

**CHOOSING THE BEST SLS POWDER
FOR YOUR 3D PRINTING NEEDS**

SLS PRINTERS

3D printing has revolutionized the manufacturing industry by offering a **cost-effective and efficient way to produce** complex and customized parts. Among the various 3D printing technologies, **selective laser sintering (SLS)** is a popular choice due to its ability to produce highly detailed and functional parts. However, to achieve the best results, it is essential to select the right powder material for the SLS printer. In this article, **we will explore the top five powders for your 3D printing needs on SLS printers.** By learning about these different polymers suitable for SLS 3D printing and their characteristics, one can **choose the most appropriate material** for their specific project and **optimize the printing process** to achieve the best possible optimal results.





Advantages of Using SLS Powder

SLS powder offers several advantages that make it a preferred choice for 3D printing enthusiasts and professionals alike:

* Versatility

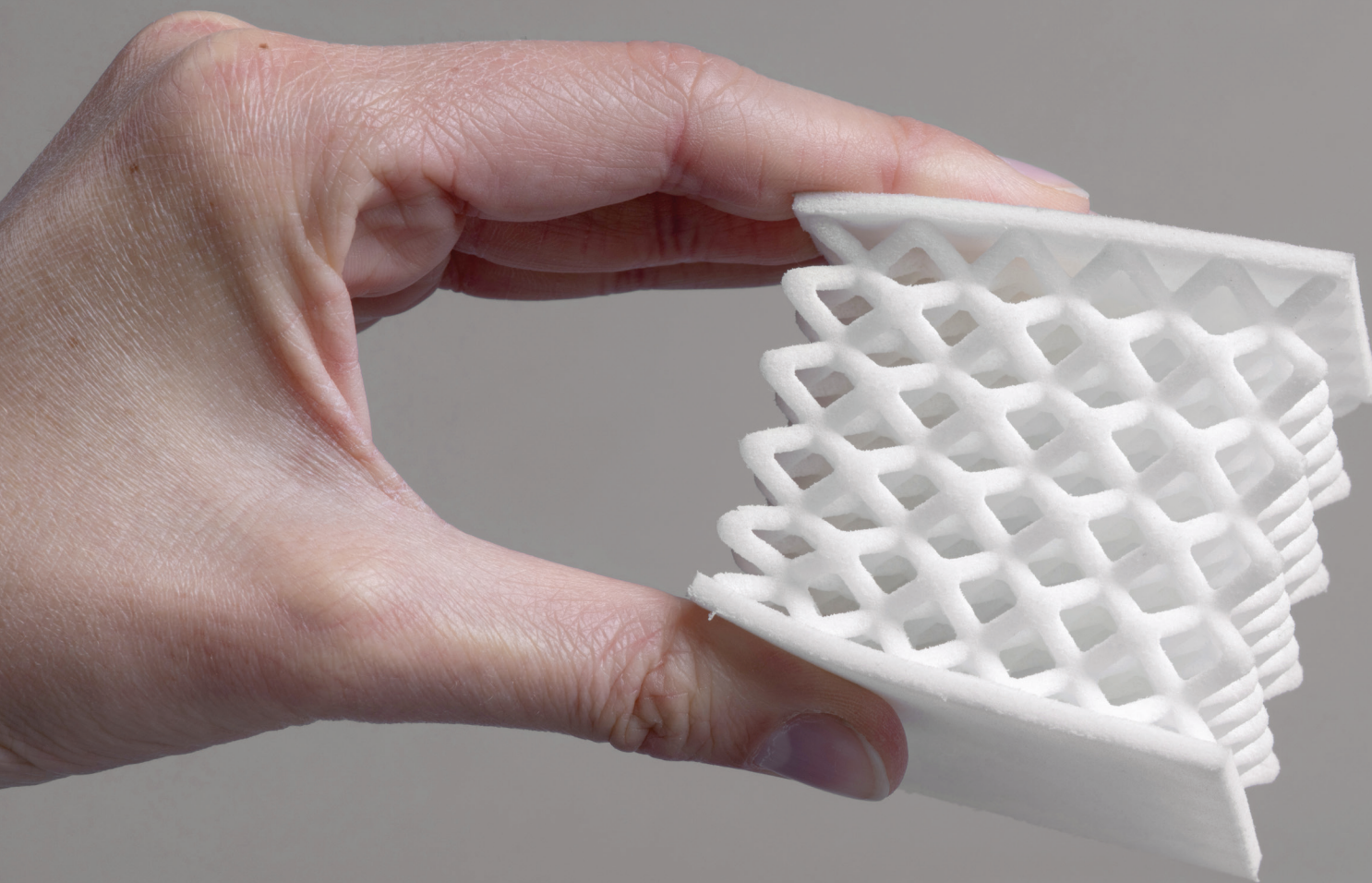
SLS powder can be used to print a wide range of objects, **from complex geometries to functional prototypes**. Its versatility allows for the creation of intricate details, thin walls, and interlocking parts that may be challenging with other 3D printing methods.

* Strength and Durability

Objects printed with SLS powder exhibit **excellent mechanical properties**, including **high strength** and **durability**. This makes them suitable for applications that require robust parts or products subjected to stress or impact.

* No Need for Support Structures

Unlike some other 3D printing methods, SLS printing does not require support structures to hold the object during the printing process. This **saves time and material**, making SLS powder an efficient choice.



Factors to Consider When Choosing SLS Powder

When selecting SLS powder for your 3D printing projects, consider the following factors:

* Material Properties

Different SLS powders offer varying mechanical properties, such as **flexibility**, **temperature resistance**, or **chemical resistance**. Choose a powder that aligns with the requirements of your application.

* Powder Size and Distribution

The particle size and distribution of SLS powder can affect the print resolution and surface quality. Smaller particle sizes generally result in finer details, but they may require more precise printing parameters.

* Post-Treatment Colorization

When the correct powder is used, the post-treatment colorization process becomes notably simplified, leading to **a smoother and more efficient printing experience**. This choice of powder is crucial in achieving optimal results. Furthermore, in certain applications where a sophisticated aesthetic is desired, the availability of a black powder option further enhances the visual appeal and **adds an element of refinement to the final product**.

1

PA11-1450 : The Bio-Compatible Choice



When it comes to medical devices, you need a material that is both **bio-compatible and strong**. That's where PA11-1450 comes in (also known as Polyamide 11 or Nylon 11). This **100% bio-based material** meets USP Class VI requirements, making it the ideal choice for medical applications. It also boasts **high resistance to impact and fatigue**, ensuring **longevity and durability**. Additionally, it can withstand **high temperatures**, providing further versatility.



2

PA11-3450: Strength and Precision

For demanding applications such as **automotive and aerospace parts**, you need a material that is both **strong and precise**. PA11-3450 is a perfect fit. It contains glass beads, which **increase stiffness and improve dimensional stability**. This results in a material with high strength and precision, making it the ideal choice for demanding applications.



3

PA12-SF1800: Exceptional Surface Finish and Sustainability

When it comes to complex parts with fine details and intricate geometries, you need a material that is easy to process and provides high resolution. PA12-SF1800 powder for SLS 3D printing offers **exceptional surface finish, durability**, and a **better answer to sustainable requirements**.

This innovative material is free from titanium dioxide, making it safer and more **environmentally friendly** than other similar materials. Its versatility makes it suitable for various automotive, aerospace, and consumer goods industries.



4

PP1200: Unparalleled Dimensional Stability

Industrial parts such as containers and packaging require a material that can handle harsh and demanding environments. PP1200 is the perfect choice. It offers **good welding capabilities** and **unparalleled dimensional stability**, making it ideal for these applications. The **PP 1200** is a versatile material covering a **wide range of industrial applications** : pipes and ducts, reservoirs and manifolds, economic and functional prototypes, durable jigs & fixtures, ...

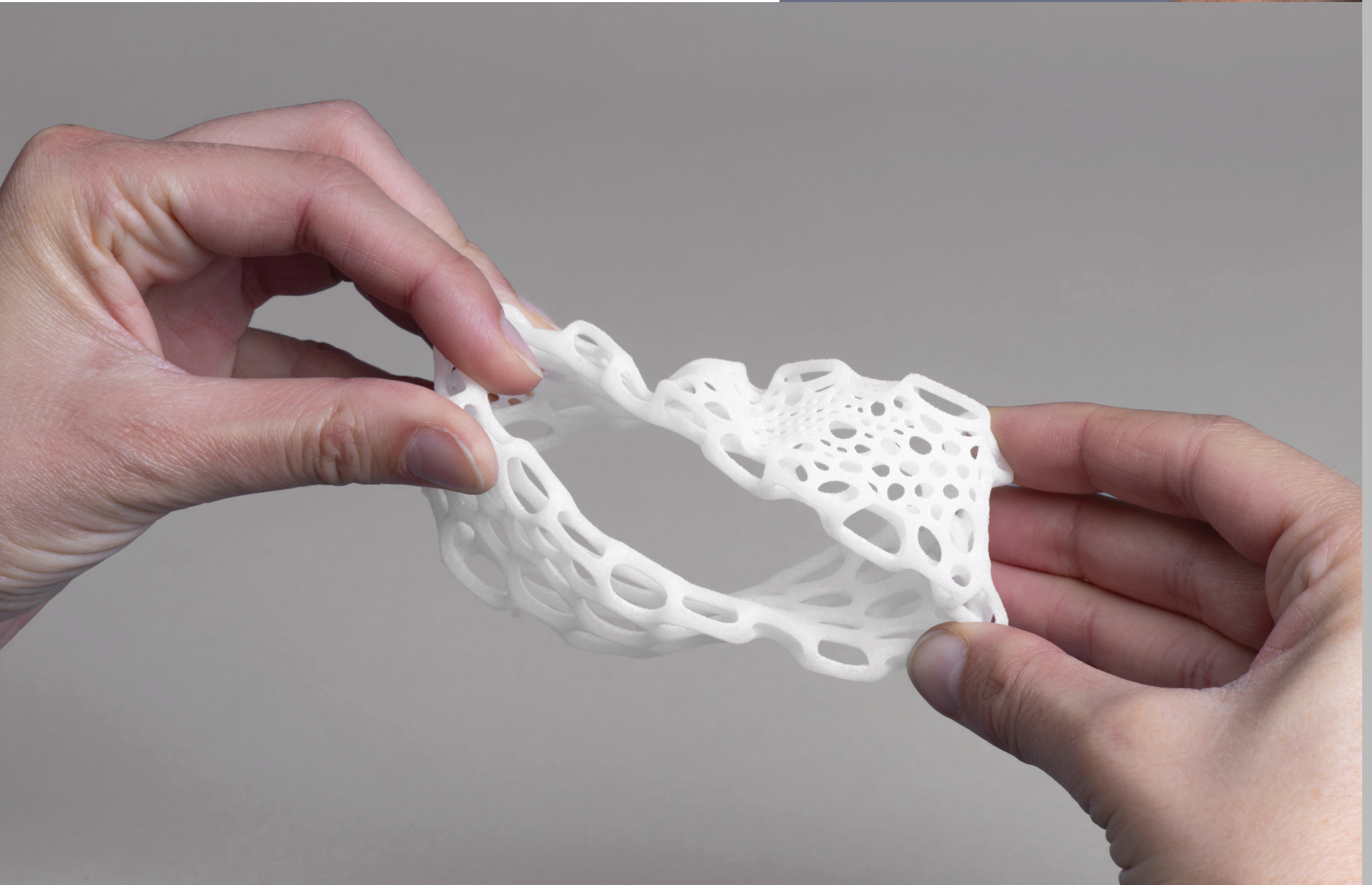


5

TPU-70A: Flexibility and Elasticity

When it comes to consumer goods and industrial components such as phone cases, shoe soles, seals, and gaskets, you need a material that can flex, absorb shock, and resist wear.

TPU-70A is the solution for these applications. It offers **excellent flexibility** and **elasticity**, ensuring that your products can **withstand the test of time**. Like the previous powders, it also boasts **high resistance to impact**. TPU can go to **high elongation** and **break up to 300** without losing its integrity.



* Why Choose Prodways?

Prodways is committed to **providing high-quality powders** for all your 3D printing needs. With our wide selection of powders that provide versatility and reliability, we're confident that **we have the right material for any application**. Our team of highly skilled experts specializes in identifying the best material for your 3D printing project, and ensuring that it turns out great every time.

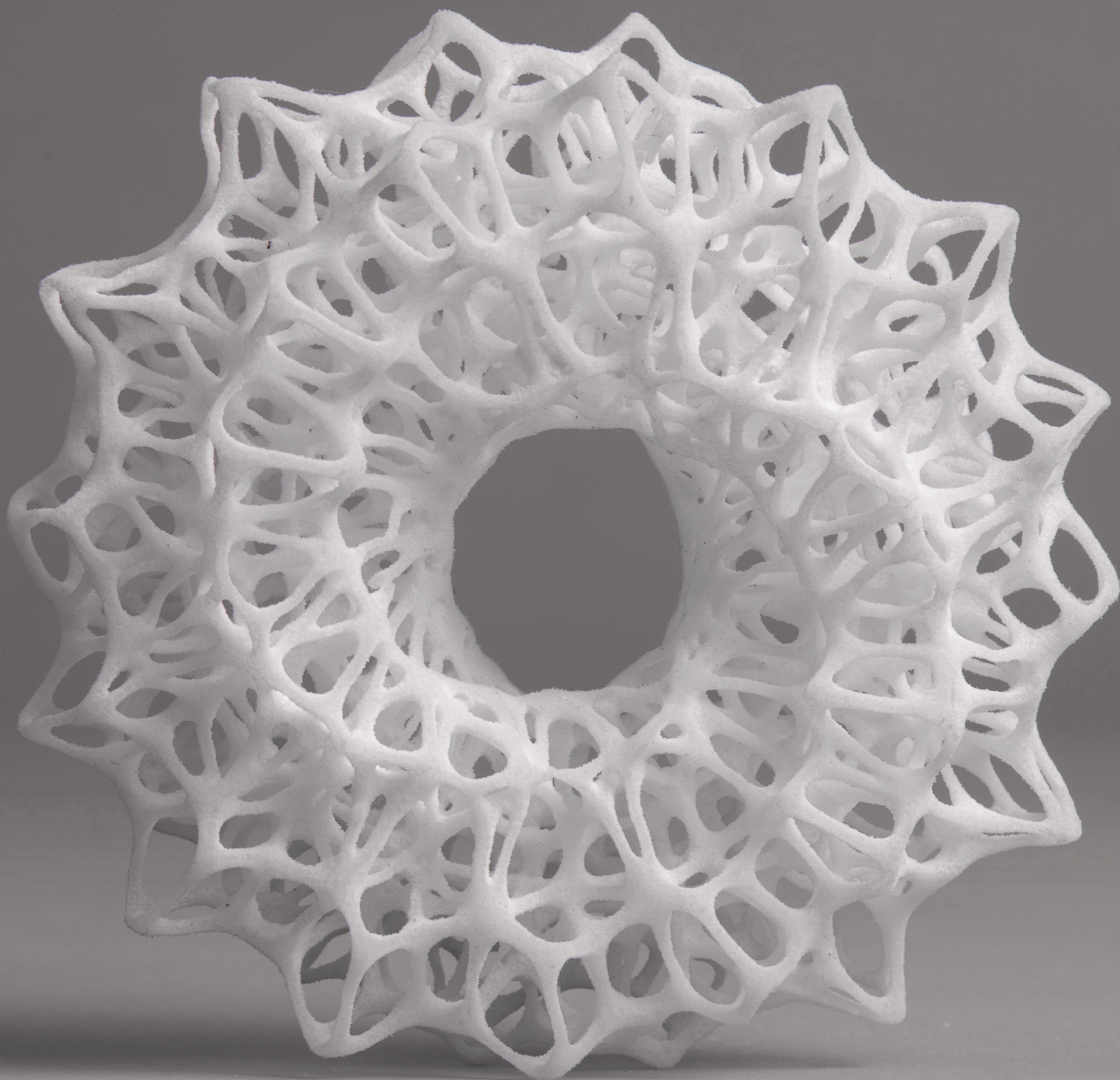
* The Benefits of Using Prodways' 3D Printer

In addition to our high-quality powders, Prodways also offers a 3D printer designed to provide you with **the highest levels of precision and accuracy**. Our printer is perfect for industrial productivity, **reducing operating costs** while providing you with a large portfolio of premium plastic materials with **high recyclability rates**.

Our printer also offers advanced thermal stability for **optimized mechanical properties**, making it ideal for mass production and industrial prototyping. And with our unique open materials strategy, you can operate the material of your choice, providing you with the flexibility you need to achieve your 3D printing goals.



When it comes to 3D printing, **the right material is key to ensuring a successful project.** At Prodways, we offer a **wide selection of powders** suitable for a **variety of applications, from medical applications to consumer goods.**



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