

Ti-Zure is significantly stronger than pure titanium, with up to 50% greater tensile and fatigue strength to enable smaller diameter implants.



Ti-Zure (85% Ti, 15% Zr) combines the proven biocompatibility of titanium with the enhanced mechanical performance of zirconium.

The alloy has a tensile strength of 950–1050 MPa (138–152 ksi), which allows for the use of narrower implants without compromising durability. Titanium and zirconium both have excellent corrosion resistance, giving Ti-Zure greater osseointegration and allowing for enhanced surface treatments to improve early-stage healing. The alloy is clinically proven to have high success rates, even in patients with low bone density.

Similar alloys: CP Ti - Grade 4, Ti 6Al-4V, Ti 6Al-4V ELI

KEY FEATURES OF Ti-ZURE

- **Superior strength and stability:** The addition of zirconium strengthens the titanium matrix through solid solution strengthening, refining the grain structure and improving fatigue resistance. Enhanced biocompatibility promotes long-term implant stability, reducing the risk of complications and improving overall patient outcomes.
- **Accelerated osseointegration:** Ti-Zure forms a stable, continuous, tightly adherent oxide layer that forms spontaneously upon exposure to oxygen. If damaged, it reforms readily in an oxygenated environment like the human body, promoting osseointegration and minimizing inflammatory response.
- **Higher fatigue strength:** The increased strength of Ti-Zure over commercially pure titanium enables the use of narrower implants while maintaining load-bearing performance.
- **Reduced invasiveness and minimized bone augmentation:** Stronger and smaller implants built with Ti-Zure enable treatment opportunities for patients with insufficient bone volume and in anatomically constrained areas such as narrow ridges.



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