

Density Tester

3D Printing Series

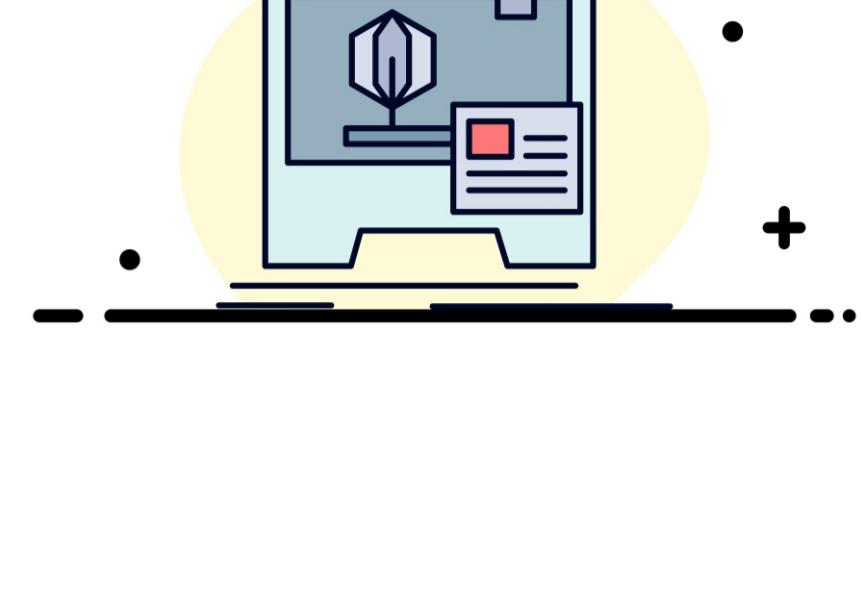
- Ceramics -

Ceramics

3D printing ceramic materials can be used in almost all fields due to their good stability, strength, hardness, corrosion resistance, and high temperature resistance. Therefore, the application fields of ceramic materials are very wide.

Among them, aluminum oxide, zirconium oxide, silicon carbide, aluminum nitride and silicon nitride and other five raw materials mixed into ceramics as raw materials accounted for the largest proportion. Mix the binder so that the powder can be smoothly adhered and formed.

In addition to the properties of the added raw materials, it can be used in construction, industry, aviation, and other fields, but also particularly suitable for human body parts, such as bones, joints or teeth.



Density & Quality

It's often seen that the 3D printing **ceramics** have **final product issue** about deformation & cracks. And the main reason is the raw materials are mixed in the process of inappropriate proportions.



For example, the zirconia component added when making ceramic dentures.

The purpose is to increase the strength, corrosion resistance, and high temperature resistance of the sample, but the imbalance of the ratio will cause serious deformation of 20 to 30%.

It is also the amount of binder added to make the powder sticky.

If too much binder is added, there will be a large amount of gas generated during high temperature molding to cause cracks in the sample; or excessive thermal stress will be generated during the rapid solidification process during the curing process, resulting in sample cracking.

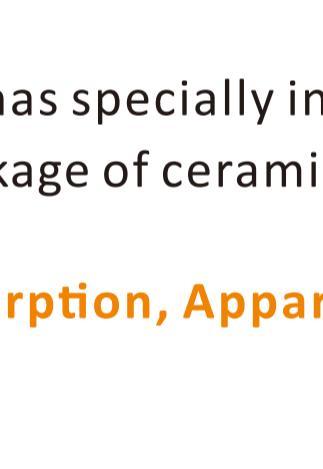
POINT:

The larger the shrinkage deformation rate, the product will **warp**, **crack**, and even will **peel off** between layers, which is the biggest cause of unstable quality.

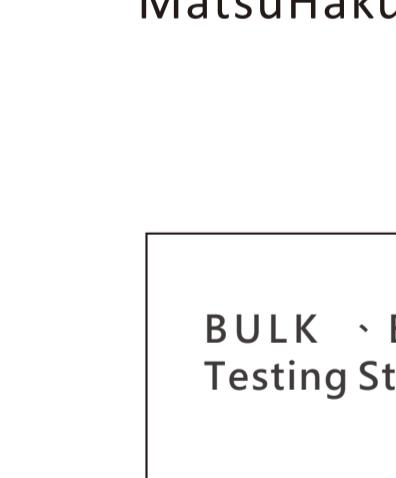
Know your products density from raw material

Track shrinkage, elastic modulus, wear resistance, hardness and brittleness.

Gain a deeper understanding of the density **before & after curing** and the **mixing ratio** of raw materials, and specifically adjust the physical and chemical properties of materials such as **fluidity**, **curing molding wave range**, **printed product strength**, and **toughness** to consolidate stable and excellent quality.



What MatsuHaku Do:



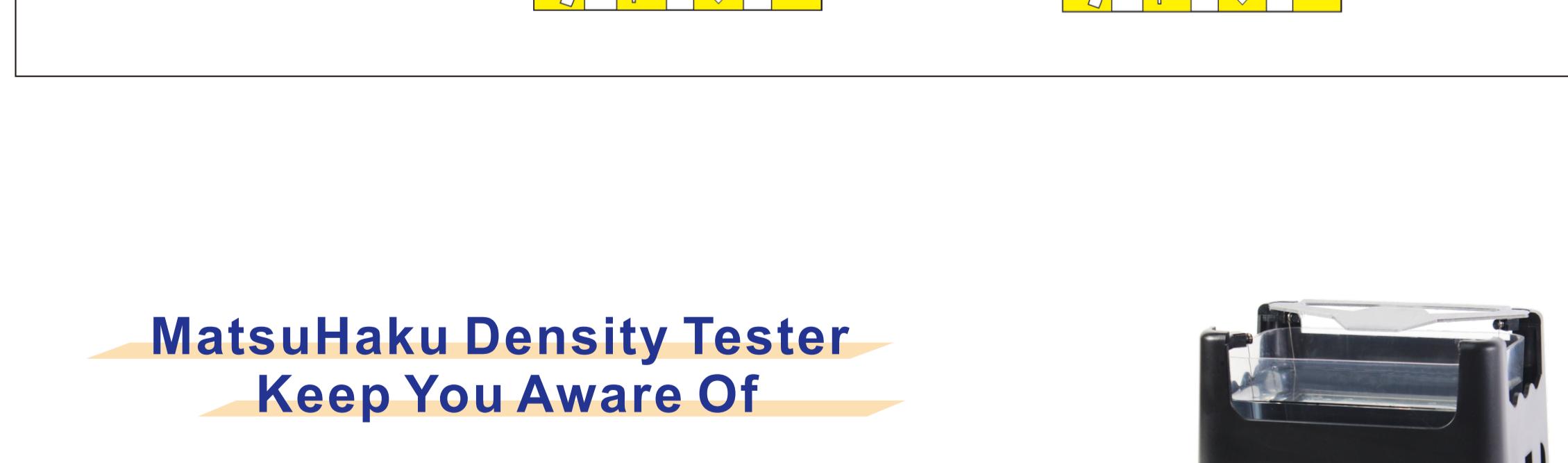
Based on the density of 3D printing materials, MatsuHaku has specially introduced a model specifically for testing the relative density and shrinkage of ceramics.

You can read the **Bulk density**, **Wet density**, **Porosity**, **Absorption**, **Apparent DS**, **Open pores**, **Close porosity**, and **Total porosity** directly.

Generally speaking,

If you want to **confirm the quality**, the very important point is to **know the density of it**.

MatsuHaku 3D printing product density tester quickly detect the sample to **control and reduce deformation, warpage and cracking** of the parts caused by shrinkage.

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