

Three characteristics of titanium

Functional materials are engineering materials based on [physical properties](#), that is, materials with special properties in electrical, magnetic, acoustic, optical, thermal, etc., or materials that exhibit special functions under their action. Studies on [titanium and titanium alloys](#) have found that they have three special functions for application:

1. Memory function: Titanium-nickel alloy has a one-way, two-way and all-round memory effect at a certain ambient temperature and is recognized as the best memory alloy. [Pipe joints for oil pressure systems for fighters](#); oil pipeline systems for oil joint ventures; 500mm diameter parabolic mesh antennas made of 0.5mm wire for aerospace vehicles; for snoring in medical engineering Treatment; [making screws for fracture healing](#). All of the above applications have achieved significant results.

2. Superconducting function: niobium-titanium alloy exhibits zero-conductivity superconducting function when the temperature is lower than the critical temperature.

3. Hydrogen storage function: Titanium-iron alloy has the characteristics of hydrogen absorption, which stores a large amount of hydrogen safely and releases hydrogen in a certain environment. This is promising for hydrogen separation, hydrogen purification, hydrogen storage and transportation, and the manufacture of [heat pumps and batteries](#) that use hydrogen as an energy source.

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