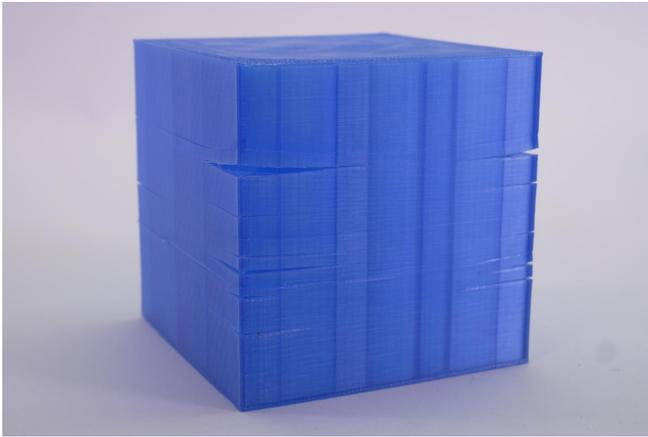


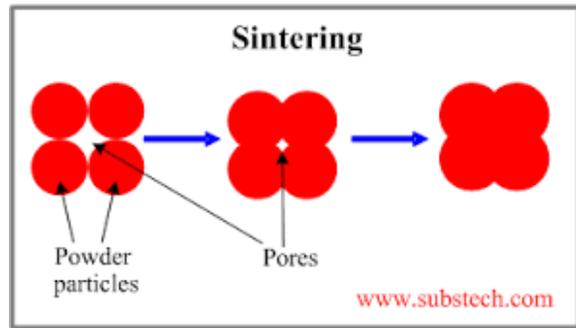
## 3D PRINTING IS ABOUT TO GET A WHOLE LOT HOTTER

3D printing has been the hottest thing in the hobbyist maker community since the mid 2000's, and hasn't shown any signs of stopping. The flexibility and ease of use afforded by even the cheapest 3D printers has far outweighed the manufacturing time and limitations for many small makers; but what if some of those limitations could actually be addressed with the addition of a bit more heat?



Layer separation has long plagued even the most advanced 3D printers. Caused by internal stress and incomplete layer fusion, even seemingly good parts can show signs of layer cracking if bent or put under load.

Soon there may be a solution... What if the parts could be reheated after completion to help the layers adhere better to each other? This process of reheating to aid in fusion is known as sintering, and has long been used to make complex metal parts from metal dust with just a little heat and pressure.



This expensive industrial process is being applied to 3D printing, and early studies look promising! Researchers have found that samples of sintered 3D printed metal parts show greatly reduced stress and higher yield strengths—sometimes even more than traditionally cast or machined parts.

In the coming years, this process could make its way down to the most basic home shop, with common thermoplastics such as PLA supporting post process sintering in a low temperature food oven for example. Unfortunately this technology is still in the early stages of development, and much more research must be done before it becomes commonplace. Some processes may even be harmed \* by sintering (in the long term) (, as adding any heat to a finished part tends to induce some warping.

One thing remains clear however: the world of 3D printing is heating up again.