How to use

PowderMonkeys SLS powders

The PowderMonkeys powders are specially designed for processing on desktop SLS machines. The powder is optimized for the absorption of low laser power and the wavelength of fiber and diode lasers. At PowderMonkeys it is our main goal to design 3D-Printing powders which are both, easy to use and environmentally friendly. This means you can use the PowderMonkeys material in most cases with standard parameter settings and at the same time make a positive contribution to the environment.

Compatibility:

The powder is best suited for small desktop SLS machines with lower laser power such as: Sinterit Lisa; Sinterit Lisa Pro, Sinterit Lisa X; Formlabs Fuse 1, Formlabs Fuse 1+, Sintratec S1, Sintratec S2, Sitratec S3. It can also be used on any industrial SLS machines.

If you use this powder for the first time, please run through the following steps:

Step 1: Cleaning

Remove all powder from your SLS machine and clean it thoroughly (print bed, feed bed, overflow bins). Use a vacuum cleaner, wipe it with a damp cloth and let it dry.

Step 2: Prepare test printjob:

Using a new powder sometimes needs some little tweaks on the settings such as temperature and energy input. To get a quick result and not to waste powder it is advisable to prepare a small printjob with a few simple geometries such as curling crosses (Download available at: https://powdermonkeys.de/services)

Step 3: Fill in powder and first print:

According to the printer instructions, fill in the powder and start printing with the standard parameters for the corresponding material.

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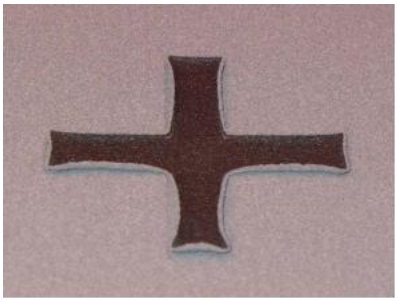
Step 4: Observation and adjustments

When running the first print job you should closely observe the heating process as well as the first laser exposure process



Observation	Reason	Action
The powder bed becomes greasy/sticky and dark during heating phase	Building chamber temperature too high	Decrease chamber temperature gradually by 2°C
Part edges/corners bend upwards (curling)	Building chamber temperature too low	Increase chamber temperature gradually by 2°C
Partcake badly sintered, parts are difficult to depowder	Building chamber temperature too high	Decrease room temperature gradually by 2°C
Porous parts	Laser energy input too low	Increase laser power by a ratio of 5 %
Extreme powder adhesion at the parts	Laser energy input too high	Decrease laser power by a ratio of 5 %

If necessary, repeat this step until you get a perfect result.

In case of further questions or assistance do not hesitate to contact us.

Your **PowderMonkeys-Team**

I've got the Powder...

Polymer Powders
for your
3D-Printing Solution

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