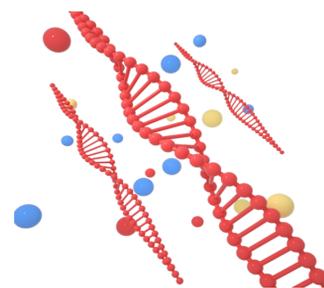


Biomedicine - Zirconia

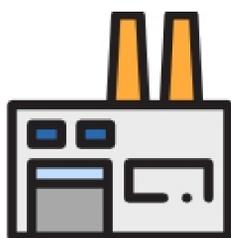
Zirconia is the most widely used material when making denture parts.

In addition to the **high strength, acid and alkali corrosion resistance, hardness, high temperature resistance, and high chemical stability** expected of precision ceramics, it also has a **higher toughness** than ordinary ceramics, making zirconia not only used in industry, but even in biology medical field.

In addition to its **good bio-compatibility**, resistance to bacteria and excellent corrosion resistance, zirconia ceramics will produce **3-5% volume expansion** at the cracks generated when subjected to pressure, which can effectively prevent the continued extension of the cracks. Specialty. We can be sure that its fracture strength is higher than other all-porcelain dental crown materials.



Density & Quality



Although zirconia ceramics have the highest bending strength and breaking strength compared with all-ceramic crown materials, the product quality will vary due to the following factors. For example: the ratio of mixed raw materials, the amount of additives, the control of the sintering temperature in the process, the selection of porcelain powder, and the procedures of sandblasting or grinding, etc., will all affect the physical properties of the finished product.

How to reduce and avoid quality instability and soaring production costs?

Because the raw material is easy to agglomerate makes it harder to fill into the mold, **the additive is an indispensable medium in the process.**

Although the **additive** has a **necessary function**, in order to **consolidate** the original characteristics of the raw material, the intermediary must be **eliminated** after forming or during sintering.

At this time, the **shrinkage** caused by **sintering** will cause the sample to be **stressed again** and even **deform** and **break**. Therefore, when selecting additives and blending ratios, strict shrinkage control technology is the key to the entire forming process.

The first condition to consolidate quality is to thoroughly explore the overall density.



What MatsuHaku Do:



We specially launched the models that specialize in testing biomedical materials.

Taking **absorbent** materials as an example, medical ceramic materials, metal materials and composite materials can be used to read the **Bulk density, Wet density, Porosity, Absorption, Apparent DS, Open pores, Close porosity, and Total porosity.**

Non-absorbent materials and other **high sub-material** can also directly display the product **Density, Volume and Mixing ratio** mode detects the mixing ratio.

MatsuHaku Density Tester for Biomedical control shrinkage, abrasion, hardness, and conditions that lead to **deformation, cracking, and decomposition** of parts for you!

Testing Steps:	Weight in air	→	Weight in water	→	Results:

MatsuHaku Density Tester Keep You Aware Of

1. **Reduce** the cost and the **Defect** loss
2. Fit the international **Standard**
3. Make sure the quality **Stable**



**With MatsuHaku Density Tester
Quality control is more easier than you thought**