Better Solutions for using Ti-22 porcelain on Nobel Biocare Pure titanium PIB frameworks.

Ti-22 porcelain has been exclusively developed for pure titanium frameworks. Other non-titanium alloys such as Co-Cr and Ni-Cr alloys and F136 Titanium alloys (Ti6Al4V:Titanium-6Aluminium-4Vanadium) cannot be used with Ti-22 porcelain, because cracking might occur after baking.

Pure titanium frameworks need to be designed with a minimum framework thickness of 0.5mm, to ensure marginal integrity and framework stability during firing under the high temperature in a porcelain furnace.

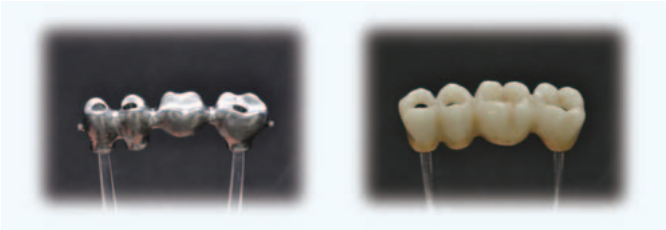
During baking Ti-22 porcelain, oxidized film is generated onto the inside of the framework. This oxidization ensures precision of fit especially at the area where the screw is inserted (do not remove the oxidized film).

Firing of titanium frameworks should not be higher than 885 degrees Celsius, this ensures that the characteristics of titanium material remain stable, guaranteeing strong frameworks for best clinical results.

Please respect a baking temperature for Ti-22 porcelain, it is a low fusing porcelain, and should be used correctly, according to the instruction manual. Especially, the bonding porcelain is important to be applied when bonding the porcelain to the titanium framework. Please pay special attention to the thickness of bonding porcelain and to the condition of baking.

Please respect clinical indications and contraindications for Ti-22. Ti-22 is a low-fusing porcelain with crystal. Low-fusing porcelain has about 70% fracture toughness of the conventional porcelain that is baked at around 950 degree Celsius. Application in the occlusal areas therefore is limited.

Generally, the fracture toughness of porcelain decreases as the porcelain thickness increases. For example, it is reported that the strength of 2.5mm-thick porcelain is half of that of 1.5mm-thick porcelain. Please design a titanium framework so that the porcelain thickness will not be larger than required.



Nobel Biocare™ Noritake

NobelProcera™ Preferred Partner