

Desktop Metal Sale Sample Kit Part : Hinge

Material: 17-4 PH Stainless Steel - Workflow timing in hours (9-6-24-3)

This kit includes three parts showing the full fabrication process. The process begins with the **green part**, followed by the **sintered with supports** part and then the **finished part**.



This **green part** is fresh off the printer. Print time is **9** hours at the .15mm layer height. It used 247 grams of model and 4 grams of the ceramic interface support material. This can be positioned next to both the sintered parts to show the 20% shrinkage. At the support interface area you can see the white ceramic, this will turn to powder during sintering. This part is breakable in the Green state, so it should be handled more delicately. The parts can also be green sanded or media blasted during this stage to improve some of the upward facing surfaces.



Sintered with support. This part has been debound and sintered with no post processing. The part was debound for **6** hrs and typically sintering cycles are **24** hours. During the cycle the furnace will reach 1400 °C (2552 ° F). The pinkish areas of the part are leftover ceramic support. Included, are support pieces that were located in the holes. The raft and the support structures are printed using the same material as the part. This controls the dimensional accuracy during sintering while the part is shrinking.



Finished part. This demonstrates some of 17-4 stainless Steel post processing options. The parts bottom layers have been machined off to show the low density infill. The finished part has been tumbled in ceramic media for **3** hours. We can print with a low-density infill to reduce print time, material usage and debind time. This infill reduces the debind process because it shortens the diffusion length of the solvent. The diffusion length is how far the solvent has to penetrate through a solid wall to dissolve the primary binders.