

The application of Titanium in Automobile Industry in the future

With the development of society, the production and consumption of cars grows sharply.

However, this brings problems of fuel consumption, environmental disruption and potentially safety hazard at the same time when it brings convenience to people. According to statistics, 60% of the fuel that combusted by car is for the [vehicle](#) weight itself. That is to say, every 10% reduction of the weight of cars means 10% deduction of exhaust gas and 7% for fuel consumption.



Nowadays, the light alloy that used by [automobile](#) are aluminum, magnesium and titanium etc. The density of titanium is  $4.51\text{g/cm}^3$ .



The specific strength of titanium alloy is higher than aluminum and steel, while the ductility is almost the same and the corrosion-resistance is much better than steel.

Cryogenic titanium alloy can still keep good plasticity at  $-253^\circ\text{C}$ . The working temperature for heat-resistant titanium alloy can reach to  $550^\circ\text{C}$ .