

BEST PRACTICE FOR GRINDING, FINISHING, AND HEATING 3D PRINTED PA12

Grinding

PA12 can be ground in a similar way most O&P thermoplastics are ground. It does, however, have a tendency to melt if ground too quickly. As shown in the pictures below, the melted plastic can accumulate at the edges but still may adhere to the device. If this occurs, slowing both the speed of the grinder as well as the speed at which it is pulled across the grinding surface may alleviate the problem. Additionally, waiting just a second or two for a melted section to cool often results in the grinder successfully removing the chunk rather than melting it further.

Using A Trautman Sanding Drum



Using A Trautman Sanding Arbor



Finishing

PA12 can be smoothed and polished like most thermoplastics. The following three pictures show various arbors and the results after finishing. All three resulted in an acceptably smooth finish.

Fillauer Coneiak, Red Tycro, And Flap Wheel



This type of cone does not work as well as it tends to heat and smear the plastic leaving an undesirable finish.



Heating

PA12 is a thermoplastic and can be heat molded. The proper temperature window may be somewhat different from polypro or copoly but it behaves quite similarly. If heated too fast, the surface will bubble. Additionally, unless the device is already vapor smoothed, the gray surface will turn black when heated. Below are some examples:

Adding A Proximal Flare



Relieving A Malleolus



Flaring the edge of the device

