

3D Printing Series - Polymer -

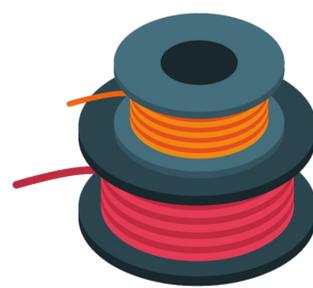
Polymer

Polymer, the most extensive raw material category in 3D printing.

PLA (polylactic acid), PVA (polyvinyl alcohol), PP (polypropylene), PC (polycarbonate), ABS (acrylonitrile-butadiene-styrene), **nylon**, and TPE (Thermoplastic Elastomer) and other materials are common materials in polymers.

In addition to **understanding the characteristics** of raw materials, heat resistance, toughness, and shrinkage, the more important part is the density of raw materials, the proportion of additives, and the strength of products, which can **consolidate quality**.

The application fields from daily necessities, toys, mechanical components to medical supplies, and are inseparable throughout life.



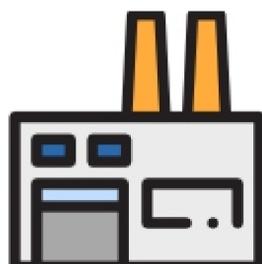
Density & Quality

Take **ABS alloy** as an example (PC mixed with ABS). The impact resistance of PC is also **combined** with the wear resistance and high toughness of ABS. It is often used in products in the automotive and electronics industries.

However, the heat-resistance temperature & printing temperature of the two materials are different. In addition, PC has problems such as easy cracking and surface bubbles, which raises the **difficulty of manufacturing process** and quality control to a level.

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.



To improve the polymer product, the manufacturers will add binders, oligomers, photoinitiators, and other additives to change the **light absorption wave**, thereby **stabilizing** the shrinkage rate, and even accelerating and strengthening the cured product.

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:



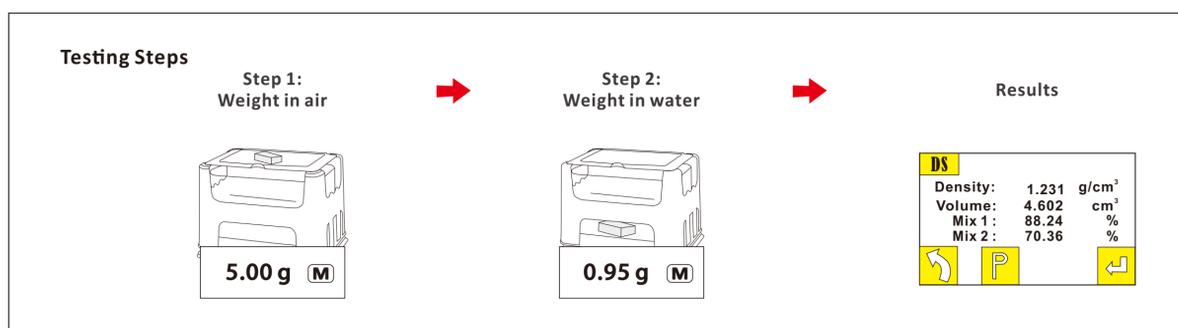
Based on the density of 3D printing materials, MatsuHaku launched a special inspection polymer wire model.

Test **raw materials & product data**, and directly calculate the following data: **Density, volume and mixing ratio** in one machine.

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**