

FATHOM MODEL FINISHING

AUTHOR TONY SLAVIK // PROTOTYPE STUDIO MANAGER

OVERVIEW

Model finishing for 3D printed parts is available when a specific texture and color is needed for events requiring production quality parts – marketing photo shoots, tradeshows, or internal presentations.

There are many factors to consider when approaching a model that needs to be finished.

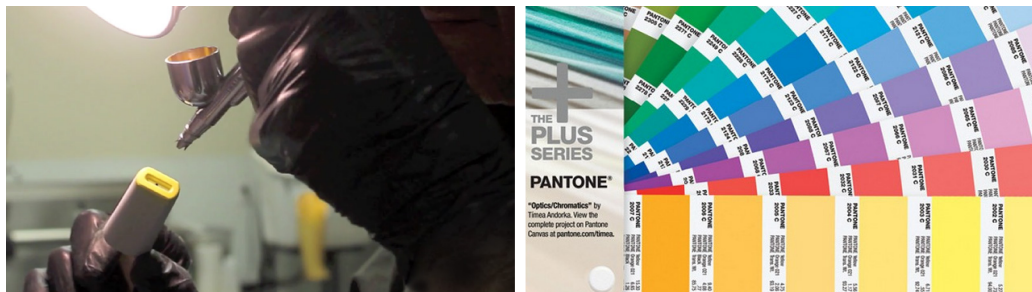
The key attributes to consider:

- COLOR (IDEALLY A PANTONE)
- TEXTURE
- ARTWORK (I.E. LOGO OR LETTERING)
- ASSEMBLY (TO UNDERSTAND INTERACTION, TOLERANCES, ETC)
- STOCK COMPONENTS

COLOR

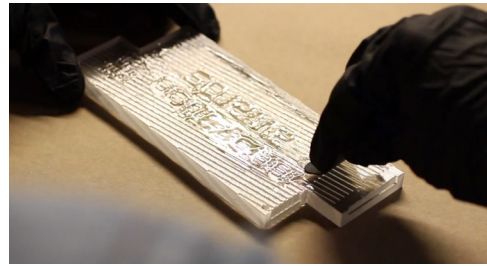
When finishing a model, the most common method for creating color is using a custom blended paint. Some applications call for plating or other processes which all need to be addressed first to move to textures, artwork, and assembly. Paints will vary in formula based on the Pantone requested and the material used in producing the part – most start with a light coat of primer paint.

The model is then wet sanded with a relatively rough grit of 320 or 400 to remove the majority of build lines that are inevitable artifacts of the 3D printing process. The model is then sanded with incrementally finer grits of sandpaper until the desired finish is reached. A final coat of primer is added to the model and then lightly sanded with the final grit. The model is now prepped for paint. The paint is applied using a variety of methods depending on color, whether it is glossy or matte, and specific texture is desired.



TEXTURE

The most common method for selecting texture is by calling out a Mold-Tech texture. Paint textures are approximated to a specific Mold-Tech texture and achieved through the control of paint vaporization as it is applied to the model. Texture options include light, medium or heavy.



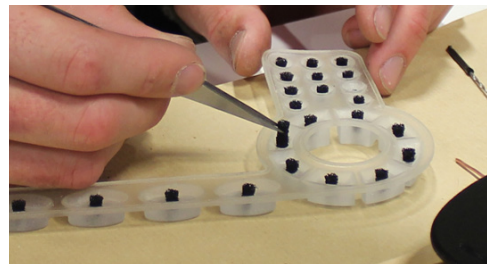
ARTWORK

Many high quality finish models include lettering and logos. The artwork is applied using a variety of methods depending on the shape of the surface it is being applied to, the number of colors, and the level of detail. Most common methods of producing artwork and graphics are transfers, stickers, screen prints, and pad prints. In most cases, a light clear coat is applied to protect the application as well as the paint on the model.



ASSEMBLY

If your model has multiple parts, the final step in finishing is the assembly. Colors are often separated into individual pieces in the assembly to maintain very crisp, clean lines. Masking is a last resort as it can bleed and make the change in color look messy. The parts of the model are then glued using various adhesives depending on application.



STOCK COMPONENTS

A common aspect of model finishing is the inclusion of stock components such as fasteners and metal inserts. These items are usually applied in the assembly process. In most cases, these additions are for their functional properties. For example, adding a metal threaded insert allows for more durable threads when an item requires screws or bolts in the assembly process.

