

# Titanium Frameworks – Lighter, Biocompatible and Corrosion Resistant



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The use of titanium and titanium alloys in medical and dental applications has increased dramatically over the past few decades. It all started in the 1960s when Per Branemark discovered the biocompatibility between titanium and bone and applied them to implant design and placement. Today, strides in titanium processing have made this metal a valuable addition to our armamentarium in dental prosthetics.

Titanium has really only been produced commercially for roughly 50 years. Its physical properties (high strength and rigidity; low density and light weight; resistance to corrosion; and low thermal conductivity) have made it a favourite in the aerospace, aeronautical and other high-tech industries. In dentistry, the additional properties of neutral taste and biocompatibility have made it of great interest in producing cast partial frameworks.

The high strength and rigidity of titanium are comparable with other noble or high noble dental alloys yet its low density allows for feather-light substructures (over 35% lighter than chrome castings and more than four times lighter than gold alloys). A pure metal with excellent corrosion resistance, titanium has long been recognized because of its excellent biocompatibility (no allergic reactions). With its lack of metallic taste and low thermal conduc-

tivity, patients can eat hot and cold food and drink without the risk of temperature shock. The metal's modulus of elasticity allows clasp designs that engage deeper undercuts resulting in a more esthetic restoration.

Clear communication between dental practitioner and laboratory technician has always been one of the keys to a successful cast partial restoration. This is no less true with titanium. Our exclusive in-house Computerized Cast Partial Design System is a key aspect in producing cast partials with maximum patient function, comfort and esthetics. Each design is completely customized to meet the individual case situation and your personal preferences. Full colour plots are either sent to you as hard copies or emailed for you to print out on your own colour printer. Clearly indicating agreed upon case design, preparations, etc., the plots also make an excellent patient education tool. In addition, every titanium framework is x-rayed for imperfections as part of our extensive quality control systems (actual x-ray sent back to you along with your case).

At Aurum Ceramic/Classic, our Cast

Partial Teams™ employ and have extensively tested the most advanced technology available to design and produce a wide range of superior titanium and Vitallium 2000 dental prostheses. Their strict attention to detail, along with high quality materials and techniques, results in precise clasp adaptation and retention with each framework. Contact your closest Aurum Ceramic/Classic location for full details on the full range of possibilities available in cast partials today.

## Titanium Benefits

- Totally biocompatible.
- Lightweight (over 35% lighter than chrome castings).
- Precision fit.
- Clasps can be placed in deeper undercuts (more esthetic restoration).
- Low thermal conductivity (no hot or cold temperature shock)
- No metallic taste.

