

MJF Process and Industry Standard Finish

Multi Jet Fusion (MJF) is a rapidly expanding technology used to print 3D thermoplastic parts from powdered plastic. MJF builds the part layer by layer and prints a fusing agent on the powder for each layer. A heat lamp melts the powder containing the fusing agent across one whole layer at a time into a solid part.

However, with innovative technologies comes the challenge not only to produce accurate parts at production like time speeds, but also how to finish them so they are also aesthetically pleasing. Off the machine the parts have a grey chalk-like graininess to them once the excess powder from the process is removed, as shown in this image.



Standard Finish Natural

The industry standard finish is a manual process to glass bead the parts. The manual process has inconsistencies in part finish and dimensions since it relies on the skill of the operator. The part color is Standard Natural Gray or Dyed Black. Like the Standard Natural Gray parts, Dyed parts will still have a dull chalky appearance to them that can easily be scratched. This manual cleaning process also adds cost to the parts.

For these reasons, SICAM does not offer this Standard Finish.

SICAM's Advanced Multi Jet Fusion Finishes

SHOTSHEEN®

Is a two-step automated process that reduces labor costs and produces far more consistent results than manual glass beading. Our Powershot C and Powershot S machines do the work. The Powershot C utilizes glass beads to de-powder the parts to provide a uniform surface, and then finishes with an air cleaning cycle to remove excess powder and glass media. The Powershot S peens the parts with plastic shot that enhances the surface texture by adding a matte textured finish while hardening the surface making it more scratch resistant.



ShotSheen®



Vaporsmooth

VAPORSMOOTH

Vaporsmooth finishing is an advanced technology for 3D printed parts. The process has several advantages; first it enhances the surface finish by adding a glossy finish which is aesthetically pleasing to you and your customers. Secondly, the surface of the part is fused together resulting in a smooth surface which is no longer porous and becomes water resistant. By sealing the surface, the layer lines are also smoothed together, resulting in increased part tensile strength. Once completed, the parts have a significant increase in durability for production.

PAINTED / COATED PARTS

In addition to our advanced finishes, parts can also be painted. We offer various paint finishes and colors, and we can also color match. We also offer Cerakote, a heat cured ceramic-based coating that increases the strength of the part.



Cerakote