**Table 1. Titanium and Its Alloys**

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|  | **Description**  | **Properties** | **Uses** |
| **Titanium (Ti)** | * Element
* Atomic number: 22
* Common; ninth most abundant element in the Earth’s crust
* Not harmful to living things
 | * Dark gray, shiny metal
* Melting point: 1,677 oC
* Density is 4.6 g/cm3
* Malleable and ductile at higher temperatures
* Brittle at colder temperatures
* Unreactive at room temperature
* Non-corrosive
* Does not oxidize at room temperature
 | * Making alloys
* Sometimes used in jewelry
* Sometimes used in bike frames
 |
| **Ti Beta-C** | * Alloy
* Mostly composed of titanium, chromium and vanadium
* Strong and durable
 | * Melting point: 1,760 oC
* Density is 4.8 g/cm3
* Ductile at higher temperatures (1600 oC +)
* Non-corrosive if oxide layer is present
* Oxidizes at high temperatures
 | * Aircraft and race car springs
* Underground tubes and pipes
* Casing equipment for gas and oil wells (such as an enclosed pipe)
* Fasteners (such as nuts and bolts)
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| **6al-4v** | * Alloy
* Mostly composed of titanium, aluminum and vanadium
* Most-commonly used titanium alloy
* Can be used in environments at temperatures of up to 350 oC
* High strength and lightweight
* When heated to approximately 430 oC, strength is weakened
 | * Melting point: 1660 oC
* Density is 4.43 g/cm3
* Non-oxidizing
* Non-corrosive
* Reactive with hydrogen
* Ductile at high temperatures (1600 oC +)
 | * Aircraft turbine engine components
* Aircraft structural components
* Aerospace fasteners
* High-performance automotive parts
* Marine applications
* Medical devices
* Sports equipment
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