhaps ballistic missile work.

Iran Becoming a Titanium Producer

By Michael Rubin
OE Watch Commentary

The Iranian government prides itself on its indigenous industry. For Supreme Leader Ali Khamenei and the Islamic Revolutionary Guard Corps, the issue is not only Iranian bragging rights but also security: The Iranian military was dependent upon foreign platforms but, against the backdrop of revolution and the hostage crisis, found itself cut-off from spare parts during the 1980-88 Iran-Iraq War. Iranian policymakers swore in the war's wake that they would never again allow themselves to become dependent on outside powers.

“Titanium’s unique properties has placed titanium in the category of strategic metals”

Source: “Iran dar Zemara Keshavarzha-ye Tovalid Konand Filz Titanium Qarar Gefeft” (“Iran is Among the Countries Producing Titanium Metal”), *Islamic Republic News Agency*, 6 March 2021. <https://www.irna.ir/news/84254453>

According to a report from the Islamic Republic News Agency citing the General Directorate of Public Information at the Atomic Energy Organization [of Iran], with the efforts of the experts of the Atomic Energy Organization of Iran, the first contract for the sale of medical grade titanium rebar was concluded with one of the largest companies producing orthopedic implants, and thus, the Islamic Republic of Iran is now one of the few countries in the world to produce the strategic titanium metal.

Prototypes of medical grade titanium ingots were produced by analysis in accordance with very meticulous medical standards and succeeded in passing various stages of quality control. The efforts and perseverance of these experts in achieving great goals are endless.

Extensive use of titanium metal and its alloys has grown tremendously over the last 50 years due to its unique properties, and this has placed titanium in the category of strategic metals. The great expansion of the titanium industry is due to its excellent mechanical properties because of its low density (55% iron density), its excellent resistance to corrosion, and its suitability for use in many industries such as aerospace and medicine. Pure titanium, grade 5 titanium, grade 5 medical titanium (or so-called grade 23), palladium alloy and grade 12 titanium are among the most widely used in this field.