

Critical 3D Printer Criteria

Have beta-part(s) stl file(s) to obtain printed sample(s) before purchasing machine.

Give each vendor the identical .stl file model for each beta-tested item. Use your personal measuring device, optimally one that is digital (i.e., Mitutoyo digital caliper). Measure and record your 3D printed model's dimensions in the identical locations for accurate comparisons. Next, cast sample(s) then collect and document data. Make notations of anything different between the cast models you feel is important.

Check model's dimensional accuracy – no model distortion (x,y,z)

Smallest resolution/slice/layer thickness = smoother model surface = less metal waste.

Directly castable - no ash after burnout to cause spongy/porous castings

Zero "*co-efficient of thermal expansion*" - no investment damage

Not all casting investments work with all printer's materials and all precious metals

Machine operations manual and maintenance schedule

Beta-test production speed all vendors– Document with 2-4 parts (Modelworks- ask me)

Excellent customer service with knowledgeable technicians.

Replacement parts and consumables readily available. Provide list/costs.

Short learning curve for machine/all processes.

Minimal post "growing" procedures.

ROI Projections

List of "all" that comes with the purchase.

List of additional requirements that must be purchased with machine.

List of environmental requisites for machine location.

Provide MSDS for all products for machine use.

Total purchase price.

Analyze collected data for critical criteria.

Make informed decision.