**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) |
| **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 |